Halozyme

2022

Annual Report

Dear Fellow Shareholders:

2022 was a transformative year for Halozyme. We delivered record revenue from our ENHANZE® business and extended our drug delivery leadership and expanded our commercial portfolio with the acquisition of Antares Pharma. We had many successes and learnings this year and together, as One Team, we demonstrated operational excellence throughout the organization for the benefit of patients around the world. Halozyme's successes were marked by strong growth in revenue and profits as we strengthened our partnerships and enhanced our capabilities to support current and new partners with ENHANZE® and an innovative auto-injector technology platform. All of this and more, delivers on our commitment to our stakeholders, including our shareholders.

RECORD GROWTH FOR HALOZYME

Our strong performance across the business, including the successful integration of Antares Pharma, drove another year of record revenue, with $660.1 million, representing 49% year-over-year growth. Revenue from royalties in 2022 also achieved record levels, increasing 77% to $360.5 million, primarily driven by strong adoption of our ENHANZE® partner products DARZALEX® Faspro and Phesgo® and the addition of the auto-injector royalty revenue.

Our leadership in drug delivery with a commercial portfolio has augmented our growth potential, diversified our revenue streams and extended our revenue durability. We look forward to further strengthening our position as the drug delivery partner of choice for pharmaceutical and biotechnology companies with ENHANZE® and our auto-injector technology platforms.

As a profitable biopharma company, we have a strong balance sheet and continue to generate cash that has supported our commitment to our strategic capital allocation strategy, including returning capital to our shareholders. In 2022, we completed $350 million of our 3-year $750 million dollar share repurchase plan that was approved by the Board of Directors in December 2021. As part of this plan, we expect to complete another $150 million of share repurchases in 2023, pending market conditions and other factors.

Halozyme is well-positioned to embark on our next chapter of accelerating financial growth to drive shareholder value.

PARTNER SUCCESS WITH ENHANZE®

With an established leadership in drug delivery, we have five globally-approved partner products utilizing ENHANZE® available in more than 100 countries. More than 600,000 patients have received commercial products utilizing ENHANZE®. We currently have twelve pharma and biotech partners with access to our ENHANZE® drug delivery technology and work closely with our partners to support the development of their innovative products in combination with ENHANZE®.

Our ENHANZE® development pipeline is robust and diverse. There were significant achievements and successes with our partners related to our ENHANZE® technology in 2022, including:

- argenx's submission of a Marketing Authorization Application to the European Medicines Agency and the FDA acceptance of its Biologics License Application for SC efgartigimod for the treatment of adults with generalized myasthenia gravis with a PDUFA date of June 20, 2023.
- Roche's submission of a Marketing Authorization Application to the European Medicines Agency and the FDA acceptance of its Biologics License Application for SC atezolizumab with ENHANZE® across all approved indications of IV Tecentriq® with a PDUFA date of September 15, 2023.
- Roche's initiation of a Phase 3 study evaluating ocrelizumab with ENHANZE® in subjects with multiple sclerosis.
- Janssen's initiation of a Phase 3 study of lazertinib and amivantamab with ENHANZE® in patients with epidermal growth factor receptor mutated advanced or metastatic non-small cell lung cancer (PALOMA-3).
- Bristol Myers Squibb's initiation of a Phase 3 study to compare the drug levels of nivolumab with ENHANZE® administered subcutaneously versus intravenous administration in participants with melanoma following complete resection (CheckMate-6GE).
- Takeda's positive topline results from a pivotal Phase 3 trial evaluating HYQVIA® (Immunoglobulin infusion 10% (Human) with ENHANZE®), for maintenance treatment of chronic inflammatory demyelinating polyradiculoneuropathy.
- Eight partner products are in or have completed Phase 1 development.

2 partner products with ENHANZE® pending completion of regulatory review and potential for approval in 2023

4 Phase 3 study data readouts by collaboration partners in 2023 from two products utilizing ENHANZE®

Helen Torley, President and Chief Executive Officer

Halozyme is continuing to enhance our capabilities to support current and new partners utilizing our ENHANZE® and auto-injector technologies, with the goal of reducing the burden of treatment for patients and providing new options for patients with the goal of driving long-term, durable growth.

CONTINUED OPERATIONAL EXCELLENCE

Just as our vision remains to deliver disruptive solutions that significantly improve patient experiences and bring the potential to positively influence outcomes for emerging and established therapies, we have remained dedicated to delivering on our commitment to corporate citizenship. Sustainability and environmental consciousness have been critical to our decision-making as the organization has grown and expanded our footprint. This core responsibility, together with our drive for continuous learning and development, drove our efforts to transform our internal and external environment. In 2022, we successfully executed multiple actions to progress our ESG ambition:

- Continued to build a diverse team of employees who are passionate about and committed to positively impacting the lives of patients and their families. This dedication has resulted in a diverse and inclusive employee base consisting of 43.8% female and 30.5% non-white/ Caucasian employees as of December 2022. We value and celebrate the unique talents, backgrounds, and perspectives each employee contributes to achieving our mission and corporate objectives. Our diverse and inclusive culture is key to attracting, developing, and retaining top talent within the globally competitive biotechnology industry.
- As Halozyme welcomed two new office sites, we expanded our approach to employee engagement. These efforts include a focus on supporting the Halozyme team culture and connectivity through events and activities to support the local community. These initiatives achieved strong participation in both engagement and community events.
- We are committed to protecting our data assets and systems' confidentiality, integrity and availability. In 2022, an industry leading management consulting firm assessed the security controls for our integrated business between Halozyme and Antares following the acquisition. That assessment helped us create a robust and comprehensive cybersecurity plan of action for 2023 and beyond.
- Implemented a global Environment Health and Safety program to support integration initiatives. The program also includes a Global Policy rollout with site-specific procedures. We also initiated a Laboratory Waste-to-Energy program to reduce waste from our labs and prevent it from entering the landfill while leveraging it as a raw material to produce renewed energy.

Our goal is to achieve NetZero energy usage at our company headquarters by 2030

Approximately 85 percent of our waste, by volume, is recycled

All our initiatives, progress and accomplishments are possible because of Halozyme's One Team commitment. One Team is all about exceptional collaboration and accountability as we execute on our mission for all of our stakeholders.

The dedication and commitment I have seen this past year have been astounding, and the motivation to enhance the patient experience is reflected across every facet of our business.

I am grateful to all of our stakeholders, including our employees, partners, board of directors and shareholders for your support and commitment in 2022.

Best regards,

Helen Torley

HELEN TORLEY, M.B. Ch. B., M.R.C.P.
PRESIDENT & CEO

FORWARD LOOKING STATEMENTS

Statements set forth in this annual report and letter to shareholders include forward-looking statements including, without limitation, statements concerning the Company's expected future financial performance, plans to repurchase shares under its share repurchase program and expectations concerning its partners' development programs and potential approvals of partnered products. These forward-looking statements are typically, but not always, identified through use of the words "believe," "enable," "may," "will," "could," "intends," "estimate," "anticipate," "plan," "predict," "probable," "potential," "possible," "should," "continue," and other words of similar meaning and involve risk and uncertainties that could cause actual results to differ materially from those in the forward-looking statements. Actual results could differ materially from the expectations contained in these forward-looking statements as a result of several factors, including unexpected levels of revenues, expenditures and costs, unexpected delays in the execution of the Company's share repurchase program, or unexpected results or delays in the development, regulatory review or commercialization of the Company's partnered or proprietary products. These and other factors that may result in differences are discussed in greater detail in the Company's most recently filed Annual Report on Form 10-K filed with the Securities and Exchange Commission.

Halozyme

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

FORM 10-K

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

For the fiscal year ended December 31, 2022

OR

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

For the transition period from to

Commission File Number 001-32335

HALOZYME THERAPEUTICS, INC.

(*Exact name of registrant as specified in its charter*)

Delaware	**88-0488686**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
12390 El Camino Real **San Diego** **CA** *(Address of principal executive offices)*	**92130** *(Zip Code)*

(858) 794-8889
(Registrant's telephone number, including area code)

Securities registered under Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, $0.001 Par Value	HALO	The NASDAQ Stock Market, LLC

Securities registered under Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☒ Yes ☐ No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. ☐ Yes ☒ No

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

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

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

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

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

Indicate by check mark whether the Registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2022 was approximately $5.1 billion based on the closing price on the NASDAQ Global Select Market reported for such date. Shares of common stock held by each officer and director and by each person who is known to own 10% or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates of the registrant. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of outstanding shares of the registrant's common stock, par value $0.001 per share, was 135,366,862 as of February 14, 2023.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement to be filed subsequent to the date hereof with the Securities and Exchange Commission pursuant to Regulation 14A in connection with the registrant's 2023 Annual Meeting of Stockholders are incorporated by reference into Part III of this Annual Report.

HALOZYME THERAPEUTICS, INC.

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Summary of Risk Factors

Our business is subject to a number of risks and uncertainties, including those described in the section labeled "Risk Factors" in "Part I, Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations" of this Quarterly Report. These risks include the following:

Risks Related To Our Business

- If our partnered or proprietary product candidates do not receive and maintain regulatory approvals, or if approvals are not obtained in a timely manner, such failure or delay would substantially impair our ability to generate revenues.
- Use of our partnered or proprietary products and product candidates could be associated with adverse events or product recalls.
- If our contract manufacturers or vendors are unable or unwilling for any reason to manufacture and supply to us bulk rHuPH20 or other raw materials, reagents, components or devices in the quantity and quality required by us or our partners for use in the production of Hylenex or other proprietary or partnered products and product candidates, our and our partners' product development or commercialization efforts could be delayed or suspended and our business results of operations and our collaborations could be harmed.
- We rely on third parties to perform necessary services for our products including services related to the distribution, invoicing, rebates and contract administration, co-pay program administration, sample distribution and administration, storage and transportation of our products. If anything should impede their ability to meet their commitments this could impact our business performance.
- If we or any party to a key collaboration agreement fail to perform material obligations under such agreement, or if a key collaboration agreement, is terminated for any reason, our business could suffer.
- Hylenex and our partners' ENHANZE® products and product candidates rely on the rHuPH20 enzyme, and any adverse development regarding rHuPH20 could substantially impact multiple areas of our business, including current and potential ENHANZE collaborations, as well as any proprietary programs.
- Our business strategy is focused on growth of our ENHANZE technology, our auto-injector technology, our commercial products and potential growth through acquisition. Currently, ENHANZE is the largest revenue driver and as a result there is a risk for potential negative impact from adverse developments. Future expansion of our strategic focus to additional applications of our ENHANZE technology or by acquiring new technologies may require the use of additional resources, result in increased expense and ultimately may not be successful.
- Our partnered or proprietary product candidates may not receive regulatory approvals or their development may be delayed for a variety of reasons, including delayed or unsuccessful clinical trials, regulatory requirements or safety concerns. If we or our partners fail to obtain, or have delays in obtaining, regulatory approvals for any product candidates, our business, financial condition and results of operations may be materially adversely affected or delayed.
- Our third-party partners are responsible for providing certain proprietary materials that are essential components of our partnered products and product candidates, and any failure to supply these materials could delay the development and commercialization efforts for these partnered products and product candidates and/or harm our collaborations. Our partners are also responsible for distributing and commercializing their products, and any failure to successfully commercialize their products could materially adversely affect our revenues.
- If we or our partners fail to comply with regulatory requirements applicable to promotion, sale and manufacturing of approved products, regulatory agencies may take action against us or them, which could harm our business.
- Failure to successfully integrate the Antares business, or failure of the Antares business to perform could adversely impact our future business and operations.

- Business interruptions resulting from pandemics or similar public health crises could cause a disruption of the development of our and our partnered product candidates and commercialization of our approved and our partnered products, impede our ability to supply bulk rHuPH20 to our ENHANZE partners or procure and sell our proprietary products and otherwise adversely impact our business and results of operations.
- We may need to raise additional capital in the future and there can be no assurance that we will be able to obtain such funds.
- We currently have significant debt and expect to incur additional debt. Failure by us to fulfill our obligations under the applicable debt agreements may cause repayment obligations to accelerate.
- The conditional conversion feature of the Convertible Notes, if triggered, may adversely affect our financial condition and operating results.
- Conversion of our Convertible Notes may dilute the ownership interest of existing stockholders or may otherwise depress the price of our common stock.
- If proprietary or partnered product candidates are approved for commercialization but do not gain market acceptance resulting in commercial performance below that which was expected or projected, our business may suffer.
- Our ability to license our ENHANZE and device technologies to our partners depends on the validity of our patents and other proprietary rights.
- Developing, manufacturing and marketing pharmaceutical products for human use involves significant product liability risks for which we may have insufficient insurance coverage.
- If our partners do not achieve projected development, clinical, or regulatory goals in the timeframes publicly announced or otherwise expected, the commercialization of our partners products may be delayed and, as a result, , our business, financial condition, and results of operations may be adversely affected or delayed.
- Future acquisitions could disrupt our business and impact our financial condition.
- Our effective tax rate may fluctuate, and we may incur obligations in tax jurisdictions in excess of accrued amounts.

Risks Related To Ownership of Our Common Stock

- Our stock price is subject to significant volatility.
- Future transactions where we raise capital may negatively affect our stock price.
- Anti-takeover provisions in our charter documents, the Indentures and Delaware law may make an acquisition of us more difficult.

Risks Related to Our Industry

- Our or our partnered products must receive regulatory approval before they can be sold, and compliance with the extensive government regulations is expensive and time consuming and may result in the delay or cancellation of our or our partnered product sales, introductions or modifications.
- Because some of our and our partners' products and product candidates are considered to be drug/device combination products, the approval and post-approval requirements that we and they are required to comply with can be more complex.
- We may be subject, directly or indirectly, to various broad federal and state healthcare laws. If we are unable to comply, or have not fully complied, with such laws, we could face civil, criminal and administrative penalties, damages, monetary fines, disgorgement, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate.

- We may be required to initiate or defend against legal proceedings related to intellectual property rights, which may result in substantial expense, delay and/or cessation of certain development and commercialization of our products.
- We may incur significant liability if it is determined that we are promoting or have in the past promoted the "off-label" use of drugs or medical devices, or otherwise promoted or marketed approved products in a manner inconsistent with the FDA's requirements.
- For certain of our products, we and our independent contractors, distributors, prescribers, and dispensers are required to comply with regulatory requirements related to controlled substances, which will require the expenditure of additional time and will incur additional expenses to maintain compliance and may subject us to additional penalties for noncompliance, which could inhibit successful commercialization.
- Patent protection for biotechnology inventions and for inventions generally is subject to significant scrutiny. If patent laws or the interpretation of patent laws change, our business may be adversely impacted because we may lose the ability to enforce our intellectual property rights against competitors who develop and commercialize products based on our discoveries.
- If third-party reimbursement and customer contracts are not available, our proprietary and our partnered products may not be accepted in the market resulting in commercial performance below that which was expected or projected.
- The rising cost of healthcare and related pharmaceutical product pricing has led to cost containment pressures from third-party payers as well as changes in federal coverage and reimbursement policies and practices that could cause us and our partners to sell our products at lower prices, and impact access to our and our partners' products, resulting in less revenue to us.
- We face competition and rapid technological change that could result in the development of products by others that are competitive with our proprietary and partnered products, including those under development.

General Risks

- If we are unable to attract, hire and retain key personnel our business could be negatively affected.
- Our operations might be interrupted by the occurrence of a natural disaster or other catastrophic event.
- Cyberattacks, security breaches or system breakdowns may disrupt our operations and harm our operating results and reputation.

This Annual Report on Form 10-K contains "forward-looking statements" within the meaning of the "safe harbor" provisions of Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended. All statements, other than statements of historical fact, included herein, including without limitation those regarding our future product development and regulatory events and goals, product collaborations, our business intentions and financial estimates and anticipated results, are, or may be deemed to be, forward-looking statements. Words such as "expect," "anticipate," "intend," "plan," "believe," "seek," "estimate," "think," "may," "could," "will," "would," "should," "continue," "potential," "likely," "opportunity," "project" and similar expressions or variations of such words are intended to identify forward-looking statements, but are not the exclusive means of identifying forward-looking statements in this Annual Report. Additionally, statements concerning future matters such as the development or regulatory approval of new partner products, enhancements of existing products or technologies, timing and success of the launch of new products by us and our partners, third party performance under key collaboration agreements, the ability to successfully integrate Antares Pharma, Inc. into our business, the ability of our bulk drug and device part manufacturers to provide adequate supply for our partners, revenue, expense, cash burn levels and our ability to make timely repayments of debt, anticipated amounts and timing of share repurchases, anticipated profitability and expected trends and other statements regarding our plans and matters that are not historical are forward-looking statements.

Although forward-looking statements in this Annual Report reflect the good faith judgment of our management, such statements can only be based on facts and factors currently known by us. Consequently, forward-looking statements are inherently subject to risks and uncertainties and actual results and outcomes may differ materially from the results and outcomes discussed in or anticipated by the forward-looking statements. Factors that could cause or contribute to such differences in results and outcomes include without limitation those discussed under the heading "Risk Factors" in Part I, Item 1A below, as well as those discussed elsewhere in this Annual Report. Readers are urged not to place undue reliance on these forward-looking statements, which speak only as of the date of this Annual Report. We undertake no obligation to revise or update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of this Annual Report. Readers are urged to carefully review and consider the various disclosures made in this Annual Report, which attempt to advise interested parties of the risks and factors that may affect our business, financial condition, results of operations and prospects.

References to "Halozyme," "the Company," "we," "us," and "our" refer to Halozyme Therapeutics, Inc. and its wholly owned subsidiary, Halozyme, Inc., Antares Pharma Inc., and Antares Pharma Inc.'s wholly-owned subsidiaries, Antares Pharma IPL AG and Antares Pharma AG. References to "Notes" refer to the Notes to Consolidated Financial Statements included herein (refer to Part II, Item 8).

PART I

Item 1. *Business*

Overview

Halozyme Therapeutics, Inc. is a biopharma technology platform company that provides innovative and disruptive solutions with the goal of improving the patient experience and potentially outcomes.

Our proprietary enzyme, rHuPH20, is used to facilitate the subcutaneous ("SC") delivery of injected drugs and fluids. We license our technology to biopharmaceutical companies to collaboratively develop products that combine our ENHANZE® drug delivery technology ("ENHANZE") with the partners' proprietary compounds.

Our first commercially approved product, *Hylenex*® recombinant ("Hylenex"), and our ENHANZE partners' approved products and product candidates are based on rHuPH20, our patented recombinant human hyaluronidase enzyme. rHuPH20 is the active ingredient in *Hylenex*, that works by breaking down hyaluronan ("HA"), a naturally occurring carbohydrate that is a major component of the extracellular matrix of the SC space. This temporarily reduces the barrier to bulk fluid flow allowing for improved and more rapid SC delivery of high dose, high volume injectable biologics, such as monoclonal antibodies and other large therapeutic molecules, as well as small molecules and fluids. We refer to the application of rHuPH20 to facilitate the delivery of other drugs or fluids as ENHANZE. We license the ENHANZE technology to form collaborations with biopharmaceutical companies that develop or market drugs requiring or benefiting from injection via the SC route of administration. In the development of proprietary intravenous ("IV") drugs combined with our ENHANZE technology, data have been generated supporting the potential for ENHANZE to reduce patient treatment burden as a result of shorter duration of SC administration with ENHANZE compared to IV administration. ENHANZE may enable fixed-dose SC dosing compared to weight-based dosing typically required for IV administration, extend the dosing interval for drugs that are already administered subcutaneously and potentially allow for lower rates of infusion related reactions. ENHANZE may enable more flexible treatment options such as home administration by a healthcare professional or potentially the patient or caregiver. Lastly, certain proprietary drugs co-formulated with ENHANZE have been granted additional exclusivity, extending the patent life of the product beyond the patent expiry of the proprietary IV drug.

We currently have ENHANZE collaborations and licensing agreements with F. Hoffmann-La Roche, Ltd. and Hoffmann-La Roche, Inc. ("Roche"), Takeda Pharmaceuticals International AG and Baxalta US Inc ("Takeda"), Pfizer Inc. ("Pfizer"), Janssen Biotech, Inc. ("Janssen"), AbbVie, Inc. ("AbbVie"), Eli Lilly and Company ("Lilly"), Bristol-Myers Squibb Company ("BMS"), Alexion Pharma International Operations Unlimited Company (an indirect wholly owned subsidiary of AstraZeneca PLC)("Alexion"), argenx BVBA ("argenx"), Horizon Therapeutics plc. ("Horizon"), ViiV Healthcare (the global specialist HIV Company majority owned by GlaxoSmithKline) ("ViiV") and Chugai Pharmaceutical Co, Ltd ("Chugai"). In addition to receiving upfront licensing fees from our ENHANZE collaborations, we are entitled to receive event and sales-based milestone payments, revenues from the sale of bulk rHuPH20 and royalties from commercial sales of approved partner products co-formulated with ENHANZE. We currently receive royalties from three of these collaborations, including royalties from sales of one product from the Takeda collaboration, three products from the Roche collaboration and one product from the Janssen collaboration. Future potential revenues from ENHANZE collaborations and from the sales and/or royalties of our approved products will depend on the ability of our partners, in some areas supported by Halozyme, to develop, manufacture, secure and maintain regulatory approvals for approved products and product candidates and commercialize product candidates.

Through our recent acquisition of Antares Pharma, Inc. ("Antares"), we also develop, manufacture and commercialize, for ourselves or with our partners, drug-device combination products using our advanced auto-injector technologies. Also as a result of our acquisition of Antares, our commercial portfolio of proprietary products includes XYOSTED®, TLANDO® and NOCDURNA®. We have commercialized auto-injector products with several pharmaceutical companies including Teva Pharmaceutical Industries, Ltd. ("Teva"), Covis Group S.a.r.l. ("Covis") and Otter Pharmaceuticals, LLC ("Otter"). We have development programs including auto-injectors with Idorsia Pharmaceuticals Ltd. ("Idorsia") and Pfizer.

Our principal offices and research facilities are located at 12390 El Camino Real, San Diego, CA 92130. Our telephone number is (858) 794-8889 and our e-mail address is *info@halozyme.com*. Our website address is *www.halozyme.com.* Information found on, or accessible through, our website is not a part of, and is not incorporated into, this Annual Report on Form 10-K. Our periodic and current reports that we filed with the SEC are available on our website at *www.halozyme.com*, free of charge, as soon as reasonably practicable after we have electronically filed such material with, or furnished them to, the SEC, including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports.

Our Technology

rHuPH20 can be applied as a drug delivery platform to increase dispersion and absorption of other injected drugs and fluids, potentially reducing treatment burden. For example, rHuPH20 has been used to convert drugs that must be delivered intravenously into SC injections or to reduce the number of SC injections needed for effective therapy. When ENHANZE technology is applied subcutaneously, the rHuPH20 acts locally and transiently, with a tissue half-life of less than 30 minutes. HA at the local site reconstitutes its normal density within two days and, therefore, the effect of rHuPH20 on the architecture of the SC space is temporary.

Through our recent acquisition of Antares, our technology also includes pressure-assisted auto-injector technology. The pressure-assisted auto-injector technology is a form of parenteral drug delivery that continues to gain acceptance and demand among the medical and patient community. Encompassing a variety of sizes and designs, our technology operates by using pressure to force the drug, in solution or suspension, through the skin and deposits the drug into the SC or intramuscular tissue. We have designed disposable, pressure-assisted auto-injector devices to address acute and chronic medical needs, such as rheumatoid arthritis and psoriasis, allergic reactions, migraine headaches, testosterone deficiency and maternal health. Our current platforms include the VIBEX® and the VIBEX® QuickShot® disposable pressure-assisted auto-injection systems, the Vai™ auto-injector and disposable pen injection systems. Our auto-injectors offer a does capacity ranging from 0.5 mL to 2.25 mL. They are designed for speed and patient comfort and accommodate for highly viscous drug products. They are customizable for fill volumes and needle lengths to meet our partners' needs for reliability requirements, including for emergency use applications.

Our Strategy

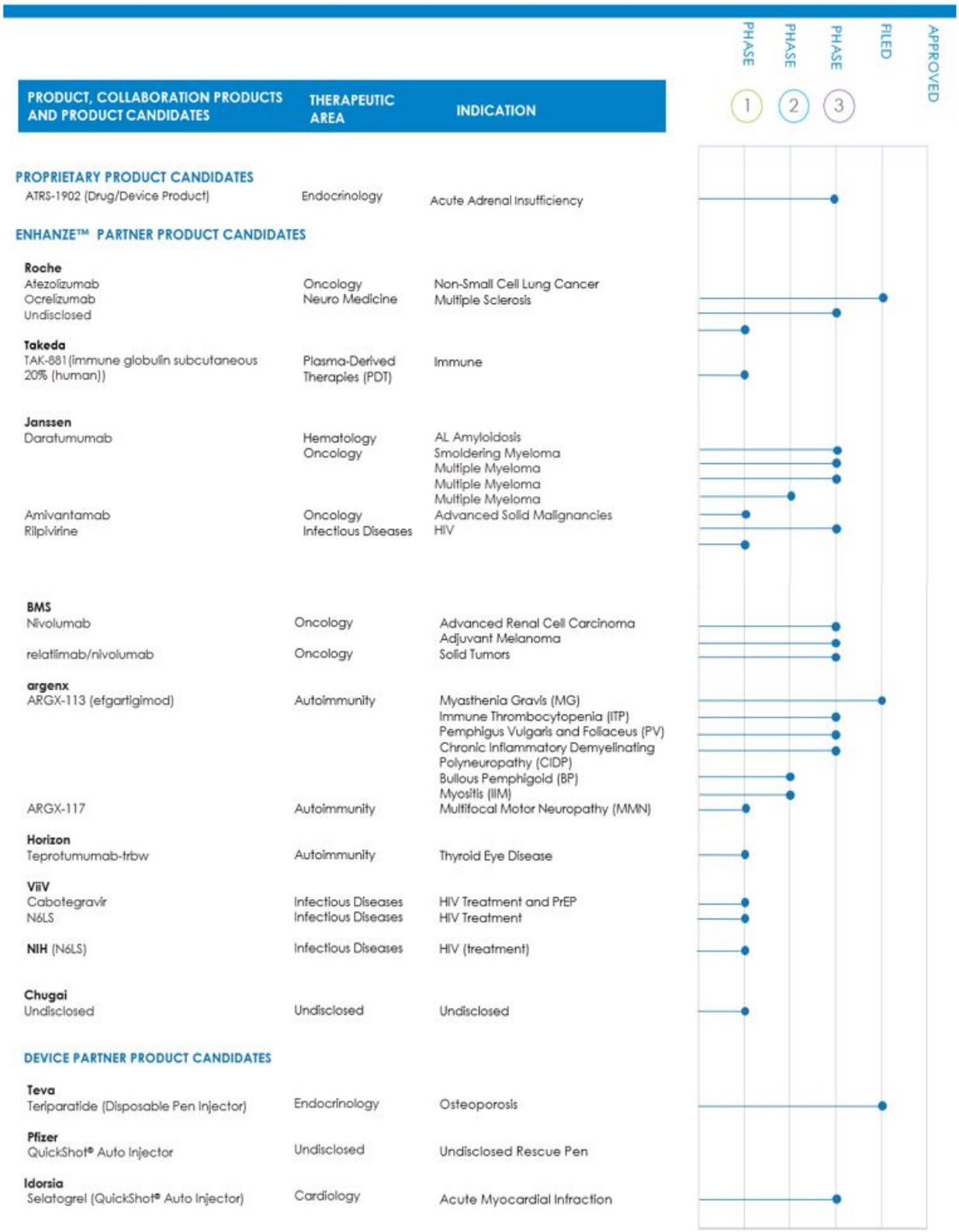
We are a leader in converting IV biologics to SC delivery and extending the dosing interval of SC drugs, using our commercially-validated ENHANZE technology. Our ENHANZE technology also has the potential for SC delivery of small molecules, including those developed as long-acting injectables and other therapies that might benefit from larger dose/larger volume SC delivery. We collaborate with leading pharmaceutical and biotechnology companies to help them develop products that combine our ENHANZE technology with their proprietary compounds. We target large, attractive markets, where ENHANZE-enabled SC delivery has the potential to deliver competitive differentiation and other important benefits to our partners, such as larger injection volumes administered rapidly, extended dosing intervals, and reduced treatment burden and healthcare costs. In addition, ENHANZE has been demonstrated to enable the combination of two therapeutic antibodies in a single injection, as well as the development of new co-formulation intellectual property. We leverage our strategic, technical, regulatory and alliance management skills in support of our partners' efforts to develop new subcutaneously delivered products. We currently have twelve collaborations with five currently approved products and additional product candidates in development using our ENHANZE technology. We intend to work with our existing partners to expand our collaborations to add new targets and develop targets and product candidates under the terms of the operative collaboration agreements. We will also continue our efforts to enter into new collaborations to derive additional revenue from our proprietary technology.

We also support leading pharmaceutical companies by assisting in the development of, and supplying, auto-injector devices and auto-injector drug combination products. We leverage our engineering, regulatory and manufacturing skills to support our partners' plans. We intend to extend the range of auto-injectors available to current and new partners, initiating development of a high volume auto-injector, and further extend the number of partners by gaining more partners for the current auto-injectors.

Product and Product Candidates

The following table summarizes our marketed proprietary products and product candidates under development and our marketed partnered products and product candidates under development with our partners:

PRODUCT, COLLABORATION PRODUCTS AND PRODUCT CANDIDATES	THERAPEUTIC AREA	INDICATION	PHASE 1 / PHASE 2 / PHASE 3 / FILED / APPROVED
PROPRIETARY APPROVED PRODUCT			
HYLENEX® recombinant (hyaluronidase human injection)	Various	Adjuvant for subcutaneous fluid delivery for dispersion & absorption of other injected drugs	Approved in the U.S.
XYOSTED®(testosterone enanthate) injection (CIII)	Urology	Testosterone Replacement Therapy (TRT)	Approved in the U.S.
NOCDURNA® (desmopressin acetate)	Urology/ Endocrinology	Nocturnal Polyuria	Approved in the U.S.
TLANDO® (testosterone undecanoate) (CIII)	Urology	Testosterone Replacement Therapy (TRT)	Approved in the U.S.
ENHANZE® PARTNER APPROVED PRODUCTS			
Roche Herceptin® SC (trastuzumab) (Outside the U.S.) Herceptin Hylecta™ (trastuzumab and hyaluronidase-oysk) (U.S.)	Oncology	Breast Cancer	Approved in the U.S., EU, China and other countries outside the U.S. (OUS)
Phesgo®(pertuzumab/trastuzumab/hyaluronidase-zzfx) (U.S.) and (pertuzumab/trastuzumab)(EU)	Oncology	Breast Cancer	Approved in the U.S., EU, and OUS Submitted in Japan, China
MabThera® SC (rituximab) (Outside the U.S) RITUXAN HYCELA™ (rituximab/hyaluronidase human) (U.S.)	Oncology	Multiple blood cancers	Approved for NHL in EU and OUS; Approved for CLL in EU and OUS Approved for DLBCL, CLL and FL in the U.S. Submitted in China
Takeda HYQVIA® [Immune Globulin Infusion 10% (Human) with Recombinant Human Hyaluronidase]	Immunology	Primary Immunodeficiency, Secondary Immunodeficiencies in EU	Approved for adults in U.S., EU and OUS; Pediatric indication approved in EU and OUS
Janssen DARZALEX FASPRO® (daratumumab hyaluronidase human-fihj) (U.S./China) DARZQURO® (daratumumab)(Japan) DARZALEX SC® (daratumumab) (OUS)	Oncology	Multiple Myeloma AL Amyloidosis	Approved for MM in the U.S, EU, Japan and OUS Approved for AL Amyloidosis in U.S, EU, Japan and China
DEVICE PARTNER APPROVED PRODUCTS			
Teva Epinephrine Injection USP(generic equivalent to EpiPen® and EpiPen® Jr.)	Allergy and Immunology	Anaphylaxis	Approved in the U.S.
Sumatriptan Injection USP(generic version of Imitrex® STATdose Pen®)	Neurology	Migraines	Approved in the U.S.
Teriparatide Injection(generic version of Forsteo®)	Endocrinology	Osteoporosis	Approved in EU
Covis Makena® (hydroxyprogesterone caproate injection)	OBGYN	Reduced Risk of Pre-term Birth	Approved in the U.S.
Otter OTREXUP® (methotrexate) injection	Rheumatology	Rheumatoid Arthritis; pJIA, Psoriasis	Approved in the U.S.



PRODUCT, COLLABORATION PRODUCTS AND PRODUCT CANDIDATES	THERAPEUTIC AREA	INDICATION
PROPRIETARY PRODUCT CANDIDATES		
ATRS-1902 (Drug/Device Product)	Endocrinology	Acute Adrenal Insufficiency
ENHANZE™ PARTNER PRODUCT CANDIDATES		
Roche		
Atezolizumab	Oncology	Non-Small Cell Lung Cancer
Ocrelizumab	Neuro Medicine	Multiple Sclerosis
Undisclosed		
Takeda		
TAK-881 (immune globulin subcutaneous 20% (human))	Plasma-Derived Therapies (PDT)	Immune
Janssen		
Daratumumab	Hematology Oncology	AL Amyloidosis Smoldering Myeloma Multiple Myeloma Multiple Myeloma Multiple Myeloma
Amivantamab	Oncology	Advanced Solid Malignancies
Rilpivirine	Infectious Diseases	HIV
BMS		
Nivolumab	Oncology	Advanced Renal Cell Carcinoma Adjuvant Melanoma
relatlimab/nivolumab	Oncology	Solid Tumors
argenx		
ARGX-113 (efgartigimod)	Autoimmunity	Myasthenia Gravis (MG) Immune Thrombocytopenia (ITP) Pemphigus Vulgaris and Foliaceus (PV) Chronic Inflammatory Demyelinating Polyneuropathy (CIDP) Bullous Pemphigoid (BP) Myositis (IIM)
ARGX-117	Autoimmunity	Multifocal Motor Neuropathy (MMN)
Horizon		
Teprotumumab-trbw	Autoimmunity	Thyroid Eye Disease
ViiV		
Cabotegravir	Infectious Diseases	HIV Treatment and PrEP
N6LS	Infectious Diseases	HIV Treatment
NIH (N6LS)	Infectious Diseases	HIV (treatment)
Chugai		
Undisclosed	Undisclosed	Undisclosed
DEVICE PARTNER PRODUCT CANDIDATES		
Teva		
Teriparatide (Disposable Pen Injector)	Endocrinology	Osteoporosis
Pfizer		
QuickShot® Auto Injector	Undisclosed	Undisclosed Rescue Pen
Idorsia		
Selatogrel (QuickShot® Auto Injector)	Cardiology	Acute Myocardial Infraction

Proprietary Products and Product Candidates

Hylenex Recombinant (hyaluronidase human injection)

We market and sell Hylenex recombinant which is a formulation of rHuPH20 that facilitates SC administration for achieving hydration, increases the dispersion and absorption of other injected drugs and, in SC urography, to improve resorption of radiopaque agents. Hylenex recombinant is currently the number one prescribed branded hyaluronidase.

XYOSTED (testosterone enanthate) Injection

We market and sell in the U.S. our proprietary product XYOSTED injection for SC administration of testosterone replacement therapy ("TRT") in adult males for conditions associated with a deficiency or absence of endogenous testosterone (primary or hypogonadism). XYOSTED is the only FDA-approved SC testosterone enanthate product for once-weekly, at-home self-administration and is approved and marketed in three dosage strengths, 50 mg, 75 mg and 100 mg. Safety and efficacy of XYOSTED in males less than 18 years old have not been established.

NOCDURNA (desmopressin acetate) Sublingual Tablets

We market and sell NOCDURNA in the U.S., which is the first and only sublingual tablet indicated for the treatment of nocturia due to nocturnal polyuria ("NP") in adults who awaken at least two times per night to urinate. In the NOCDURNA clinical trials, NP was defined as night-time urine production exceeding one-third of the 24-hour urine production. NOCDURNA is a sublingual tablet, marketed in two dosage strengths, that dissolves quickly under the tongue without water and has been shown in clinical studies to reduce nighttime urination by nearly one-half (in patients who average three nighttime bathroom visits.) We license NOCDURNA from Ferring. In October 2022, we sent a notice to Ferring that we are terminating the NOCDURNA license agreement with an effective termination date in October 2023.

TLANDO (testosterone undecanoate) Oral Formulation

TLANDO is a twice daily oral formulation of testosterone indicated for testosterone replacement therapy in adult males for conditions associated with a deficiency or absence of endogenous testosterone (primary or hypogonadotropic hypogonadism). TLANDO was granted FDA approval in March 2022. In June 2022, we announced the commercial launch of TLANDO. Safety and efficacy of TLANDO in males less than 18 years old have not been established.

ATRS - 1902

We have an ongoing program to develop a proprietary drug device combination product for the endocrinology market, for patients who require additional supplemental hydrocortisone, identified as ATRS-1902. The development program uses a novel proprietary auto-injector platform to deliver a liquid stable formulation of hydrocortisone.

In June 2021, we submitted an IND application with the FDA for the initiation of a Phase 1 clinical study of ATRS-1902 for adrenal crisis rescue. The IND application includes the protocol for an initial clinical study to compare the pharmacokinetic profile of our novel formulation of hydrocortisone versus Solu-Cortef®, which is an anti-inflammatory glucocorticoid and is the current standard of care for the management of acute adrenal crises.

In July 2021, the FDA accepted our IND for ATRS-1902 enabling us to initiate our Phase 1 clinical study. The Phase 1 clinical study, designed to evaluate the safety, tolerability and pharmacokinetics ("PK") of a liquid stable formulation of hydrocortisone, was initiated in September 2021. The study was a cross-over design to establish the PK profile of ATRS-1902 (100 mg) compared to Solu-Cortef (100 mg), the reference-listed drug, in 32 healthy adults.

In January 2022, we announced the positive results from the Phase 1 clinical study and were granted Fast Track designation by the FDA. The positive results supported the advancement of our ATRS-1902 development program to a pivotal study for the treatment of acute adrenal insufficiency using our Vai novel proprietary rescue pen platform to deliver a liquid stable formulation of hydrocortisone.

Partnered Products

ENHANZE Collaborations

Roche Collaboration

In December 2006, we and Roche entered into a collaboration and license agreement under which Roche obtained a worldwide license to develop and commercialize product combinations of rHuPH20 and up to twelve Roche target compounds (the Roche Collaboration). Under this agreement, Roche elected a total of eight targets, two of which are exclusive.

In September 2013, Roche launched a SC formulation of Herceptin (trastuzumab) (Herceptin® SC) in Europe for the treatment of patients with HER2-positive breast cancer followed by launches in additional countries. This formulation utilizes our ENHANZE technology and is administered in two to five minutes, compared to 30 to 90 minutes with the standard IV form. In September 2018, we announced that Roche received approval from Health Canada for Herceptin SC for the treatment of patients with HER2-positive breast cancer. In February 2019, we announced that Roche received approval from the U.S. Food and Drug Administration ("FDA") for Herceptin SC under the brand name Herceptin Hylecta™ (trastuzumab and hyaluronidase-oysk). In April 2019, Roche made Herceptin Hylecta available in the U.S. In October 2022, Roche Pharmaceuticals China announced the approval of Herceptin in China for the treatment of patients with early-stage and metastatic HER2-positive breast cancer.

In June 2020, the FDA approved the fixed-dose combination of Perjeta® (pertuzumab) and Herceptin for SC injection (Phesgo™) utilizing ENHANZE technology for the treatment of patients with HER2-positive breast cancer. In December 2020, the European Commission ("EC") also approved Phesgo for the treatment of patients with early and metastatic HER2-positive breast cancer. In July 2022, Roche submitted the Initial Marketing Application ("IMA") for the fixed-dose combination of Perjeta (pertuzumab) and Herceptin for SC injection (Phesgo) to Center for Drug Evaluation ("CDE") in China. In September 2022, Chugai Pharmaceutical Co., Ltd. (a Member of the Roche Group) announced the submission of a new NDA in Japan for fixed-dose SC combination of pertuzumab and trastuzumab (same monoclonal antibodies as in Perjeta and Herceptin) with ENHANZE. This application is based on data from two clinical studies including the results from the global Phase 3 FeDeriCa study in patients with HER2-positive breast cancer.

In June 2014, Roche launched MabThera® SC in Europe for the treatment of patients with common forms of non-Hodgkin lymphoma (NHL) followed by launches in additional countries. This formulation utilizes our ENHANZE technology and is administered in approximately five minutes compared to the approximately 1.5 to 4 hour IV infusion. In May 2016, Roche announced that the European Medicines Agency ("EMA") approved Mabthera SC to treat patients with chronic lymphocytic leukemia ("CLL"). In June 2017, the FDA approved Genentech's RITUXAN HYCELA®, a combination of rituximab using ENHANZE technology (approved and marketed under the MabThera SC brand in countries outside the U.S. and Canada), for CLL and two types of NHL, follicular lymphoma and diffuse large B-cell lymphoma. In March 2018, Health Canada approved a combination of rituximab and rHuPH20 (approved and marketed under the brand name RITUXAN® SC) for patients with CLL. In November 2022, Roche submitted the IMA for Mabthera SC to CDE in China.

In September 2017, we entered into an agreement with Roche to develop and commercialize one additional exclusive target using ENHANZE technology. The upfront license payment may be followed by event-based payments subject to Roche's achievement of specified development, regulatory and sales-based milestones. In addition, Roche will pay royalties to us if products under the collaboration are commercialized.

In October 2018, we entered into an agreement with Roche for the right to develop and commercialize one additional exclusive target and an option to select two additional targets within four years using ENHANZE technology. The upfront license payment may be followed by event-based payments subject to Roche's achievement of specified development, regulatory and sales-based milestones. In addition, Roche will pay royalties to us if products under the collaboration are commercialized. Roche subsequently returned the rights for the first exclusive target.

In December 2018, Roche initiated a Phase 1b/2 study in patients with non-small cell lung cancer for TECENTRIQ® (atezolizumab) using ENHANZE technology. In December 2020, Roche initiated a Phase 3 study in patients with non-small cell lung cancer (NSCLC) for TECENTRIQ using ENHANZE technology. In August 2022, Roche announced that the Phase 3 study met its co-primary endpoints, showing non-inferior levels of Tecentriq in the blood (pharmacokinetics), when injected subcutaneously, compared with IV infusion, in cancer immunotherapy-naïve patients with advanced or metastatic NSCLC for whom prior platinum therapy has failed. The safety profile of the SC formulation was consistent with that of IV Tecentriq. In November 2022, Roche submitted a Biologics License Application ("BLA") to the FDA and a Marketing Authorization Application ("MAA") to the EMA for SC formulation of Tecentriq (atezolizumab) with ENHANZE across all approved indications of IV Tecentriq. In January 2023, FDA accepted the BLA for the SC formulation of Tecentriq with the official PDUFA goal date of September 15, 2023.

In August 2019, Roche initiated a Phase 1 study evaluating OCREVUS® (ocrelizumab) with ENHANZE technology in subjects with multiple sclerosis. In April 2022, Roche initiated a Phase 3 study evaluating OCREVUS with ENHANZE technology in subjects with multiple sclerosis.

In October 2019, Roche nominated a new undisclosed exclusive target to be studied using ENHANZE technology. In November 2021, Roche initiated a Phase 1 study with the undisclosed target and ENHANZE.

Takeda Collaboration

In September 2007, we and Takeda entered into a collaboration and license agreement under which Takeda obtained a worldwide, exclusive license to develop and commercialize product combinations of rHuPH20 with GAMMAGARD LIQUID (HYQVIA®) (the Takeda Collaboration). HYQVIA is indicated for the treatment of primary immunodeficiency disorders associated with defects in the immune system.

In May 2013, the EC granted Takeda marketing authorization in all European Union ("EU") Member States for the use of HYQVIA (solution for SC use) as replacement therapy for adult patients with primary and secondary immunodeficiencies. Takeda launched HYQVIA in the first EU country in July 2013 and has continued to launch in additional countries.

In September 2014, HYQVIA was approved by the FDA for treatment of adult patients with primary immunodeficiency in the U.S. HYQVIA is the first SC immune globulin (IG) treatment approved for adult primary immunodeficiency patients with a dosing regimen requiring only one infusion up to once per month (every three to four weeks) and one injection site per infusion in most patients, to deliver a full therapeutic dose of IG.

In May 2016, Takeda announced that HYQVIA received a marketing authorization from the EC for a pediatric indication, which was launched in Europe to treat primary and certain secondary immunodeficiencies. In September 2020, Takeda announced that the EMA approved a label update for HYQVIA broadening its use and making it the first and only facilitated SC immunoglobulin replacement therapy in adults, adolescents and children with an expanded range of secondary immunodeficiencies (SID).

In October 2021, Takeda initiated a Phase 1 single-dose, single-center, open-label, three-arm study to assess the tolerability and safety of immune globulin SC (human), 20% solution with ENHANZE (TAK-881) at various infusion rates in healthy adult subjects.

In July 2022, Takeda announced positive topline results from pivotal Phase 3 trial evaluating HYQVIA, for maintenance treatment of chronic inflammatory demyelinating polyradiculoneuropathy (CIDP), and Takeda confirmed its intention to submit regulatory applications in the United States and European Union in its fiscal year 2022. In July 2022, Takeda filed a supplemental Biologics License Application (sBLA) for the potential expanded use of HYQVIA for pediatric indication for primary immunodeficiency.

Pfizer Collaboration

In December 2012, we and Pfizer entered into a collaboration and license agreement, under which Pfizer has the worldwide license to develop and commercialize products combining our rHuPH20 enzyme with Pfizer proprietary biologics in primary care and specialty care indications. Pfizer has elected five targets and has returned two targets.

Janssen Collaboration

In December 2014, we and Janssen entered into a collaboration and license agreement, under which Janssen has the worldwide license to develop and commercialize products combining our rHuPH20 enzyme with Janssen proprietary biologics directed to up to five targets. Targets may be selected on an exclusive basis. Janssen has elected CD38 as the first target on an exclusive basis. Janssen has initiated several Phase 3 studies, Phase 2 studies and Phase 1 studies of DARZALEX® (daratumumab), directed at CD38, using ENHANZE technology in patients with amyloidosis, smoldering myeloma and multiple myeloma.

In February 2019, Janssen's development partner, Genmab, announced positive Phase 3 trial results from the COLUMBA study evaluating SC DARZALEX in comparison to IV DARZALEX in patients with relapsed or refractory multiple myeloma. DARZALEX SC® (utilizing ENHANZE technology) was found to be non-inferior to DARZALEX IV with regard the co-primary endpoints of Overall Response Rate and Maximum Trough concentration. In May 2020, we announced that Janssen received US FDA approval and launched the commercial sale of DARZALEX FASPRO® in four regimens across five indications in multiple myeloma patients, including newly diagnosed, transplant-ineligible patients as well as relapsed or refractory patients. As a fixed-dose formulation, DARZALEX FASPRO can be administered over three to five minutes, significantly less time than DARZALEX IV which requires multi-hour infusions. In June 2020, we announced that Janssen received European marketing authorization and launched the commercial sale of DARZALEX SC utilizing ENHANZE in the EU. Subsequent to these approvals, Janssen received several additional regulatory approvals for additional indications and patient populations in US, EU, Japan and China. Beginning with the US, in January 2021, Janssen received FDA approval for DARZALEX FASPRO in combination with bortezomib, thalidomide, and dexamethasone in newly diagnosed multiple myeloma patients who are eligible for autologous stem cell transplant. In January 2021, Janssen received accelerated approval from the FDA for DARZALEX FASPRO in combination with bortezomib, cyclophosphamide and dexamethasone (D-VCd) for the treatment of adult patients with newly diagnosed AL amyloidosis (not recommended for the treatment of patients with AL amyloidosis who have NYHA Class IIIB or Class IV cardiac disease or Mayo Stage IIIB outside of controlled clinical trials). In July 2021, Janssen received FDA approval for DARZALEX FASPRO in combination with pomalidomide and dexamethasone

(D-Pd) for patients with multiple myeloma after first or subsequent relapse. In July 2021, Janssen received FDA approval for DARZALEX FASPRO in combination with D-Pd for patients with multiple myeloma after first or subsequent relapse. In November 2021, Janssen received FDA approval for DARZALEX FASPRO in combination with Kyprolis® (carfilzomib) and dexamethasone for patients with relapsed or refractory multiple myeloma who have received one to three prior lines of therapy. In the EU, in June 2021, we announced that Janssen received marketing authorization from the EC for DARZALEX SC in two new indications, in combination with D-VCd in newly diagnosed adult patients with AL amyloidosis and in combination with D-Pd in adult patients with relapsed or refractory multiple myeloma. In Japan in March 2021, Janssen announced approval from Japan's Ministry of Health, Labour and Welfare (MHLW) for the SC formulation of DARZALEX (known as DARZQURO) in Japan for the treatment of multiple myeloma, and in May 2021 Janssen commenced commercial sale in Japan. In August 2021, Janssen received approval of DARZQURO for systemic AL amyloidosis in Japan. In China in October 2021, Janssen's DARZALEX FASPRO was approved by the China National Medical Products Administration (NMPA) for the treatment of primary light chain amyloidosis, in combination with D-VCd in newly diagnosed patients.

In December 2019, Janssen elected EGFR and cMET as a bispecific antibody (amivantamab) target on an exclusive basis, which is being studied in solid tumors. In November 2020, Janssen initiated a Phase 1 study of amivantamab and ENHANZE. In September 2022, Janssen initiated a Phase 3 study of lazertinib and amivantamab with ENHANZE in patients with epidermal growth factor receptor (EGFR)-mutated advanced or metastatic non-small cell lung cancer (PALOMA-3). In November 2022, Janssen initiated a Phase 2 study of amivantamab with ENHANZE in multiple regimens in patients with advanced or metastatic solid tumors including epidermal growth factor receptor (EGFR)-mutated non-small cell lung cancer (PALOMA-2).

In July 2021, Janssen elected the target HIV reverse transcriptase limited to non-nucleoside reverse transcriptase inhibitors. In December 2021, Janssen initiated a Phase 1 clinical trial combining rilpivirine and ENHANZE. Janssen and ViiV are exploring the possibility of an ultra-long acting version of CABENUVA using ENHANZE.

AbbVie Collaboration

In June 2015, we and AbbVie entered into a collaboration and license agreement, under which AbbVie has the worldwide license to develop and commercialize products combining our rHuPH20 enzyme with AbbVie proprietary biologics directed to up to nine targets. Targets may be selected on an exclusive basis. AbbVie elected one target on an exclusive basis, TNF alpha, for which it has discontinued development and returned the target.

Lilly Collaboration

In December 2015, we and Lilly entered into a collaboration and license agreement, under which Lilly has the worldwide license to develop and commercialize products combining our rHuPH20 enzyme with Lilly proprietary biologics. Lilly currently has the right to select up to three targets. Targets may be selected on an exclusive basis. Lilly has elected two targets on an exclusive basis and one target on a semi-exclusive basis.

BMS Collaboration

In September 2017, we and BMS entered into a collaboration and license agreement, which became effective in November 2017, under which BMS had the worldwide license to develop and commercialize products combining our rHuPH20 enzyme with BMS products directed at up to eleven targets. Targets may be selected on an exclusive basis or non-exclusive basis. BMS has designated multiple immuno-oncology targets including programmed death 1 (PD-1) and has an option to select 3 additional targets by November 2024. In October 2019, BMS initiated a Phase 1 study of relatlimab, an anti-LAG 3 antibody, in combination with nivolumab using ENHANZE technology. In May 2021, BMS initiated a Phase 3 of nivolumab using ENHANZE technology, for patients with advanced or metastatic clear cell renal cell carcinoma (CheckMate-67T), leveraging data and insights from Phase 1/2 CA209-8KX study in patients with solid tumors. In June 2022, BMS nominated a new undisclosed target. In August 2022, BMS initiated a Phase 3 trial to compare the drug levels of nivolumab with ENHANZE administered subcutaneously vs IV administration in participants with melanoma following complete resection (CheckMate-6GE). BMS plans to initiate a Phase 3 trial in early 2023 to demonstrate the drug exposure levels of nivolumab and relatlimab fixed-dose combination with ENHANZE is not inferior than intravenous administration in participants with previously untreated metastatic or unresectable melanoma (RELATIVITY-127).

Alexion Collaboration

In December 2017, we and Alexion entered into a collaboration and license agreement, under which Alexion has the worldwide license to develop and commercialize products combining our rHuPH20 enzyme with Alexion's portfolio of products directed at up to four exclusive targets and has access to utilize ENHANZE with up to three exclusive targets.

argenx Collaboration

In February 2019, we and argenx entered into an agreement for the right to develop and commercialize one exclusive target, the human neonatal Fc receptor FcRn, which includes argenx's lead asset efgartigimod (ARGX-113), and an option to select two additional targets using ENHANZE technology. In May 2019, argenx nominated a second target to be studied using

ENHANZE technology, a human complement factor C2 associated with the product candidate ARGX-117, which is being developed to treat severe autoimmune diseases in Multifocal Motor Neuropathy (MMN). In October 2020, we and argenx entered into an agreement to expand the collaboration relationship. Under the newly announced expansion, argenx gained the ability to exclusively access our ENHANZE technology for three additional targets for a total of up to six targets under the existing and newly expanded collaboration.

In July 2019, argenx dosed the first subject in a phase 1 clinical trial evaluating the safety, pharmacokinetics and pharmacodynamics of efgartigimod (ARGX-113), using ENHANZE technology. In December 2019, argenx reported that based on data from the phase 1 study and internal company analysis, a one minute injection administered every 2 weeks may be possible. In December 2020, argenx initiated a Phase 3 study of ARGX-113 using ENHANZE technology for patients with immune thrombocytopenia (ITP), an immune disorder in which the blood does not clot normally. In January 2021, argenx initiated a Phase 3 study of ARGX-113 using ENHANZE technology in pemphigus vulgaris and foliaceus (PV), a rare autoimmune disease that causes painful blisters on the skin and mucous membranes. In February 2021, argenx initiated a Phase 3 study of ARGX-113 using ENHANZE technology for patients with chronic inflammatory demyelinating polyneuropathy (CIDP) and initiated a Phase 3 study of ARGX-113 using ENHANZE technology in myasthenia gravis (MG), an autoimmune disorder of the musculoskeletal system caused by IgG autoantibodies. In December 2021, argenx announced the FDA approval of efgartigimod (VYVGART™) for the treatment of generalized myasthenia gravis for the IV dosing regimen. In March 2022, argenx announced that data from argenx's phase 3 ADAPT-SC study evaluating SC efgartigimod (1000mg efgartigimod-PH20) for the treatment of generalized myasthenia gravis (gMG) achieved the primary endpoint of total IgG reduction from baseline at day 29, demonstrating statistical non-inferiority to VYVGART (efgartigimod alfa-fcab) IV formulation in gMG patients. In June 2022, argenx initiated a study, BALLAD, evaluating Efgartigimod with ENHANZE in bullous pemphigoid. In September 2022, argenx announced the submission of a BLA to the US FDA for SC efgartigimod for the treatment of adults with gMG. In November 2022, argenx announced the acceptance of the BLA application for SC efgartigimod in gMG with a priority review and a Prescription Drug User Free Act ("PDUFA") date of March 20, 2023. In January 2023, argenx announced the review time was extended by the FDA to June 20, 2023 to allow the FDA sufficient time to review. Argenx has also submitted a marketing authorization application to the European Medicines Agency for SC efgartigimod for the treatment of adults with gMG with an anticipated regulatory approval decision in the fourth quarter of 2023.

Horizon Collaboration

In November 2020, we and Horizon entered into a global collaboration and license agreement that gives Horizon exclusive access to ENHANZE technology for SC formulation of medicines targeting IGF-1R. Horizon intends to use ENHANZE to develop a SC formulation of TEPEZZA® (teprotumumab-trbw), indicated for the treatment of thyroid eye disease, a serious, progressive and vision-threatening rare autoimmune disease, potentially shortening drug administration time, reducing healthcare practitioner time and offering additional flexibility and convenience for patients. In March 2021, Horizon completed dosing in a Phase 1 study exploring the SC formulation of TEPEZZA. The trial was a small, single-dose Phase 1 pharmacokinetic trial which included evaluation of ENHANZE technology for a SC formulation. In March 2022, Horizon announced the completion of a Phase 1 trial for the TEPEZZA SC program.

ViiV Healthcare Collaboration

In June 2021, we entered into a global collaboration and license agreement with ViiV. The license gives ViiV exclusive access to our ENHANZE technology for four specific small and large molecule targets for the treatment and prevention of HIV. These targets are integrase inhibitors, reverse transcriptase inhibitors limited to nucleoside reverse transcriptase inhibitors (NRTI) and nucleoside reverse transcriptase translocation inhibitors (NRTTIs), capsid inhibitors and broadly neutralising monoclonal antibodies (bNAbs), that bind to the gp120 CD4 binding site. In December 2021, ViiV initiated enrollment of a Phase 1 study to evaluate cabotegravir administered subcutaneously with ENHANZE. In February 2022, ViiV initiated enrollment of a Phase 1 study to evaluate the safety and pharmacokinetics of N6LS, a broadly neutralizing antibody, administered subcutaneously with ENHANZE technology. In June 2022, ViiV initiated enrollment of a Phase 1 single dose escalation study to evaluate pharmacokinetics, safety and tolerability of long-acting cabotegravir administered subcutaneously with ENHANZE technology.

Chugai Collaboration

In March 2022, we entered into a global collaboration and license agreement with Chugai Pharmaceutical Co., Ltd. The license gives Chugai exclusive access to ENHANZE drug delivery technology for an undisclosed target. Chugai intends to explore the potential use of ENHANZE for a Chugai drug candidate. In May 2022, Chugai initiated a Phase 1 study to evaluate the pharmacokinetics, pharmacodynamics, and safety of targeted antibody administered subcutaneously with ENHANZE.

NIH CRADA

In June 2019, we announced a Cooperative Research and Development Agreement ("CRADA") with the National Institute of Allergy and Infectious Diseases' Vaccine Research Center (VRC), part of National Institute of Health (NIH),

enabling the VRC's use of ENHANZE technology to develop SC formulations of VRC07-523LS and N6LS broadly neutralizing antibodies (bnAbs) against HIV for HIV treatment. In April 2021, we were notified that the first patient was dosed with N6LS and rHuPH20 in VRC 609 Phase 1 dose-escalation study to evaluate safety, tolerability, and pharmacokinetics of N6LS using ENHANZE technology. In October 2022, the VRC 609 Phase 1 study was completed.

CAPRISA

In September 2020, we entered into a collaboration with the Centre for the AIDS Programme of Research in South Africa (CAPRISA), a non-profit company, to evaluate safety, tolerability and pharmacokinetics of a human monoclonal antibody (CAP256V2LS) in HIV-negative and HIV-positive women in South Africa. In October 2020, we were notified that the first patient was dosed with CAP256V2LS and rHuPH20 in CAPRISA 012B Phase 1 dose-escalation study to evaluate safety, tolerability, and pharmacokinetics of CAP256V2LS alone and in combination with VRC07-523LS using ENHANZE technology. In January 2021, we were notified the first patient was dosed with CAP256V2LS and rHuPH20 in combination with VRC07-523LS and rHuPH20 in CAPRISA 012B Phase 1 study. VRC07-523LS broadly neutralizing antibody was supplied by the NIH/VRC under a research collaboration with CAPRISA. In June 2022, we received final study reports for CAPRISA 012B Phase 1 study and concluded our collaboration with CAPRISA.

Device and Other Drug Product Collaborations

Teva License, Development and Supply Agreements

In July 2006, we entered into an exclusive license, development and supply agreement with Teva for an epinephrine auto-injector product to be marketed in the U.S. and Canada. Pursuant to the agreement, Teva is obligated to purchase all of its delivery device requirements from us. We received an upfront cash payment and a milestone payment upon FDA product approval. We also receive a negotiated purchase price for each device sold, as well as royalties on Teva's commercial sales of the product. The agreement will continue until the expiration of the last to expire patent that is filed no later than 12 months after FDA approval. We have multiple patents that have been granted by the United States Patent and Trademark Office ("USPTO") that cover this product, the latest of which will expire in 2033. We have and plan to continue to file patent applications covering this product. We are the exclusive supplier of the device, which we developed, for Teva's generic Epinephrine Injection USP products, indicated for emergency treatment of severe allergic reactions including those that are life threatening (anaphylaxis) in adults and certain pediatric patients. Teva's Epinephrine Injection, utilizing our patented VIBEX® injection technology, was approved by the FDA as a generic drug product with an AB rating, meaning that it is therapeutically equivalent to the branded products EpiPen® and EpiPen Jr® and therefore, subject to state law, substitutable at the pharmacy. We supply the device and Teva is responsible for the drug, assembly and packaging, distribution and commercialization of the finished product, for which we also receive royalties on Teva's net sales.

In December 2007, we entered into a license, development and supply agreement with Teva under which we developed and will supply a disposable pen injector for two therapeutic products: exenatide and teriparatide. Under the agreement, we received an upfront payment and development milestones, and are entitled to receive royalties on net product sales by Teva in territories where commercialized. On February 25, 2022, Teva notified us that it was terminating the exenatide program and related agreement due to a lack of commercial viability. The termination was effective August 23, 2022.

We are the exclusive supplier of the multi-dose pen, which we developed, used in Teva's generic teriparatide injection product. In 2020, Teva launched Teriparatide Injection, the generic version of Eli Lilly's branded product Forsteo® featuring our multi-dose pen platform, for commercial sale in several countries outside of the U.S. Under an exclusive development, license and supply agreement with Teva, we are responsible for the manufacturing and supply of the multi-dose pen used in Teva's generic teriparatide product and Teva is responsible for the sale and distribution of the product. We are compensated for devices sold to Teva and we are entitled to receive royalties on net product sales by Teva in the territories.

In November 2012, we entered into a license, supply and distribution agreement with Teva for an auto-injector product containing sumatriptan for the treatment of migraines. Teva is responsible for the manufacture, supply, commercialization and distribution of the drug, and Halozyme is responsible for the manufacture and supply of the device and assembly and packaging of the finished product. We are compensated at cost for product shipment to Teva and Teva distributes the product in the U.S. Teva also received an option for distribution rights in other territories. In addition, net profits are shared equally between Halozyme and Teva. The term of the agreement continues seven years from commercial launch, which was in June 2016, with automatic one-year renewals unless terminated sooner by either party in accordance with the terms of the agreement.

Covis Agreements

In September 2014, we entered into a development and license agreement with Covis, to develop and supply a SC auto-injector system for use with Makena, a progestin drug (hydroxyprogesterone caproate) indicated to reduce the risk of preterm birth in women pregnant with one baby and who spontaneously delivered one preterm baby in the past. Under the agreement, we were granted an exclusive, worldwide, royalty-bearing license, with the right to sublicense, to certain intellectual property rights, including know-how, patents and trademarks. Covis is responsible for the clinical development and preparation,

submission and maintenance of all regulatory applications, and is responsible for the manufacture and supply of the drug to be used in the product, and to market, distribute and sell the product.

In March 2018, we entered into a manufacturing agreement with Covis for the exclusive supply of the device, a variation of our VIBEX QuickShot SC auto-injector developed by us, and fully assembled and packaged final finished product of the Makena SC auto-injector. We receive a contracted price per unit on each product manufactured and royalties based on net sales of products commencing on product launch in a particular country.

In October 2020, Covis received notice that the FDA proposed to withdraw approval of Makena (hydroxyprogesterone caproate injection). Covis requested a public hearing in an effort to maintain patient access to Makena as a treatment option to reduce pre-term birth. In October 2022 the hearing resulted in the FDA Advisory Committee recommending that Makena should not remain on the market.

Pfizer Agreement

In August 2018, we entered into a development agreement with Pfizer to jointly develop a combination drug device rescue pen utilizing the QuickShot auto-injector and an undisclosed Pfizer drug. We are continuing to evaluate the next steps for this program.

Idorsia Agreement

In November 2019, we entered into a global agreement with Idorsia to develop a novel, drug-device product containing selatogrel. A new chemical entity selatogrel is being developed for the treatment of a suspected acute myocardial infarction (AMI) in adult patients with a history of AMI. Idorsia will pay for the development of the combination product and will be responsible for applying for and obtaining global regulatory approvals for the product. The parties intend to enter into a separate commercial license and supply agreement pursuant to which Antares will provide fully assembled and labelled product to Idorsia at cost plus mark-up. Idorsia will then be responsible for global commercialization of the product, pending FDA or foreign approval. Halozyme will be entitled to receive royalties on net sales of the commercial product.

Ferring Agreement

In October 2020, we entered into an exclusive license and commercial supply agreement with Ferring for the marketed product NOCDURNA (desmopressin acetate) in the U.S. Under the terms of the license agreement, we paid Ferring an upfront payment of $5.0 million upon execution and paid an additional $2.5 million on October 1, 2021. Ferring is eligible for tiered royalties and additional commercial milestone payments potentially totaling up to $17.5 million based on our net sales of NOCDURNA in the U.S. In October 2022, we sent a notice to Ferring that we are terminating the NOCDURNA license agreement with an effective termination date in October 2023.

Lipocine Agreement

In October 2021, we entered into an exclusive license agreement with Lipocine for the product TLANDO (testosterone undecanoate) in the U.S. In June 2022, we announced the commercial launch of TLANDO. Under the terms of the license agreement, we paid Lipocine an upfront payment of $11.0 million. Lipocine is eligible for additional milestone payments up to $10.0 million and tiered royalty and commercial milestones based on net sales of TLANDO in the U.S. We will be responsible for the manufacturing and commercialization of TLANDO.

Otter Agreement

In December 2021, we entered into a supply agreement with Otter to manufacture the VIBEX auto-injection system device, designed and developed to incorporate a pre-filled syringe for delivery of methotrexate, assemble, package, label and supply the final OTREXUP product and related samples to Otter at cost plus mark-up. Otter is responsible for manufacturing, formulation and testing of methotrexate and the corresponding pre-filled syringe for assembly with the device manufactured by us, along with the commercialization and distribution of OTREXUP. OTREXUP is a SC methotrexate injection for once weekly self-administration with an easy-to-use, single dose, disposable auto-injector, indicated for adults with severe active rheumatoid arthritis ("RA"), children with active polyarticular juvenile idiopathic arthritis and adults with severe recalcitrant psoriasis. Further, we entered into a license agreement with Otter in which we granted Otter a worldwide, exclusive, fully paid-up license to certain patents relating to OTREXUP that may also relate to our other products for Otter to commercialize and otherwise exploit OTREXUP in the field as defined in the license agreement.

For a further discussion of the collaboration agreements, refer to Note 2, *Summary of Significant Accounting Policies - Revenues under Collaborative Agreements.*

Patents and Intellectual Proprietary Rights

Patents and other intellectual proprietary rights are essential to our business. Our success will depend in part on our ability to obtain patent protection for our inventions, to preserve our trade secrets and to operate without infringing the proprietary

rights of third parties. Our strategy is to actively pursue patent protection in the U.S. and certain foreign jurisdictions for technology that we believe to be proprietary to us and that offers us a potential competitive advantage.

Halozyme Patent Portfolio

Our Halozyme patent portfolio includes patents in the U.S., Europe and other countries in the world and we also have numerous pending patent applications. In general, patents have a term of 20 years from the application filing date or earlier claimed priority date. Our issued patents will expire between 2023 and 2039. We continue to file and prosecute patent applications to strengthen and grow our patent portfolio pertaining to our recombinant human hyaluronidase and other drugs and drug delivery devices, which cover primarily compositions of matter, formulations, methods of use and devices. We have multiple patents and patent applications throughout the world pertaining to our recombinant human hyaluronidase and methods of use and manufacture, including an issued U.S. patent which expires in 2027 and an issued European patent which expires in 2024, which we believe cover the products and product candidates under our existing collaborations and Hylenex recombinant. In addition, we have, under prosecution throughout the world, multiple patent applications that relate specifically to individual product candidates under development, the expiration of which can only be definitely determined upon maturation into our issued patents. We believe our patent filings represent a barrier to entry for potential competitors looking to utilize these hyaluronidases.

Other Proprietary Rights

In addition to patents, we rely on trade secrets, proprietary know-how, regulatory exclusivities and continuing technological innovation to protect our products and technologies. We protect our trade secrets, proprietary know-how and innovation, in part, by maintaining physical security of our sites and electronic security of our information technology systems and utilizing confidentiality and proprietary information agreements. Our policy is to require our employees, directors, consultants, advisors, partners, outside scientific partners and sponsored researchers, other advisors and other individuals and entities to execute confidentiality agreements upon the start of employment, consulting or other contractual relationships with us. These agreements provide that all confidential information developed or made known to the individual or entity during the course of the relationship is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees and some other parties, the agreements provide that all discoveries and inventions conceived by the individual will be our exclusive property. In certain instances, partners with which we have entered into development agreements may have rights to certain technology developed in connection with such agreements. Despite the use of these agreements and our efforts to protect our intellectual property, there is a risk of unauthorized use or disclosure of information. Furthermore, our trade secrets may otherwise become known to, or underlying technology may be independently developed by, our competitors.

We also file trademark applications to protect the names of our products and product candidates. These applications may not mature to registration and may be challenged by third parties. We are pursuing trademark protection in a number of different countries around the world.

Research and Development Activities

Our research and development expenses consist primarily of costs associated with the product development, quality and regulatory work required to maintain the ENHANZE platform, expenses associated with testing of new auto-injectors, activities and support for our partners in their development and manufacturing of product candidates performed on behalf of our partners, compensation and other expenses for research and development personnel, supplies and materials, facility costs and amortization and depreciation. We charge all research and development expenses to operations as they are incurred. Prior to our November 2019 restructuring, our research and development activities were primarily focused on the development of PEGPH20.

Manufacturing

ENHANZE

We do not have our own manufacturing facility for our product and our partners' products and product candidates, or the capability to package our products. We have engaged third parties to manufacture bulk rHuPH20 and Hylenex.

We have existing supply agreements with contract manufacturing organizations Avid Bioservices, Inc. (Avid) and Catalent Indiana LLC (Catalent) to produce supplies of bulk rHuPH20. These manufacturers each produce bulk rHuPH20 under current Good Manufacturing Practices (cGMP) for clinical and commercial uses. Catalent currently produces bulk rHuPH20 for use in Hylenex and collaboration product candidates. Avid currently produces bulk rHuPH20 for use in collaboration products. We rely on their ability to successfully manufacture these batches according to product specifications. It is important for our business for Catalent and Avid to (i) retain their status as cGMP-approved manufacturing facilities; (ii) successfully scale up bulk rHuPH20 production; and/or (iii) manufacture the bulk rHuPH20 required by us and our partners for use in our proprietary and collaboration products and product candidates. In addition to supply obligations, Avid and Catalent will also provide support for data and information used in the chemistry, manufacturing and controls sections for FDA and other regulatory filings.

We have a commercial manufacturing and supply agreement with Patheon Manufacturing Services, LLC (Patheon) under which Patheon will provide the final fill and finishing steps in the production process of Hylenex recombinant.

Devices

We also use third parties to manufacture our auto-injector technology products and product candidates, including the products and related components we supply to our partners. For our products and product candidates, we verify that they are manufactured in accordance with FDA's cGMPs for drug products and FDA's current Quality System Regulations ("QSRs") for medical devices and equivalent provisions in the EU and elsewhere, which are required as part of the overall obligations necessary, in the EU for instance, to obtain a CE-mark. We enter into quality agreements with our third-party manufacturers which require compliance with cGMPs, QSRs and foreign equivalents, to the extent applicable. We use third-party service providers to assemble and package our products and product candidates under our direction. We monitor and evaluate manufacturers and suppliers to assess compliance with regulatory requirements and our internal quality standards and benchmarks. We perform quality reviews of manufacturing for all of our product candidates and products, and quality releases for all of our product candidates and products that we sponsor or commercialize.

We use third-party manufacturers to manufacture and supply certain components, drugs, final assembly and finished product. Below is a summary of our key production, manufacturing, assembly and packaging arrangements with third-party manufacturers for products commercialized by us and our partners:

- Phillips-Medisize Corporation ("Phillips"), an international outsource provider of design and manufacturing services, produces commercial quantities of components of our QuickShot auto-injector device for XYOSTED, our QuickShot auto-injector device for the Makena product with Covis, and our VIBEX epinephrine auto-injector product with Teva.
- ComDel Innovation, Inc. ("ComDel"), a domestic provider of integrated solutions for product development, tooling, and manufacturing, produces commercial quantities of components for the VIBEX sumatriptan auto-injector product and for the teriparatide pen product with Teva.
- Jabil Healthcare, an international manufacturing development company produces commercial quantities of components of our VIBEX auto-injector device for the OTREXUP product for Otter and the VIBEX epinephrine auto-injector product with Teva.
- Fresenius Kabi supplies commercial quantities of pre-filled syringes of testosterone for XYOSTED.
- Sharp Corporation ("Sharp"), an international contract packaging company, assembles and packages XYOSTED, Sumatriptan Injection USP and the Makena auto-injector products, and the OTREXUP auto-injector product for Otter.
- Pfizer supplies the active pharmaceutical ingredient ("API") for TLANDO.
- NextPharma, an international pharmaceutical manufacturing company, supplies the bulk capsule product for TLANDO.
- PCI Pharma Services ("PCI"), an international contract packaging company, bottles and packages TLANDO.

Sales, Marketing and Distribution

We have two teams of sales specialists, one that provide hospital and surgery center customers with the information needed to obtain formulary approval for, and support utilization of, Hylenex recombinant and one that supports the promotion of our testosterone products XYOSTED and TLANDO. Our commercial activities also include marketing and related services and commercial support services such as commercial operations, managed markets and commercial analytics. We also employ third-party vendors, such as advertising agencies, market research firms and suppliers of marketing and other sales support related services to assist with our commercial activities.

We sell XYOSTED, TLANDO and Hylenex recombinant in the U.S. to wholesale pharmaceutical distributors, who sell Hylenex to hospitals and XYOSTED and TLANDO to other end-user customers. We engage Integrated Commercialization Solutions (ICS), a division of AmerisourceBergen Specialty Group, a subsidiary of AmerisourceBergen, to act as our exclusive distributor for commercial shipment and distribution of Hylenex recombinant to our customers in the United States. We also contract with numerous wholesale distributors, including Cardinal, McKesson Corporation ("McKesson") and AmerisourceBergen Corporation to distribute our other proprietary products (including XYOSTED and TLANDO) to retail pharmacies as well as the Veterans Administration and other governmental agencies

In addition to shipping and distribution services, these distributors and third-party logistics provider, Cardinal Health 105, Inc., also known as Specialty Pharmaceutical Services ("Cardinal") provide us with other key services related to logistics, warehousing, returns and inventory management, sales reports, contract administration and chargebacks processing and accounts receivable management. We also use a division of Cardinal for sample administration. In addition, we utilize these third parties to perform various other services for us relating to regulatory monitoring, including call center management, adverse event reporting, safety database management and other product maintenance services. In exchange for these services, we pay fees to certain distributors based on a percentage of wholesale acquisition cost. We have also contracted with several specialty pharmacies to support fulfillment of certain prescriptions. In addition, we use third parties to perform various other services for us relating to regulatory monitoring, including adverse event reporting, safety database management and other product maintenance services.

Competition

The pharmaceutical industry is characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary therapeutics. We face competition from a number of sources, some of which may target the same indications as our product or product candidates, including large pharmaceutical companies, smaller pharmaceutical companies, biotechnology companies, academic institutions, government agencies and private and public research institutions, many of which have greater financial resources, drug development experience, sales and marketing capabilities, including larger, well established sales forces, manufacturing capabilities, experience in obtaining regulatory approvals for product candidates and other resources than us.

ENHANZE

Our ENHANZE technology may face increasing competition from alternate approaches and/or emerging technologies to deliver medicines SC. In addition, our partners face competition in the commercialization of the product candidates for which the partners seek marketing approval from the FDA and other regulatory authorities.

Hylenex Recombinant

Hylenex recombinant is currently the only FDA approved recombinant human hyaluronidase on the market. The competitors for Hylenex recombinant include, but are not limited to, Bausch Health Companies, Inc.'s product, Vitrase®, an ovine (ram) hyaluronidase, and Amphastar Pharmaceuticals, Inc.'s product, Amphadase®, a bovine (bull) hyaluronidase.

XYOSTED and TLANDO

In the U.S., there are several different formulations for TRT including intramuscular injection, transdermal patches and gels, oral formulations and nasal gels. Competition in the U.S. testosterone replacement market includes transdermal solutions such as AbbVie's Androgel® 1% and 1.62%, Perrigo's generic Androgel® Topical Gel, 1.62%, Eli Lilly's Axiron®, Endo's Testim® and Fortesta® (and the authorized generic) and Allergan plc's ("Allergan") Androderm®. Other forms of TRT include injectables such as Endo's Aveed®, Pfizer's Depo®-Testosterone, and several generic oil testosterone products sold by Actavis, Sandoz, Viatris Inc., Teva and others, as well as Testopel® pellets by Endo and JATENZO®, an oral formulation, by Tolmar, and Kyzatrex, an oral formulation by Marius Pharmaceuticals.

Devices

We have a wide range of competitors depending upon the branded or generic marketplace, the therapeutic product category, and the product type, including dosage strengths and route of administration. Our competitors include established specialty pharmaceutical companies, major brand name and generic manufacturers of pharmaceuticals such as Teva, Viatris, Eli Lilly and Endo, as well as a wide range of medical device companies that sell a single or limited number of competitive products or participate in only a specific market segment. Our competitors also include third party contract medical device design and development companies such as Scandinavian Health Ltd., Ypsomed AG, West Pharmaceutical and Owen Mumford Ltd. Many of our competitors have greater financial and other resources than we have, such as more commercial resources, larger research and development staffs and more extensive marketing and manufacturing organizations. Smaller or early stage emerging companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies.

Government Regulations

The FDA and comparable regulatory agencies in foreign countries regulate the manufacture and sale of the pharmaceutical products that we or our partners have developed or that our partners currently are developing. The FDA has established guidelines and safety standards that are applicable to the laboratory and preclinical evaluation and clinical investigation of therapeutic products and stringent regulations that govern the manufacture and sale of these products. The process of obtaining regulatory approval for a new therapeutic product usually requires a significant amount of time and substantial resources.

Regulatory obligations continue post-approval and include the reporting of adverse events when a drug is utilized in the broader patient population. Promotion and marketing of drugs is also strictly regulated, with penalties imposed for violations of FDA regulations, the Lanham Act and other federal and state laws, including the federal anti-kickback statute.

We currently intend to continue to seek, through our partners, approval to market products and product candidates in foreign countries, which may have regulatory processes that differ materially from those of the FDA. Our partners may rely upon independent consultants to seek and gain approvals to market our proposed products in foreign countries or may rely on other pharmaceutical or biotechnology companies to license our proposed products. We cannot guarantee that approvals to market any of our partners' products can be obtained in any country. Approval to market a product in any one foreign country does not necessarily indicate that approval can be obtained in other countries.

From time to time, legislation is drafted and introduced in Congress that could significantly change the statutory provisions governing the approval, manufacturing and marketing of drug products. In addition, FDA regulations and guidance may be revised or reinterpreted by the agency or reviewing courts in ways that may significantly affect our business and development of our partners' product candidates and any products that we may commercialize. It is impossible to predict whether additional legislative changes will be enacted, or FDA regulations, guidance or interpretations changed, or what the impact of any such changes may be.

Information about our Executive Officers

Information concerning our executive officers, including their names, ages and certain biographical information can be found in Part III, Item 10, *Directors, Executive Officers and Corporate Governance*. This information is incorporated by reference into Part I of this report.

Human Capital Management

The experience, expertise and dedication of our employees drive the progress and accomplishments of Halozyme.

As of February 14, 2023, we had 393 full-time employees. None of our employees are unionized and we believe our employee relations to be good.

Recognizing the value of our employees and the contributions they make in achieving our business objectives and overall success, we focus on creating and providing an inclusive and safe work environment where employees are respected and rewarded for their contributions, work together as one team, have opportunities to grow and develop their careers, and support the communities in which we work. We also believe this approach to human capital management is essential to attracting and retaining employees in the highly competitive biotechnology and pharmaceutical labor market. To achieve this supportive working environment, our human capital management efforts focus on:

Corporate Values and Ethics:

The foundation of our human capital management strategy is contained in our corporate values statement and our Code of Conduct and Ethics (the "Code of Conduct"), both of which provide uniform guidance to all our employees regarding expectations for proper workplace behavior. Our corporate values emphasize respecting and valuing fellow team members and acting with integrity and honesty to uphold the highest ethical standards. We believe these values provide an environment in which all employees can feel proud and motivated to contribute their valued talents to achieving corporate goals and objectives. Our values also emphasize empowering employees and personal accountability as a means to fulfill our commitments to patients, partners, shareholders and each other.

Our Board of Directors adopted and regularly reviews the Code of Conduct, which applies to all of our employees, officers and directors. Adherence to the Code of Conduct helps ensure that all employees can feel a part of an organization that emphasizes adherence to laws and policies covering the industry in which we work. Our Code of Conduct also emphasizes each employee's accountability for making decisions and taking actions in a highly ethical manner with a focus on honesty, fairness and integrity and treating all fellow employees in a respectful and inclusive manner. We have established a reporting hotline that enables employees to file anonymous reports of any suspected violations of the Code of Conduct. We believe that providing an ethical environment in which to work is vital to our efforts to attract, retain and develop our employees.

Diversity and Inclusion:

We seek to build and maintain a diverse team of employees that is passionate about and committed to having a positive impact on the lives of patients and their families. We value and celebrate the unique talents, backgrounds and perspectives each employee contributes to achieving our mission and corporate objectives. In support of this philosophy, we adopted the Biotechnology Innovation Organization's principles on workforce development, diversity and inclusion. Our diverse and inclusive culture is key to attract, develop and retain our talent pool within the globally competitive biotechnology industry. Our dedication to these principles has resulted in a diverse and inclusive employee base consisting of 45% female and 31% non-white/Caucasian employees as of February 14, 2023.

As an equal opportunity employer, we strive to attract and connect with diverse talent who best match our core values and who will be successful and thrive at Halozyme. Our recruiting team partners with hiring managers and we select diverse interview panels to help provide insight at every stage of the process to identify the best possible candidate – whether internal or external – to fill open roles in the company. We evaluate our recruitment and retention efforts based on a variety of metrics, including offer acceptance rate, time-to-hire, turnover and diversity of our employees.

Professional Development for Employees at All Levels:

We are firmly committed to employee development as an essential driver of our future growth and overall success of Halozyme. We understand that high performing employees are always seeking a challenge and reaching for ways to broaden, deepen and develop their skills and grow professionally. To support our employees, we conduct an individual development plan process to give employees the opportunity and accountability to document their career goals and discuss the actions necessary to achieve those goals. We have two internal training programs: our senior leader development program is focused on advancing business acumen and leadership skills and our learning and development curriculum for the entire organization is focused on personal, professional, team and leadership development opportunities and grounded in our established leadership attributes which identify the knowledge, skills, abilities and behaviors that contribute to individual and organizational performance. In addition, everyone attends or participates in compliance, harassment prevention, and safety training and we offer education assistance for college and university courses, training seminars and educational conference attendance opportunities to all employees.

To monitor progress, we review our succession plan for key senior management positions as part of our annual talent review and identify development opportunities to help ensure potential successor readiness.

Employee Engagement:

Building trust and a high performing culture is a top priority for Halozyme. We achieve this by providing a platform for employees to give feedback, collaborate on solutions, and discuss how to make changes to help improve our experience at work. Over the years, we have regularly conducted employee engagement surveys to better understand what we do well and where there are opportunities for improvement.

Based on the insights gained from past surveys, we have focused on strengthening cross-functional teamwork including how teams communicate and how we hold each other accountable. Examples of specific actions we have taken in response to employee survey feedback include all-employee training on cross-functional teamwork and a learning series to equip employees to give and receive constructive feedback.

We hold frequent all-employee meetings that serve as an open forum to share progress on strategy and corporate goals as well as potential at-risk areas, celebrate achievements, and share best practices and learnings. Beginning in 2020 and continuing into 2023 we have increased the frequency of our all-employee meetings from monthly to semi-monthly while transitioning from work-from-home to a hybrid workplace to keep employees well-informed, connected and to provide them with a setting to ask questions and discuss solutions.

Management tracks and assesses retention and attrition and interviews departing employees in order to identify any addressable trends.

Compensation & Benefits:

Our compensation and benefits programs, with oversight from the Compensation Committee of our Board of Directors, are designed to attract, retain and reward employees through competitive salaries, annual bonus eligibility, long-term incentive awards, Employee Stock Purchase Plan, a 401(k) Plan, healthcare and insurance benefits, health savings and flexible spending accounts, paid time off, family leave, and employee assistance programs. Each year we conduct surveys to benchmark our salaries and benefits and confirm we are satisfied with the competitiveness of our total compensation offering. We also provide a variety of peer-to-peer and corporate recognition programs to celebrate and recognize our employees for their hard work and contributions.

Employee Health and Safety:

We are dedicated to promoting the health and safety of our employees because we believe it fosters employee productivity and job performance. We have developed and implemented annual workplace safety training which is intended to remind our employees of workplace safety procedures that may be useful in the event of emergency situations and to assist our employees in helping to prevent workplace accidents. We have a Safety Operations Team which meets on a quarterly basis to review workplace safety and adherence to safety policies. This team reports safety metrics and results of ongoing initiatives to the CEO semi-annually and the Board annually. Further, our Code of Conduct emphasizes our commitment to preventing unlawful employment discrimination and workplace harassment including mandatory, on-going sexual harassment training and provides a mechanism for reporting any violations of this policy.

Our response to COVID-19:

Because we take the health and safety of our employees, their families and our local communities very seriously, we continued case monitoring, contact tracing and notifications as required, diagnostic testing and enhanced safety protocols to ensure business continuity and risk of transmission is minimized.

Corporate Citizenship:

We believe in supporting the community in which we work and provide our employees multiple opportunities to contribute to the community, including providing company-wide community service days/volunteerism supporting:

- Patient advocacy/healthcare;
- Health disparities;
- STEM education;
- Humanitarian services (e.g., food drives, home builds, meal services);
- Environment (e.g., lagoon cleanup events, park restoration); and
- Children in underserved communities (e.g. school supply drives, holiday adopt-a-family).

Item 1A. Risk Factors

Risks Related To Our Business

If our partnered or proprietary product candidates do not receive and maintain regulatory approvals, or if approvals are not obtained in a timely manner, such failure or delay would substantially impair our ability to generate revenues.

Approval from the FDA or equivalent health authorities is necessary to design, develop, test, manufacture and market pharmaceutical products and medical devices in the U.S. and the other countries in which we anticipate doing business have similar requirements. The process for obtaining FDA and other regulatory approvals is extensive, time-consuming, risky and costly, and there is no guarantee that the FDA or other regulatory bodies will approve any applications that may be filed with respect to any of our partnered or proprietary product candidates, or that the timing of any such approval will be appropriate for the desired product launch schedule for a product candidate. We and our partners may provide guidance as to the timing for the filing and acceptance of such regulatory approvals, but such filings and approvals may not occur when we or our partners expect, or at all. The FDA or other foreign regulatory agency may refuse or delay approval of our partnered or proprietary product candidates for failure to collect sufficient clinical or animal safety data and require additional clinical or animal safety studies which may cause lengthy delays and increased costs to our or our partners' development programs. Any such issues associated with rHuPH20 could have an adverse impact on future development of our partners' products which include rHuPH20, future sales of Hylenex recombinant, or our ability to maintain our existing ENHANZE collaborations or enter into new ENHANZE collaborations.

We and our partners may not be successful in obtaining approvals for any additional potential products in a timely manner, or at all.

Refer to the risk factor titled "*Our partnered or proprietary product candidates may not receive regulatory approvals or their development may be delayed for a variety of reasons, including delayed or unsuccessful clinical trials, regulatory requirements or safety concerns*" for additional information relating to the approval of product candidates.

Additionally, even with respect to products which have been approved for commercialization, in order to continue to manufacture and market pharmaceutical products, we or our partners must maintain our regulatory approvals. If we or any of our partners are unsuccessful in maintaining the required regulatory approvals, our revenues would be adversely affected.

Use of our partnered or proprietary and the products and product candidates could be associated with adverse events or product recalls.

As with most pharmaceutical products, our partnered or proprietary products and product candidates could be associated with adverse events which can vary in severity (from minor reactions to death) and frequency (infrequent to very common) or product recalls. Adverse events associated with the use of our partnered or proprietary products or product candidates may be observed at any time, including in clinical trials or when a product is commercialized, and any such adverse events may negatively affect our or our partners' ability to obtain or maintain regulatory approval or market such products and product candidates. Adverse events such as toxicity or other safety issues associated with the use of our partnered or proprietary products and product candidates could require us or our partners to perform additional studies or halt development or commercialization of these products and product candidates or expose us to product liability lawsuits which will harm our business. For example, we experienced a clinical hold on patient enrollment and dosing in our phase 2 study of PEGPH20 in patients with PDA (a discontinued program), which was not resolved until we implemented steps to address an observed possible difference in TE event rates between the arms of the study. We or our partners may be required by regulatory agencies to conduct additional animal or human studies regarding the safety and efficacy of our pharmaceutical products or product candidates which we have not planned or anticipated. There can be no assurance that we or our partners will resolve any issues related to any product or product candidate adverse events to the satisfaction of the FDA or any regulatory agency in a timely manner or ever, which could harm our business, prospects and financial condition.

To the extent that a product fails to conform to its specifications or comply with the applicable laws or regulations, we or our partners may be required to or may decide to voluntarily recall the product or regulatory authorities may request or require that we recall a product even if there is no immediate potential harm to a patient. Any recall of our products or their components that we supply to our partners could materially adversely affect our business by rendering us unable to sell those products or components for some time and by adversely affecting our reputation. Recalls are costly and take time and effort to administer. Even if a recall only initially relates to a single product, product batch, or a portion of a batch, recalls may later be expanded to additional products or batches or we or our partners may incur additional costs and need to dedicate additional efforts to investigate and rule out the potential for additional impacted products or batches. Moreover, if any of our partners recall a product due to an issue with a product or component that we supplied, they may claim that we are responsible for such issue and may seek to recover the costs related to such recall or be entitled to certain contractual remedies from us. Recalls may further result in decreased demand for our partnered or proprietary products, could cause our partners or distributors to return products to us for which we may be required to provide refunds or replacement products, or could result in product shortages. Recalls may also require regulatory reporting and prompt regulators to conduct additional inspections of our or our partners' or

contractors' facilities, which could result in findings of noncompliance and regulatory enforcement actions. A recall could also result in product liability claims by individuals and third-party payers. In addition, product liability claims or other safety issues could result in an investigation of the safety or efficacy of our products, our manufacturing processes and facilities, or our marketing programs conducted by the FDA or the authorities of the EU member states and other jurisdictions. Such investigations could also potentially lead to a recall of our products or more serious enforcement actions, limitations on the indications for which they may be used, or suspension, variation, or withdrawal of approval. Any such regulatory action by the FDA, the EMA or the competent authorities of the EU member states could lead to product liability lawsuits as well.

If our contract manufacturers or vendors are unable to or unwilling for any reason to manufacture and supply to us bulk rHuPH20 or other raw materials, reagents, components or devices in the quantity and quality required by us or our partners for use in the production of Hylenex or our other proprietary or partnered products and product candidates, our and our partners' product development and commercialization efforts could be delayed or stopped and our business results of operations and our collaborations could be harmed.

We rely on a number of third parties in our supply chain for the supply and manufacture of our partnered and proprietary products and the availability of such products depends upon our ability to procure the raw materials, components, packaging materials and finished products from these third parties, several of which are currently our single source for the materials necessary for certain of our products. We have entered into supply agreements with numerous third-party suppliers. For example, we have existing supply agreements with contract manufacturing organizations Avid Bioservices, Inc. (Avid) and Catalent Indiana LLC (Catalent) to produce bulk rHuPH20. These manufacturers each produce bulk rHuPH20 under cGMP for use in Hylenex recombinant, and for use in partnered products and product candidates. We rely on their ability to successfully manufacture bulk rHuPH20 according to product specifications. In addition to supply obligations, our contract manufacturers will also provide support for the chemistry, manufacturing and controls sections for FDA and other regulatory filings. We also rely on vendors to supply us with raw materials to produce reagents and other materials for bioanalytical assays used to support our partners' clinical trials. We also have a commercial manufacturing and supply agreement with Patheon under which Patheon provides the final fill and finishing steps in the production process of Hylenex recombinant. If any of our contract manufacturers or vendors: (i) is unable to retain its status as an FDA approved manufacturing facility; (ii) is unable to otherwise successfully scale up production to meet corporate or regulatory authority quality standards; (iii) is unable to procure the labor, raw materials, reagents or components necessary to produce our proprietary products, including bulk rHuPH20 and Hylenex recombinant our bioanalytical assays or our partnered products or (iv) fails to manufacture and supply our partnered and proprietary products, including bulk rHuPH20 in the quantity and quality required by us or our partners for use in Hylenex and partnered products and product candidates for any other reason, our business will be adversely affected. In addition, a significant change in such parties' or other third party manufacturers' business or financial condition could adversely affect their abilities or willingness to fulfill their contractual obligations to us. We have not established, and may not be able to establish, favorable arrangements with additional bulk rHuPH20 manufacturers and suppliers of the ingredients necessary to manufacture bulk rHuPH20 should the existing manufacturers and suppliers become unavailable or in the event that our existing manufacturers and suppliers are unable or unwilling to adequately perform their responsibilities. We have attempted to mitigate the impact of a potential supply interruption through the establishment of excess bulk rHuPH20 inventory where possible, but there can be no assurances that this safety stock will be maintained or that it will be sufficient to address any delays, interruptions or other problems experienced by any of our contract manufacturers. Any delays, interruptions or other problems regarding the ability or willingness of our contract manufacturers to supply bulk rHuPH20 or the ability or willingness of other third-party manufacturers, to supply other raw materials or ingredients necessary to produce our other proprietary or partnered products on a timely basis could: (i) cause the delay of our partners' clinical trials or otherwise delay or prevent the regulatory approval of our partners' product candidates; (ii) delay or prevent the effective commercialization of proprietary or partnered products and product candidates; and/or (iii) cause us to breach contractual obligations to deliver bulk rHuPH20 to our partners. Such delays could damage our relationship with our partners, and they could have a material adverse effect on royalties and thus our business and financial condition. Additionally, we rely on third parties to manufacture, prepare, fill, finish, package, store and ship our proprietary and partnered products and product candidates on our behalf. If the third parties we identify fail to perform their obligations, the progress of partners' clinical trials could be delayed or even suspended and the commercialization of our partnered or proprietary products could be delayed or prevented.

In addition, our Minnetonka, Minnesota facility supports our administrative functions, product development and quality operations and is intended to eventually provide additional manufacturing and warehousing capabilities in the future. If we begin manufacturing and producing commercial products in the future, we will be subject to relevant risks comparable to those of our third-party manufacturers. For example, we may not be able to begin product manufacturing and production due to a number of different reasons including, but not limited to, an ability to obtain necessary supplies and materials, labor and expertise. To the extent we rely on our ability to manufacture and ship any of our proprietary and partnered products, our inability to do so could have a material adverse impact on our business, financial condition and results of operations.

We rely on third parties to perform necessary services for our products including services related to the distribution, invoicing, rebates and contract administration, co-pay program administration, sample distribution and administration, storage and transportation of our products. If anything should impede their ability to meet their commitments this could impact our business performance.

Depending on the product, we have retained third-party service providers to perform a variety of functions related to the distribution, invoicing, rebates and contract administration, co-pay program administration, sample distribution and administration, storage and transportation of our products, key aspects of which are out of our direct control. We place substantial reliance on these providers as well as other third-party providers that perform services for us, including, depending on the product, entrusting our inventories of products to their care and handling. We also may rely on third parties to administer our drug price reporting and rebate payments and contracting obligations under federal programs. Despite our reliance on third parties, we have responsibilities for compliance with the applicable legal and program requirements. By example, in certain states, we are required to hold licenses to distribute our products in these states and must comply with the associated state laws. Moreover, if these third-party service providers fail to meet expected deadlines, or otherwise do not carry out their contractual duties to us or encounter physical damage or a natural disaster at their facilities, our ability to deliver products to meet commercial demand would be significantly impaired. In addition, we may use third parties to perform various other services for us relating to regulatory monitoring, including adverse event reporting, safety database management and other product maintenance services. If our employees or any third-party service providers fail to comply with applicable laws and regulations, we and/or they may face regulatory or False Claims Act enforcement actions. Moreover, if the quality or accuracy of the data maintained by these service providers is insufficient, our ability to continue to market our products could be jeopardized or we and/or they could be subject to regulatory sanctions. We do not currently have the internal capacity to perform these important commercial functions, and we may not be able to maintain commercial arrangements for these services on reasonable terms.

If we or any party to a key collaboration agreement fail to perform material obligations under such agreement, or if a key collaboration agreement, is terminated for any reason, our business could suffer.

We have entered into multiple collaboration agreements under which we may receive significant future payments in the form of milestone payments, target designation fees, maintenance fees and royalties. We are heavily dependent on our partners to develop and commercialize product candidates subject to our collaborations in order for us to realize any financial benefits, including revenues from milestones, royalties and product sales from these collaborations. Our partners may not devote the attention and resources to such efforts that we would ourselves, change their clinical development plans, promotional efforts or simultaneously develop and commercialize products in competition to those products we have licensed to them. Any of these actions may not be visible to us immediately and could negatively impact our ability to forecast and our ability to achieve the benefits and revenue we receive from such collaboration. In addition, in the event that a party fails to perform under a key collaboration agreement, or if a key collaboration agreement is terminated, the reduction in anticipated revenues could negatively impact our operations. In addition, the termination of a key collaboration agreement by one or more of our partners could have a material adverse impact on our ability to enter into additional collaboration agreements with new partners on favorable terms, if at all. In certain circumstances, the termination of a key collaboration agreement would require us to revise our corporate strategy going forward and may lead us to reevaluate the applications and value of our technology.

Hylenex and our partners' ENHANZE products and product candidates rely on the rHuPH20 enzyme, and any adverse development regarding rHuPH20 could substantially impact multiple areas of our business, including current and potential ENHANZE collaborations, as well as any proprietary programs.

rHuPH20 is a key technological component of Hylenex and our ENHANZE technology and most of our ENHANZE partnered products and product candidates, including the current and future products and product candidates under our ENHANZE collaborations. We derive a substantial portion of our revenues from our ENHANZE collaborations. Therefore, if there is an adverse development for rHuPH20 (e.g., an adverse regulatory determination relating to rHuPH20, if we are unable to obtain sufficient quantities of rHuPH20, if we are unable to obtain or maintain material proprietary rights to rHuPH20 or if we discover negative characteristics of rHuPH20), multiple areas of our business, including current and potential collaborations, as well as proprietary programs would be substantially impacted. For example, elevated anti-rHuPH20 antibody titers were detected in the registration trial for HYQVIA as well as in a former partner's product in a Phase 2 clinical trial with rHuPH20, but have not been associated, in either case, with any adverse events. We monitor for antibodies to rHuPH20 in our collaboration and proprietary programs, and although we do not believe at this time that the incidence of non-neutralizing anti-rHuPH20 antibodies in either the HYQVIA program or the former partner's program will have a significant impact on our proprietary product and our partners' product and product candidates, there can be no assurance that there will not be other such occurrences in the foregoing programs or that concerns regarding these antibodies will not also be raised by the FDA or other health authorities in the future, which could result in delays or discontinuations of our Hylenex commercialization activities, the development or commercialization activities of our ENHANZE partners, or deter our entry into additional ENHANZE collaborations with third parties.

Our business strategy is focused on growth of our ENHANZE technology, our auto-injector technology, our commercial products and potential growth through acquisition. Currently, ENHANZE is the largest revenue driver and as a result there is a risk for potential negative impact from adverse developments. Future expansion of our strategic focus to additional applications of our ENHANZE technology or by acquiring new technologies may require the use of additional resources, result in increased expense and ultimately may not be successful.

We routinely evaluate our business strategy, and may modify this strategy in the future in light of our assessment of unmet medical needs, growth potential, resource requirements, regulatory issues, competition, risks and other factors. As a result of these strategic evaluations, we may focus our resources and efforts on one or a few programs or fields and may suspend or reduce our efforts on other programs and fields. For example, in the fourth quarter of 2019, we decided to focus our resources on our ENHANZE technology and our commercial product, Hylenex. By focusing primarily on these areas, we increase the potential impact on us if one of those partner programs does not successfully complete clinical trials, achieve commercial acceptance or meet expectations regarding sales and revenue. We may also expand our strategic focus by seeking new therapeutics applications of our technology or by acquiring new technologies which may require the use of additional resources, increased expense and would require the attention of senior management. For example, in May 2022, we acquired Antares as a means to diversify the sources of our revenues. There can be no assurance that our investment in Antares or any such future investment of resources in new technologies will ultimately result in additional approved proprietary or partnered products or commercial success of new therapeutic applications of our technology.

Our partnered or proprietary product candidates may not receive regulatory approvals or their development may be delayed for a variety of reasons, including delayed or unsuccessful clinical trials, regulatory requirements or safety concerns. If we or our partners fail to obtain, or have delays in obtaining, regulatory approvals for any product candidates, our business, financial condition and results of operations may be materially adversely affected or delayed.

Clinical testing of pharmaceutical products is a long, expensive and uncertain process, and the failure or delay of a clinical trial can occur at any stage, including the patient enrollment stage. Even if initial results of preclinical and nonclinical studies or clinical trial results are promising, our partners may obtain different results in subsequent trials or studies that fail to show the desired levels of dose safety and efficacy, or we or our partners may not obtain applicable regulatory approval for our products for a variety of other reasons. Preclinical, nonclinical, and clinical trials for proprietary or partnered product candidates could be unsuccessful, which would delay or preclude regulatory approval and commercialization of the product candidates. In the U.S. and other jurisdictions, regulatory approval can be delayed, limited or not granted for many reasons, including, among others:

- during the course of clinical studies, the final data from later Phase 3 studies may differ from data observed in early phase clinical trials, and clinical results may not meet prescribed endpoints for the studies or otherwise provide sufficient data to support the efficacy of our partners' product candidates;
- clinical and nonclinical test results may reveal inferior pharmacokinetics, adverse events or unexpected safety issues associated with the use of our partners' product candidates;
- regulatory review may not find that the data from preclinical testing and clinical trials justifies approval;
- regulatory authorities may require that we or our partners change our studies or conduct additional studies which may significantly delay or make continued pursuit of approval commercially unattractive;
- a regulatory agency may reject our and our partners' trial data or disagree with their interpretations of either clinical trial data or applicable regulations;
- a regulatory agency may require additional safety monitoring and reporting through Risk Evaluation and Mitigation Strategies including conditions to assure safe use programs and we or a partner may decide to not pursue regulatory approval for a such a product;
- a regulatory agency may not approve our manufacturing processes or facilities, or the processes or facilities of our partners, our contract manufacturers or our raw material suppliers;
- failure of our or our partners' contract research organization, or CRO, to properly perform the clinical trial in accordance with the written protocol, our contractual obligations with them or applicable regulatory requirements;
- a regulatory agency may identify problems or other deficiencies in our existing manufacturing processes or facilities, or the existing processes or facilities of our partners, our contract manufacturers or our raw material suppliers;
- a regulatory agency may change its formal or informal approval requirements and policies, act contrary to previous guidance, adopt new regulations or raise new issues or concerns late in the approval process; or
- a proprietary or partnered product candidate may be approved only for indications that are narrow or under conditions that place the product at a competitive disadvantage, which may limit the sales and marketing activities for such product candidate or otherwise adversely impact the commercial potential of a product.

If a proprietary or partnered product candidate is not approved in a timely fashion or approval is not obtained on commercially viable terms, or if development of any product candidate is terminated due to difficulties or delays encountered in the regulatory approval process, it could have a material adverse impact on our business, financial condition and results of operation and we would become more dependent on the development of other proprietary or partnered product candidates and/or our ability to successfully acquire other technologies. There can be no assurances that we or our any partnered product candidate will receive regulatory approval in a timely manner, or at all. There can be no assurance that partners will be able to gain clarity as to the FDA's requirements or that the requirements may be satisfied in a commercially feasible way, in which case our ability to enter into collaborations with third parties or explore other strategic alternatives to exploit an opportunity will be limited or may not be possible.

We anticipate that certain proprietary or partnered products will be marketed, and perhaps manufactured, in foreign countries. The process of obtaining regulatory approvals in foreign countries is subject to delay and failure for the reasons set forth above, as well as for reasons that vary from jurisdiction to jurisdiction. The approval process varies among countries and jurisdictions and can involve additional testing. The time required to obtain approval may differ from that required to obtain FDA approval. Foreign regulatory agencies may not provide approvals on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or jurisdictions or by the FDA.

Our third-party partners are responsible for providing certain proprietary materials that are essential components of our partnered products and product candidates, and any failure to supply these materials could delay the development and commercialization efforts for these partnered products and product candidates and/or harm our collaborations. Our partners are also responsible for distributing and commercializing their products, and any failure to successfully commercialize their products could materially adversely affect our revenues.

Our development and commercialization partners are responsible for providing certain proprietary materials that are essential components of our partnered products and product candidates. For example, Roche is responsible for producing the Herceptin and MabThera required for its subcutaneous products and Takeda is responsible for producing the GAMMAGARD LIQUID for its product HYQVIA. If a partner, or any applicable third party service provider of a partner, encounters difficulties in the manufacture, storage, delivery, fill, finish or packaging of the partnered product or product candidate or component of such product or product candidate, such difficulties could (i) cause the delay of clinical trials or otherwise delay or prevent the regulatory approval of partnered product candidates; and/or (ii) delay or prevent the effective commercialization of partnered products. Such delays could have a material adverse effect on our business and financial condition. We also rely on our partners to commercialize and distribute their products and if they are unsuccessful in commercializing their products, the resulting royalty revenue we would receive may be lower than expected.

If we or our partners fail to comply with regulatory requirements applicable to promotion, sale and manufacturing of approved products, regulatory agencies may take action against us or them, which could harm our business.

Any approved products, along with the manufacturing processes, post-approval clinical data requirements, labeling, advertising and promotional activities for these products, are subject to continual requirements and review by the FDA, state and foreign regulatory bodies. Regulatory authorities subject a marketed product, its manufacturer and the manufacturing facilities to continual review and periodic inspections. We, our partners and our respective contractors, suppliers and vendors, will be subject to ongoing regulatory requirements, including complying with regulations and laws regarding advertising, promotion and sales of drug products, required submissions of safety and other post-market information and reports, registration requirements, cGMP regulations (including requirements relating to quality control and quality assurance, as well as the corresponding maintenance of records and documentation), and the requirements regarding the distribution of samples to physicians and recordkeeping requirements. Further, because some of our proprietary and partnered products and product candidates are drug/device combination products, we and our partners will have to comply with extensive regulatory requirements than would otherwise be required for products that are not combination products. Regulatory agencies may change existing requirements or adopt new requirements or policies. We, our partners and our respective contractors, suppliers and vendors, may be slow to adapt or may not be able to adapt to these changes or new requirements.

In particular, regulatory requirements applicable to pharmaceutical products make the substitution of suppliers and manufacturers costly and time consuming. We have minimal internal manufacturing capabilities and are, and expect to be in the future, substantially dependent on contract manufacturers and suppliers for the manufacture of our products and for their active and other ingredients. The disqualification of these manufacturers and suppliers through their failure to comply with regulatory requirements could negatively impact our business because the delays and costs in obtaining and qualifying alternate suppliers (if such alternative suppliers are available, which we cannot assure) could delay our or our partners' clinical trials or otherwise inhibit our or partners' ability to bring approved products to market, which would have a material adverse effect on our business and financial condition. Likewise, if we, our partners and our respective contractors, suppliers and vendors involved in sales and promotion of our products do not comply with applicable laws and regulations, for example off-label or false or misleading promotion, this could materially harm our business and financial condition.

Failure to comply with regulatory requirements may result in adverse regulatory actions including but not limited to, any of the following:

- restrictions on our or our partners' products or manufacturing processes;
- warning letters;
- withdrawal of our or our partners' products from the market;
- voluntary or mandatory recall;
- fines;
- suspension or withdrawal of regulatory approvals;
- suspension or termination of any of our partners' ongoing clinical trials;
- refusal to permit the import or export of our or our partners' products;
- refusal to approve pending applications or supplements to approved applications that we submit;
- product seizure;
- injunctions; or
- imposition of civil or criminal penalties.

Failure to successfully integrate the Antares business, or failure of the Antares business to perform could adversely impact our stock price and future business and operations.

In May 2022, we completed the acquisition of Antares. Our integration of the Antares business into our operations will be a complex and time-consuming process that may not be successful. The primary areas of focus for successfully combining the business of Antares with our operations may include, among others: retaining and integrating key employees, integrating information, communications and other systems, and managing the growth of the combined company.

Even if we successfully integrate the business of Antares into our operations, we may not realize the anticipated benefits. We acquired Antares with the expectation that the acquisition will result in various benefits for the combined company, including providing an opportunity for increased revenues through growth of device revenue and commercial products and development of a new high volume auto-injector. Increased competition, unresolvable technical issues and/or deterioration in business conditions may limit our ability to grow this business. As such, we may not be able to realize the benefits anticipated in connection with the acquisition.

Business interruptions resulting from pandemics or similar public health crises could cause a disruption of the development of our and our partnered product candidates and commercialization of our approved and our partnered products, impede our ability to supply bulk rHuPH20 to our ENHANZE partners or procure and sell our proprietary products and otherwise adversely impact our business and results of operations.

Public health crises such as pandemics or similar outbreaks could adversely impact our business and results of operations by, among other things, disrupting the development of our and our partnered product candidates and commercialization of our and our partnered approved products, causing disruptions in the operations of our third-party contract manufacturing organizations upon whom we rely for the production and supply of our proprietary products, including Hylenex and the bulk rHuPH20 we supply to our partners, and causing other disruptions to our operations.

For example, the COVID-19 pandemic led to the implementation of various responses, including government-imposed quarantines, travel restrictions and other public health safety measures. The extent to which future pandemics impact our operations and/or those of our partners will depend on future developments, which are highly uncertain and unpredictable, including the duration or recurrence of outbreaks, potential future government actions, new information that will emerge concerning the severity and impact of that pandemic and the actions to contain the pandemic or address its impact in the short and long term, among others.

The business disruptions associated with a global pandemic could impact the business, product development priorities and operations of our partners, including potential delays in manufacturing their product candidates or approved products. For example, clinical trial conduct may be impacted in geographies affected by a pandemic. The progress or completion of these clinical trials could be adversely impacted by the pandemic. Additionally, interruption or delays in the operations of the FDA, the EMA and other similar foreign regulatory agencies, or changes in regulatory priorities to focus on the pandemic, may affect required regulatory review, inspection, clearance and approval timelines. Disruptions such as these could result in delays in the development programs of our partnered products or impede the commercial efforts for approved products, resulting in potential reductions or delays in our revenues from partner royalty or milestone payments.

We rely on many third parties to source active pharmaceutical ingredient and drug products, manufacture and assemble our devices, distribute finished products and provide various logistics activities in order to manufacture and sell our partnered and proprietary products. For example, we rely on third-party manufacturers to manufacture the bulk rHuPH20 that we supply to our partners for their commercial products and product candidates, as well as our commercial product Hylenex. If any such third party manufacturer is adversely impacted by a pandemic and related consequences, including staffing shortages, production slowdowns and disruptions in delivery systems, availability of raw materials, reagents or components or if they divert resources or manufacturing capacity to accommodate the development of coronavirus treatments or vaccines, our supply chain may be disrupted, limiting our ability to sell Hylenex or supply bulk rHuPH20 to our partners. Any such disruptions to the operations of the third parties upon whom we rely to manufacture and sell our partnered and proprietary products could result in reductions or delays in our revenues.

We may need to raise additional capital in the future and there can be no assurance that we will be able to obtain such funds.

We may need to raise additional capital in the future to fund our operations for general corporate purposes if we do not achieve the level of revenues we expected. Our current cash reserves and expected revenues may not be sufficient for us to fund general operations and conduct our business at the level desired. In addition, if we engage in acquisitions of companies, products or technologies in order to execute our business strategy, we may need to raise additional capital. We may raise additional capital in the future through one or more financing vehicles that may be available to us including (i) new collaborative agreements; (ii) expansions or revisions to existing collaborative relationships; (iii) private financings; (iv) other equity or debt financings; (v) monetizing assets; and/or (vi) the public offering of securities.

If we are required to raise additional capital in the future, it may not be available on favorable financing terms within the time required, or at all. If additional capital is not available on favorable terms when needed, we will be required to raise capital on adverse terms or significantly reduce operating expenses through the restructuring of our operations or deferral of strategic business initiatives. If we raise additional capital through a public offering of securities or equity, a substantial number of additional shares of our common stock may be issued, which will dilute the ownership interest of our current investors and may negatively affect our stock price.

We currently have significant debt and expect to incur additional debt. Failure by us to fulfill our obligations under the applicable debt agreements may cause repayment obligations to accelerate.

The aggregate amount of our consolidated indebtedness, net of debt discount, as of December 31, 2022 was $1,506.1 million, which includes $13.5 million in aggregate principal amount of the 2024 Convertible Notes and $805.0 million in aggregate principal amount of the 2027 Convertible Notes and $720.0 million in aggregate principal of the 2028 Convertible Notes, net of unamortized debt discount of $0.1 million, $14.4 million and $17.9 million for the 2024 Convertible Notes, 2027 Convertible Notes and 2028 Convertible Notes, respectively.

Our indebtedness may:

- make it difficult for us to satisfy our financial obligations, including making scheduled principal and interest payments on our indebtedness;
- limit our ability to borrow additional funds for working capital, capital expenditures, acquisitions or other general corporate purposes;
- limit our ability to use our cash flow or obtain additional financing for future working capital, capital expenditures, acquisitions, share repurchases or other general business purposes;
- require us to use a portion of our cash flow from operations to make debt service payments;
- limit our flexibility to plan for, or react to, changes in our business and industry;
- place us at a competitive disadvantage compared to our less leveraged competitors; and
- increase our vulnerability to the impact of adverse economic and industry conditions.

In addition, our 2022 Credit Agreement includes certain affirmative and negative covenants, that, among other things, may restrict our ability to: create liens on assets; incur additional indebtedness; make investments; make acquisitions and other fundamental changes; and sell and dispose of property or assets. The 2022 Credit Agreement also includes financial covenants requiring us to maintain, measured as of the end of each fiscal quarter, a maximum consolidated net leverage ratio of 4.75 to 1.00 initially, which declines to 4.00 to 1.00 over the term of the loan facility, and a minimum consolidated interest coverage ratio of 3.00 to 1.00. The 2022 Credit Agreement also contains customary representations and warranties and events of default. Complying with the covenants contained in the 2022 Credit Agreement could make it more difficult for us to execute our business strategy. Further, in the event of default by us under the 2022 Credit Agreement, the lenders would be entitled to exercise their remedies thereunder, including the right to accelerate the debt, upon which we may be required to repay all amounts then outstanding under the 2022 Credit Agreement which would harm our financial condition.

Our ability to make payments on our existing or any future debt will depend on our future operating performance and ability to generate cash and may also depend on our ability to obtain additional debt or equity financing. It will also depend on financial, business or other factors affecting our operations, many of which are beyond our control. We will need to use cash to pay principal and interest on our debt, thereby reducing the funds available to fund operations, strategic initiatives and working capital requirements. If we are unable to generate sufficient cash to service our debt obligations, an event of default may occur under any of our debt instruments which could result in an acceleration of such debt upon which we may be required to repay all the amounts outstanding under some or all of our debt instruments. Such an acceleration of our debt obligations could harm our financial condition. From time to time, we may seek to retire or repurchase our outstanding debt through cash purchases and/or exchanges for equity or debt, in open-market purchases, privately negotiated transactions or otherwise. Any such repurchases or exchanges would be on such terms and at such prices as we determine, and will depend on current market conditions, our liquidity needs, any restrictions in our contracts and other factors. The amounts involved in such transactions could be material.

The conditional conversion feature of the Convertible Notes, if triggered, may adversely affect our financial condition and operating results.

In the event the conditional conversion feature of the Convertible Notes is triggered, holders of the Convertible Notes will be entitled to convert the notes at any time during specified periods at their option. If one or more holders elect to convert their notes, we would be required to settle a portion or all of our conversion obligation in cash, which could adversely affect our liquidity. Even if holders of the Convertible Notes do not elect to convert their notes, we are required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the notes as a current rather than long-term liability when the conditional conversion feature is triggered, which results in a material reduction of our net working capital. For example, as of December 31, 2022, the conditional conversion feature was triggered and our 2024 Convertible Notes are classified as a current liability.

Conversion of our Convertible Notes may dilute the ownership interest of existing stockholders or may otherwise depress the price of our common stock.

The conversion of some or all of our Convertible Notes, to the extent we deliver shares upon conversion, will dilute the ownership interests of existing stockholders. Any sales in the public market of the Convertible Notes or our common stock issuable upon conversion of the Convertible Notes could adversely affect prevailing market prices of our common stock. In addition, the existence of the Convertible Notes may encourage short selling by market participants because the conversion of the Convertible Notes could be used to satisfy short positions, or anticipated conversion of the Convertible Notes into shares of our common stock could depress the price of our common stock.

If proprietary or partnered product candidates are approved for commercialization but do not gain market acceptance resulting in commercial performance below that which was expected or projected, our business may suffer.

Assuming that existing or future proprietary or partnered product candidates obtain the necessary regulatory approvals for commercial sale, a number of factors may affect the market acceptance of these newly-approved products, including, among others:

- the degree to which the use of these products is restricted by the approved product label;
- the price of these products relative to other therapies for the same or similar treatments;
- the extent to which reimbursement for these products and related treatments will be available from third party payers including government insurance programs and private insurers;
- the introduction of generic or biosimilar competitors to these products;
- the perception by patients, physicians and other members of the health care community of the effectiveness and safety of these products for their prescribed treatments relative to other therapies for the same or similar treatments;
- the ability and willingness of our partners to fund sales and marketing efforts; and
- the effectiveness of the sales and marketing efforts of our partners.

If these proprietary or partnered products do not gain or maintain market acceptance or experience reduced sales resulting in commercial performance below that which was expected or projected, the revenues we expect to receive from these products will be diminished which could harm our ability to fund future operations, including conduct acquisitions, execute our planned share repurchases, or affect our ability to use funds for other general corporate purposes and cause our business to suffer.

In addition, our proprietary or partnered product candidates will be restricted to the labels approved by FDA and applicable regulatory bodies, and these restrictions may limit the marketing and promotion of the ultimate products. If the approved labels are restrictive, the sales and marketing efforts for these products may be negatively affected.

Our ability to license our ENHANZE and device technologies to our partners depends on the validity of our patents and other proprietary rights.

Patents and other proprietary rights are essential to our business. Our success will depend in part on our ability to obtain and maintain patent protection for our inventions, to preserve our trade secrets and to operate without infringing the proprietary rights of third parties. We have multiple patents and patent applications throughout the world pertaining to our recombinant human hyaluronidase and methods of use and manufacture, including an issued U.S. patent which expires in 2027 and an issued European patent which expires in 2024, which we believe cover the products and product candidates under our existing collaborations, and Hylenex. Although we believe our patent filings represent a barrier to entry for potential competitors looking to utilize these hyaluronidases, upon expiration of our patents other pharmaceutical companies may (if they do not infringe our other patents) seek to compete with us by developing, manufacturing and selling biosimilars to the active drug ingredient in our ENHANZE technology used by our partners in combination with their products. Any such loss of patent protection or proprietary rights could lead to a reduction or loss of revenues, incentivize one or more of our key ENHANZE partners to terminate their relationship with us and impact our ability to enter into new collaboration and license agreements.

Developing, manufacturing and marketing pharmaceutical products for human use involves significant product liability risks for which we may have sufficient insurance coverage.

The development, manufacture, testing, marketing and sale of pharmaceutical products and medical devices involves the risk of product liability claims by consumers and other third parties. Product liability claims may be brought by individuals seeking relief for themselves, or by groups seeking to represent a class of injured patients. Further, third-party payers, either individually or as a putative class, may bring actions seeking to recover monies spent on one of our products. Although we maintain product liability insurance coverage, product liability claims can be high in the pharmaceutical industry, and our insurance may not sufficiently cover our actual liabilities. If product liability claims were to be made against us, it is possible that the liabilities may exceed the limits of our insurance policy, or our insurance carriers may deny, or attempt to deny, coverage in certain instances. If a lawsuit against us is successful, then the insurance coverage may not be sufficient and could materially and adversely affect our business and financial condition. Furthermore, various distributors of pharmaceutical products require minimum product liability insurance coverage before purchase or acceptance of products for distribution. Failure to satisfy these insurance requirements could impede our ability to achieve broad distribution of our proposed products, and higher insurance requirements could impose additional costs on us. In addition, since many of our partnered product candidates include the pharmaceutical products of a third party, we run the risk that problems with the third-party pharmaceutical product will give rise to liability claims against us. Product liability claims can also result in additional regulatory consequences including, but not limited to, investigations and regulatory enforcement actions, as well as recalls, revocation or approvals, or labeling, marketing or promotional restrictions or changes. Product liability claims could also harm our reputation and the reputation of our products, adversely affecting our ability to market our products successfully. In addition, defending a product liability lawsuit is expensive and can divert the attention of our key employees from operating our business. Such claims can also impact our ability to initiate or complete clinical trials.

If our partners do not achieve projected development, clinical, or regulatory goals in the timeframes publicly announced or otherwise expected, the commercialization of our partners products may be delayed and, as a result, , our business, financial condition , and results of operations may be adversely affected or delayed.

From time to time, our collaborators may publicly articulate the estimated timing for the accomplishment of certain scientific, clinical, regulatory and other product development goals. The accomplishment of any goal is typically based on numerous assumptions, and the achievement of a particular goal may be delayed for any number of reasons both within and outside of our and our collaborators' control. If scientific, regulatory, strategic or other factors cause a collaboration partner to not meet a goal, regardless of whether that goal has been publicly articulated or not, our stock price may decline rapidly. Stock price declines may also trigger direct or derivative shareholder lawsuits. As with any litigation proceeding, the eventual outcome of any legal action is difficult to predict. If any such lawsuits occur, we will incur expenses in connection with the defense of these lawsuits, and we may have to pay substantial damages or settlement costs in connection with any resolution thereof. Although we have insurance coverage against which we may claim recovery against some of these expenses and costs, the amount of coverage may not be adequate to cover the full amount or certain expenses and costs may be outside the scope of the policies we maintain. In the event of an adverse outcome or outcomes, our business could be materially harmed from depletion of cash resources, negative impact on our reputation, or restrictions or changes to our governance or other processes that may result from any final disposition of the lawsuit. Moreover, responding to and defending pending litigation significantly diverts management's attention from our operations.

In addition, the consistent failure to meet publicly announced milestones may erode the credibility of our management team with respect to future milestone estimates.

Future acquisitions could disrupt our business and impact our financial condition.

In order to augment and extend our revenue we acquired Antares in May 2022 and we may decide to acquire additional businesses, products and technologies. As we have limited experience in evaluating and completing acquisitions, our ability as an organization to make such acquisitions is unproven. Acquisitions could require significant capital infusions and could involve many risks, including, but not limited to, the following:

- we may have to issue additional convertible debt or equity securities to complete an acquisition, which would dilute our stockholders and could adversely affect the market price of our common stock;
- an acquisition may negatively impact our results of operations because it may require us to amortize or write down amounts related to goodwill and other intangible assets, or incur or assume substantial debt or liabilities, or it may cause adverse tax consequences, substantial depreciation or deferred compensation charges;
- we may encounter difficulties in assimilating and integrating the business, products, technologies, personnel or operations of companies that we acquire;
- certain acquisitions may impact our relationship with existing or potential partners who are competitive with the acquired business, products or technologies;
- acquisitions may require significant capital infusions and the acquired businesses, products or technologies may not generate sufficient value to justify acquisition costs;
- we may take on liabilities from the acquired company such as debt, legal liabilities or business risk which could be significant;
- an acquisition may disrupt our ongoing business, divert resources, increase our expenses and distract our management;
- acquisitions may involve the entry into a geographic or business market in which we have little or no prior experience; and
- key personnel of an acquired company may decide not to work for us.

If any of these risks occurred, it could adversely affect our business, financial condition and operating results. There is no assurance that we will be able to identify or consummate any future acquisitions on acceptable terms, or at all. If we do pursue any future acquisitions, it is possible that we may not realize the anticipated benefits from such acquisitions or that the market will not view such acquisitions positively.

Our effective tax rate may fluctuate, and we may incur obligations in tax jurisdictions in excess of accrued amounts.

Our effective tax rate is derived from a combination of applicable tax rates in the various places that we operate. In preparing our financial statements, we estimate the amount of tax that will become payable in each of such places. Nevertheless, our effective tax rate may be different than experienced in the past due to numerous factors, including changes in the mix of our profitability between different tax jurisdictions, the results of examinations and audits of our tax filings, our inability to secure or sustain acceptable agreements with tax authorities, changes in accounting for income taxes and changes in tax laws. Any of these factors could cause us to experience an effective tax rate significantly different from previous periods or our current expectations and may result in tax obligations in excess of amounts accrued in our financial statements.

In addition, on September 30, 2021, we determined, based on our facts and circumstances, that it was more likely than not that a substantial portion of our deferred tax assets would be realized and, as a result, substantially all of our valuation allowance against our deferred tax assets was released. This resulted in substantially and disproportionately increasing our reported net income and our earnings per share compared to our operating results for 2021. Historical and future comparisons to these amounts are not, and will not be, indicative of actual profitability trends for our business. Starting in 2022, we recorded income tax expense at an estimated tax rate that approximate statutory tax rates, resulting a reduction in our net income and net income per share.

Risks Related To Ownership of Our Common Stock

Our stock price is subject to significant volatility.

We participate in a highly dynamic industry which often results in significant volatility in the market price of common stock irrespective of company performance. The high and low sales prices of our common stock during the twelve months ended December 31, 2022 were $59.46 and $31.36, respectively. In addition to the other risks and uncertainties described elsewhere in this Annual Report on Form 10-K and all other risks and uncertainties that are either not known to us at this time or which we deem to be immaterial, any of the following factors may lead to a significant drop in our stock price:

- the presence of competitive products to those being developed by our partners;

- failure (actual or perceived) of our partners to devote attention or resources to the development or commercialization of partnered products or product candidates licensed to such partner;
- a dispute regarding our failure, or the failure of one of our partners, to comply with the terms of a collaboration agreement;
- the termination, for any reason, of any of our collaboration agreements;
- the sale of common stock by any significant stockholder, including, but not limited to, direct or indirect sales by members of management or our Board of Directors;
- the resignation, or other departure, of members of management or our Board of Directors;
- general negative conditions in the healthcare industry;
- pandemics or other global crises;
- general negative conditions in the financial markets;
- the cost associated with obtaining regulatory approval for any of our proprietary or partnered product candidates;
- the failure, for any reason, to secure or defend our intellectual property position;
- the failure or delay of applicable regulatory bodies to approve our proprietary or partnered product candidates;
- identification of safety or tolerability issues associated with our proprietary or partnered products or product candidates;
- failure of our or our partners' clinical trials to meet efficacy endpoints;
- suspensions or delays in the conduct of our or our partners' clinical trials or securing of regulatory approvals;
- adverse regulatory action with respect to our proprietary or partnered products and product candidates such as loss of regulatory approval to commercialize such products, clinical holds, imposition of onerous requirements for approval or product recalls;
- our failure, or the failure of our partners, to successfully commercialize products approved by applicable regulatory bodies such as the FDA;
- our failure, or the failure of our partners, to generate product revenues anticipated by investors;
- disruptions in our clinical or commercial supply chains, including disruptions caused by problems with a bulk rHuPH20 contract manufacturer or a fill and finish manufacturer for any product or product collaboration candidate;
- the sale of additional debt and/or equity securities by us;
- our failure to obtain financing on acceptable terms or at all;
- a restructuring of our operations;
- an inability to execute our share repurchase program in the time and manner we expect due to market, business, legal or other considerations; or
- a conversion of the Convertible Notes into shares of our common stock.

Future transactions where we raise capital may negatively affect our stock price.

We are currently a "Well-Known Seasoned Issuer" and may file automatic shelf registration statements at any time with the SEC. Sales of substantial amounts of shares of our common stock or other securities under any future shelf registration statements could lower the market price of our common stock and impair our ability to raise capital through the sale of equity securities.

Anti-takeover provisions in our charter documents, the Indentures and Delaware law may make an acquisition of us more difficult.

Anti-takeover provisions in our charter documents, the Indentures and Delaware law may make an acquisition of us more difficult. First, our Board of Directors is classified into three classes of directors. Under Delaware law, directors of a corporation with a classified board may be removed only for cause unless the corporation's certificate of incorporation provides otherwise. Our amended and restated certificate of incorporation, does not provide otherwise. In addition, our bylaws limit who may call special meetings of stockholders, permitting only stockholders holding at least 50% of our outstanding shares to call a special meeting of stockholders. Our amended and restated certificate of incorporation does not include a provision for cumulative voting for directors. Under cumulative voting, a minority stockholder holding a sufficient percentage of a class of shares may be able to ensure the election of one or more directors. Finally, our bylaws establish procedures, including advance notice procedures, with regard to the nomination of candidates for election as directors and stockholder proposals.

These provisions in our charter documents may discourage potential takeover attempts, discourage bids for our common stock at a premium over market price or adversely affect the market price of, and the voting and other rights of the holders of, our common stock. These provisions could also discourage proxy contests and make it more difficult for stockholders to elect directors other than the candidates nominated by our Board of Directors.

Further, in connection with our Convertible Notes issuances, we have entered into indentures, dated as of November 18, 2019, of March 1, 2021 and August 18, 2022 (the"Indentures") with The Bank of New York Mellon Trust Company, N.A., as trustee. Certain provisions in the Indentures could make it more difficult or more expensive for a third party to acquire us. For example, if a takeover would constitute a fundamental change, holders of the Convertible Notes will have the right to require us to repurchase their Convertible Notes in cash. In addition, if a takeover constitutes a make-whole fundamental change, we may be required to increase the conversion rate for holders who convert their Convertible Notes in connection with such takeover. In addition, a change of control constitutes an event of default under our 2022 Credit Agreement. Such event of default could result in the administrative agent or the lender parties thereto declaring the unpaid principal, all accrued and unpaid interest, and all other amounts owing or payable under the 2022 Credit Agreement to be immediately due and payable. In either case, and in other cases, our obligations under the Convertible Notes and the Indentures could increase the cost of acquiring us or otherwise discourage a third party from acquiring us or removing incumbent management

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which may prohibit large stockholders from consummating a merger with, or acquisition of, us.

These provisions may deter an acquisition of us that might otherwise be attractive to stockholders.

Risks Related to Our Industry

Our or our partnered products must receive regulatory approval before they can be sold, and compliance with the extensive government regulations is expensive and time consuming and may result in the delay or cancellation of our or our partnered product sales, introductions or modifications.

Extensive industry regulation has had, and will continue to have, a significant impact on our business. All pharmaceutical and medical device companies, including ours, are subject to extensive, complex, costly and evolving regulation by the health regulatory agencies including the FDA (and with respect to controlled drug substances, the U.S. Drug Enforcement Administration (DEA)) and equivalent foreign regulatory agencies and state and local/regional government agencies. The Federal Food, Drug and Cosmetic Act, the Controlled Substances Act and other domestic and foreign statutes and regulations govern or influence the testing, manufacturing, packaging, labeling, storing, recordkeeping, safety, approval, advertising, promotion, sale and distribution of our products and our partners' products and product candidates. We are dependent on receiving FDA and other governmental approvals, including regulatory approvals in jurisdictions outside the United States, prior to manufacturing, marketing and shipping our products. Consequently, there is always a risk that the FDA or other applicable governmental authorities, including those outside the United States, will not approve our or our partners' products or may impose onerous, costly and time-consuming requirements such as additional clinical or animal testing. Regulatory authorities may require that our partners' change our studies or conduct additional studies, which may significantly delay or make continued pursuit of approval commercially unattractive to our partners. For example, the approval of the HYQVIA BLA was delayed by the FDA until we and our partner provided additional preclinical data sufficient to address concerns regarding non-neutralizing antibodies to rHuPH20 that were detected in the registration trial. Although these antibodies have not been associated with any known adverse clinical effects, and the HYQVIA BLA was ultimately approved by the FDA, the FDA or other foreign regulatory agency may, at any time, halt our and our partners' development and commercialization activities due to safety concerns. In addition, even if our proprietary or partnered products are approved, regulatory agencies may also take post-approval action limiting or revoking our or our partners' ability to sell these products. Any of these regulatory actions may adversely affect the economic benefit we may derive from our proprietary or our partnered products and therefore harm our financial condition.

Under certain of these regulations, in addition to our partners, we and our contract suppliers and manufacturers are subject to periodic inspection of our or their respective facilities, procedures and operations and/or the testing of products by the FDA, the DEA and other authorities, which conduct periodic inspections to confirm that we and our contract suppliers and manufacturers are in compliance with all applicable regulations. The FDA also conducts pre-approval and post-approval reviews and plant inspections to determine whether our systems, or our contract suppliers' and manufacturers' processes, are in compliance with cGMP and other FDA regulations. If our partners, we, or our contract suppliers and manufacturers, fail these inspections, our partners may not be able to commercialize their products in a timely manner without incurring significant additional costs, or at all.

In addition, the FDA imposes a number of complex regulatory requirements on entities that advertise and promote pharmaceuticals including, but not limited to, standards and regulations for direct-to-consumer advertising, off-label promotion, industry-sponsored scientific and educational activities, and promotional activities involving the Internet.

Because some of our and our partners' products and product candidates are considered to be drug/device combination products, the approval and post-approval requirements that we and they are required to comply with can be more complex.

Many of our and our partners' products and product candidates are considered to be drug/device combination products by the FDA, consisting of a drug product and a drug delivery device. If marketed individually, each component would be subject to different regulatory pathways and reviewed by different centers within the FDA. A combination product, however, is assigned to a center that will have primary jurisdiction over its pre-market review and regulation based on a determination of the product's primary mode of action, which is the single mode of action that provides the most important therapeutic action. In the case of our and our partners' products and product candidates, the primary mode of action is typically attributable to the drug component of the products, which means that the Center of Drug Evaluation and Research has primary jurisdiction over the products' premarket development and review. These products and product candidates will be and have been subject to the FDA drug approval process and will not require a separate FDA clearance or approval for the device component. Even though these products and product candidates will not require a separate FDA clearance or approval, both the drug and device centers within the FDA will review the marketing application for safety, the efficacy of both the drug and device component, including the design and reliability of the injector, and a number of other different areas, such as to ensure that the drug labeling adequately discloses all relevant information and risks, and to confirm that the instructions for use are accurate and easy to use. These reviews could increase the time needed for review completion of a successful application and may require additional studies, such as usage studies, to establish the validity of the instructions for use. Such reviews and requirements may extend the time necessary for the approval of drug-device combinations. In the case of combination product candidates for which we or our partners are seeking approval via the ANDA pathway, it is also possible that the agency may decide that the unique nature of combination products leads it to question the claims of bioequivalence and/or same labeling, resulting in the need to refile the application under Section 505(b)(2) of the Federal Food, Drug and Cosmetic Act. This may result in delays in product approval and may cause us or our partners to incur additional costs associated with testing, including clinical trials. Approval via the 505(b)(2) pathway may also result in additional selling expenses and a decrease in market acceptance due to the lack of substitutability by pharmacies or formularies. In addition, approval under the 505(b)(2) or ANDA regulatory pathway is not a guarantee of an exclusive position for the approved product in the marketplace.

Further, although precedent and guidance exist for the approval of such combination products, the FDA could change what it requires or how it reviews submissions. Changes in review processes or the requirement for the study of combination products could delay anticipated launch dates or be cost prohibitive. Such delay or failure to launch these products or devices could adversely affect our revenues and future profitability. If our or our partners' combination product candidates are approved, we, our partners, and any of our respective contractors will be required to comply with FDA regulatory requirements related to both drugs and devices. For instance, drug/device combination products must comply with both the drug cGMPs and device QSRs. Depending on whether the drug and device components are at the same facility, however, the FDA regulations provide a streamlined method to comply with both sets of requirements. The FDA has specifically promulgated guidance on injectors, which discuss the FDA's requirements with respect to marketing application and post-market injector design controls and reliability analyses. Additionally, drug/device combination products will be subject to additional FDA and constituent part reporting requirements. Compliance with these requirements will require additional effort and monetary expenditure.

We may be subject, directly or indirectly, to various broad federal and state healthcare laws. If we are unable to comply, or have not fully complied, with such laws, we could face civil, criminal and administrative penalties, damages, monetary fines, disgorgement, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate.

Our business operations and activities may be directly, or indirectly, subject to various broad federal and state healthcare laws, including without limitation, anti-kickback laws, the Foreign Corrupt Practices Act (FCPA), false claims laws, civil monetary penalty laws, data privacy and security laws, tracing and tracking laws, as well as transparency (or "sunshine") laws regarding payments or other items of value provided to healthcare providers. These laws may restrict or prohibit a wide range

of business activities, including, but not limited to, research, manufacturing, distribution, pricing, discounting, marketing and promotion and other business arrangements. These laws may impact, among other things, our current activities with principal investigators and research subjects, as well as sales, marketing and education programs. Many states have similar healthcare fraud and abuse laws, some of which may be broader in scope and may not be limited to items or services for which payment is made by a government health care program.

Efforts to ensure that our business arrangements will comply with applicable healthcare laws may involve substantial costs. While we have adopted a healthcare corporate compliance program, it is possible that governmental and enforcement authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws. If our operations or activities are found to be in violation of any of the laws described above or any other governmental regulations that apply to us, we may be subject to, without limitation, civil, criminal and administrative penalties, damages, monetary fines, disgorgement, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate.

In addition, any sales of products outside the U.S. will also likely subject us to the FCPA and foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

We may be required to initiate or defend against legal proceedings related to intellectual property rights, which may result in substantial expense, delay and/or cessation of certain development and commercialization of our products.

We primarily rely on patents to protect our intellectual property rights. The strength of this protection, however, is uncertain. For example, it is not certain that:

- we will be able to obtain patent protection for our products and technologies;
- the scope of any of our issued patents will be sufficient to provide commercially significant exclusivity for our products and technologies;
- others will not independently develop similar or alternative technologies or duplicate our technologies and obtain patent protection before we do; and
- any of our issued patents, or patent pending applications that result in issued patents, will be held valid, enforceable and infringed in the event the patents are asserted against others.

We currently own or license several patents and also have pending patent applications applicable to rHuPH20 and other proprietary materials. There can be no assurance that our existing patents, or any patents issued to us as a result of our pending patent applications, will provide a basis for commercially viable products, will provide us with any competitive advantages, or will not face third party challenges or be the subject of further proceedings limiting their scope or enforceability. Any weaknesses or limitations in our patent portfolio could have a material adverse effect on our business and financial condition. In addition, if any of our pending patent applications do not result in issued patents, or result in issued patents with narrow or limited claims, this could result in us having no or limited protection against generic or biosimilar competition against our product candidates which would have a material adverse effect on our business and financial condition.

We may become involved in interference proceedings in the U.S. Patent and Trademark Office, or other proceedings in other jurisdictions, to determine the priority, validity or enforceability of our patents. In addition, costly litigation could be necessary to protect our patent position.

We also rely on trademarks to protect the names of our products (e.g. Hylenex recombinant). We may not be able to obtain trademark protection for any proposed product names we select. In addition, product names for pharmaceutical products must be approved by health regulatory authorities such as the FDA in addition to meeting the legal standards required for trademark protection and product names we propose may not be timely approved by regulatory agencies which may delay product launch. In addition, our trademarks may be challenged by others. If we enforce our trademarks against third parties, such enforcement proceedings may be expensive.

We also rely on trade secrets, unpatented proprietary know-how and continuing technological innovation that we seek to protect with confidentiality agreements with employees, consultants and others with whom we discuss our business. Disputes may arise concerning the ownership of intellectual property or the applicability or enforceability of these agreements, and we might not be able to resolve these disputes in our favor.

In addition to protecting our own intellectual property rights, third parties may assert patent, trademark or copyright infringement or other intellectual property claims against us. If we become involved in any intellectual property litigation, we may be required to pay substantial damages, including but not limited to treble damages, attorneys' fees and costs, for past infringement if it is ultimately determined that our products infringe a third party's intellectual property rights. Even if infringement claims against us are without merit, defending a lawsuit takes significant time, may be expensive and may divert management's attention from other business concerns. Further, we may be stopped from developing, manufacturing or selling our products until we obtain a license from the owner of the relevant technology or other intellectual property rights. If such a license is available at all, it may require us to pay substantial royalties or other fees.

We may incur significant liability if it is determined that we are promoting or have in the past promoted the "off-label" use of drugs or medical devices, or otherwise promoted or marketed approved products in a manner inconsistent with the FDA's requirements.

In the U.S. and certain other jurisdictions, companies may not promote drugs or medical devices for "off-label" uses, that is, uses that are not described in the product's labeling and that differ from those that were approved or cleared by the FDA or other foreign regulatory agencies. However, physicians and other healthcare practitioners may prescribe drug products and use medical devices for off-label or unapproved uses, and such uses are common across some medical specialties. Although the FDA does not regulate a physician's choice of medications, treatments or product uses, the Federal Food, Drug and Cosmetic Act and FDA regulations significantly restrict permissible communications on the subject of off-label uses of drug products and medical devices by pharmaceutical and medical device companies. As the sponsors of FDA approved products, we and our partners will not only be responsible for the actions of the companies but also can be held liable for the actions of employees and contractors, requiring that all employees and contractors engaging in regulated functions, such as product promotion, be adequately trained and monitored, which requires time and monetary expenditures.

If the FDA determines that a company has improperly promoted a product "off label" or otherwise not in accordance with the agency's promotional requirements, the FDA may issue a warning letter or seek other enforcement action to limit or restrict certain promotional activities or materials or seek to have product withdrawn from the market or seize product, among other enforcement requirements. In addition, a company that is found to have improperly promoted off-label uses may be subject to significant liability, including civil fines, criminal fines and penalties, civil damages and exclusion from federal funded healthcare programs such as Medicare and Medicaid and/or government contracting, consent decrees and corporate integrity agreements, as well as potential liability under the federal FCA and applicable state false claims acts. Conduct giving rise to such liability could also form the basis for private civil litigation by third-party payers or other persons allegedly harmed by such conduct.

Moreover, in addition to the regulatory restrictions on off-label promotion, there are other FDA restrictions on and requirements concerning product promotion and advertising, such as requirements that such communications be truthful and non-misleading and adequately supported. The FDA also has requirements concerning the distribution of drug samples. The FDA and other authorities may take the position that we are not in compliance with promotional, advertising, and marketing requirements, and, if such non-compliance is proven, we may be subject to significant liability, including but not limited to administrative, civil and criminal penalties and fines, in addition to regulatory enforcement actions.

For certain of our products, we and our independent contractors, distributors, prescribers, and dispensers are required to comply with regulatory requirements related to controlled substances, which will require the expenditure of additional time and will incur additional expenses to maintain compliance and may subject us to additional penalties for noncompliance, which could inhibit successful commercialization.

Certain of our products are controlled substances and accordingly, we, and our contractors, distributors, prescribers, and dispensers must comply with Federal controlled substances laws and regulations, enforced by the U.S. Drug Enforcement Administration ("DEA"), as well as state-controlled substances laws and regulations enforced by state authorities. These requirements include, but are not limited to, registration, security, recordkeeping, reporting, storage, distribution, importation, exportation, inventory, and other requirements. These requirements are enforced by the DEA through periodic inspections. Not only must continuous controlled substance registration be maintained, but compliance with the applicable controlled substance requirements will require significant efforts and expenditures, which could also inhibit successful commercialization. These compliance requirements also add complexity to the distribution, prescribing and dispensing of certain of our products that may also impact commercialization, including the establishment of anti-diversion procedures. If we and our contractors, distributors, prescribers, and dispensers do not comply with the applicable controlled substance requirements, we or they may be subject to administrative, civil or criminal enforcement, including civil penalties, refusals to renew necessary registrations, revocation of registrations, criminal proceedings, or consent decrees.

Patent protection for biotechnology inventions and for inventions generally is subject to significant scrutiny. if patent laws or the interpretation of patent laws change, our business may be adversely impacted because we may lose the ability to enforce our intellectual property rights against competitors develop and commercialize products based on our discoveries.

Patent protection for protein-based therapeutic products is highly uncertain and involves complex legal and factual questions. In recent years, there have been significant changes in patent law, including the legal standards that govern the scope of protein and biotechnology patents. Standards for patentability of full-length and partial genes, and their corresponding proteins, are changing. Recent court decisions have made it more difficult to obtain patents, by making it more difficult to satisfy the patentable subject matter requirement and the requirement of non-obviousness, have decreased the availability of injunctions against infringers, and have increased the likelihood of challenging the validity of a patent through a declaratory judgment action. Taken together, these decisions could make it more difficult and costly for us to obtain, license and enforce our patents. In addition, the Leahy-Smith America Invents Act (HR 1249) was signed into law in September 2011, which among other changes to the U.S. patent laws, changes patent priority from "first to invent" to "first to file," implements a post-grant opposition system for patents and provides for a prior user defense to infringement. These judicial and legislative changes have introduced significant uncertainty in the patent law landscape and may potentially negatively impact our ability to procure, maintain and enforce patents to provide exclusivity for our products.

There also have been, and continue to be, policy discussions concerning the scope of patent protection awarded to biotechnology inventions. Social and political opposition to biotechnology patents may lead to narrower patent protection within the biotechnology industry. Social and political opposition to patents on genes and proteins and recent court decisions concerning patentability of isolated genes may lead to narrower patent protection, or narrower claim interpretation, for isolated genes, their corresponding proteins and inventions related to their use, formulation and manufacture. Patent protection relating to biotechnology products is also subject to a great deal of uncertainty outside the U.S., and patent laws are evolving and undergoing revision in many countries. Changes in, or different interpretations of, patent laws worldwide may result in our inability to obtain or enforce patents, and may allow others to use our discoveries to develop and commercialize competitive products, which would impair our business.

If third-party reimbursement and customer contracts are not available, our proprietary and partnered products may not be accepted in the market resulting in commercial performance below that which was expected or projected.

Our and our partners' ability to earn sufficient returns on proprietary and partnered products will depend in part on the extent to which reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers, managed care organizations and other healthcare providers.

Third-party payers are increasingly attempting to limit both the coverage and the level of reimbursement of new drug products to contain costs. Consequently, significant uncertainty exists as to the reimbursement status of newly approved healthcare products. Third-party payers may not establish adequate levels of reimbursement for the products that we and our partners commercialize, which could limit their market acceptance and result in a material adverse effect on our revenues and financial condition.

Customer contracts, such as with group purchasing organizations and hospital formularies, will often not offer contract or formulary status without either the lowest price or substantial proven clinical differentiation. If, for example, Hylenex is compared to animal-derived hyaluronidases by these entities, it is possible that neither of these conditions will be met, which could limit market acceptance and result in a material adverse effect on our revenues and financial condition.

The rising cost of healthcare and related pharmaceutical product pricing has led to cost containment pressures from third-party payers as well as changes in federal coverage and reimbursement policies and practices that could cause us and our partners to sell our products at lower prices, and impact access to our and our partners' products, resulting in less revenue to us.

Any of our proprietary or partnered products that have been, or in the future are, approved by the FDA may be purchased or reimbursed by state and federal government authorities, private health insurers and other organizations, such as health maintenance organizations and managed care organizations. Such third-party payers increasingly challenge pharmaceutical product pricing. The trend toward managed healthcare in the U.S., the growth of such organizations, and various legislative proposals and enactments to reform healthcare and government insurance programs, including the Medicare Prescription Drug Modernization Act of 2003 and the Affordable Care Act of 2010 (ACA), could significantly influence the manner in which pharmaceutical products are prescribed and purchased, resulting in lower prices and/or a reduction in demand. Such cost containment measures and healthcare reforms could adversely affect our ability to sell our product and our partners' ability to sell their products.

In the U.S., our business may be impacted by changes in federal reimbursement policy resulting from executive actions, federal regulations, or federal demonstration projects.

The federal administration and/or agencies, such as the Centers for Medicare & Medicaid Services, or CMS, have announced a number of demonstration projects, recommendations and proposals to implement various elements described in the

drug pricing blueprint. CMS, the federal agency responsible for administering Medicare and overseeing state Medicaid programs and Health Insurance Marketplaces, has substantial power to implement policy changes or demonstration projects that can quickly and significantly affect how drugs, including our products, are covered and reimbursed. For example, in November 2020, former President Trump announced the interim final rule to implement the Most Favored Nations drug pricing model seeking to tie Medicare payment rates to an international index price. This final rule was subsequently rescinded by CMS. Additionally, a number of Congressional committees have also held hearings and evaluated proposed legislation on drug pricing and payment policy which may affect our business. For example, in July 2019, the Senate Finance Committee advanced a bill that in part would penalize pharmaceutical manufacturers for increasing drug list prices covered by Medicare Part B and Part D, faster than the rate of inflation, and cap out-of-pocket expenses for Medicare Part D beneficiaries. Several other proposals have been introduced that, if enacted and implemented, could affect access to and sales of our and our partners' products, allow the federal government to engage in price negotiations on certain drugs, and allow importation of prescription medication from Canada or other countries. For example, in August 2022, "The Inflation Reduction Act of 2022" was enacted which will, among other things, allow and require the federal government to negotiate prices for some drugs covered under Medicare Part B and Part D, require drug companies to pay rebates to Medicare if prices rise faster than inflation for drugs used by Medicare beneficiaries and cap out-of-pocket spending for individuals enrolled in Medicare Part D.

In this dynamic environment, we are unable to predict which or how many federal policy, legislative or regulatory changes may ultimately be enacted. To the extent federal government initiatives decrease or modify the coverage or reimbursement available for our or our partners' products, limit or impact our decisions regarding the pricing of biopharmaceutical products or otherwise reduce the use of our or our partners' U.S. products, such actions could have a material adverse effect on our business and results of operations.

Furthermore, individual states are considering proposed legislation and have become increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access, importation from other countries and bulk purchasing. Legally mandated price controls on payment amounts by third-party payers or other restrictions could negatively and materially impact our revenues and financial condition. We anticipate that we will encounter similar regulatory and legislative issues in most other countries outside the U.S.

In addition, private payers in the US, including insurers, pharmacy benefit managers (PBMs), integrated healthcare delivery systems, and group purchasing organizations, are continuously seeking ways to reduce drug costs. Many payers have developed and continue to develop ways to shift a greater portion of drug costs to patients through, for example, limited benefit plan designs, high deductible plans and higher co-pay or coinsurance obligations. Consolidation in the payer space has also resulted in a few large PBMs and insurers which place greater pressure on pricing and utilization negotiations for our and our partners' products in the U.S., increasing the need for higher discounts and rebates and limiting patient access and utilization. Ultimately, additional discounts, rebates and other price reductions, fees, coverage and plan changes, or exclusions imposed by these private payers on our and our partners' products could have an adverse event on product sales, our business and results of operations.

To help patients afford certain of our products, we offer discount, rebate, and co-pay coupon programs. CMS recently has issued a regulation imposing additional obligations on manufacturers in order to continue excluding such programs from government pricing calculations to avoid payment of increased Medicaid rebates. In recent years, other pharmaceutical manufacturers have been named in class action lawsuits challenging the legality of their co-pay programs under a variety of federal and state laws. Our co-pay coupon programs could become the target of similar lawsuits or insurer actions. It is possible that the outcome of litigation against other manufacturers, changes in insurer policies regarding co-pay coupons, and/or the introduction and enactment of new legislation or regulatory action could restrict or otherwise negatively affect these programs.

We also face risks relating to the reporting of pricing data that affects the reimbursement of and discounts provided for our products. Government price reporting regulations are complex and may require a manufacturer to update certain previously submitted data. If our submitted pricing data are incorrect, we may become subject to substantial fines and penalties or other government enforcement actions, which could have a material adverse effect on our business and results of operations. In addition, as a result of restating previously reported price data, we also may be required to pay additional rebates and provide additional discounts.

We face competition and rapid technological change that could result in the development of products by others that are competitive with our proprietary and partnered products, including those under development.

Our proprietary and partnered products have numerous competitors in the U.S. and abroad including, among others, major pharmaceutical and specialized biotechnology firms, universities and other research institutions that have developed competing products. Many of these competitors have substantially more resources and product development, manufacturing and marketing experience and capabilities than we do. The competitors for Hylenex recombinant include, but are not limited to, Bausch Health Companies, Inc.'s FDA-approved product, Vitrase®, an ovine (ram) hyaluronidase, and Amphastar Pharmaceuticals, Inc.'s product, Amphadase®, a bovine (bull) hyaluronidase. For our ENHANZE technology, such competitors may include major

pharmaceutical and specialized biotechnology firms. These competitors may develop technologies and products that are more effective, safer, or less costly than our current or future proprietary and partnered products and product candidates or that could render our and our partners' products, technologies and product candidates obsolete or noncompetitive.

General Risks

If we are unable to attract, hire and retain key personnel our business could be negatively affected.

Our success depends on the performance of key employees with relevant experience. We depend substantially on our ability to hire, train, motivate and retain high quality personnel. If we are unable to identify, hire and retain qualified personnel, our ability to support current and future alliances with strategic partners could be adversely impacted. Our use of domestic and international third-party contractors, consultants and staffing agencies also subjects us to potential co-employment liability claims.

Furthermore, if we were to lose key personnel, we may lose some portion of our institutional knowledge and technical know-how, potentially causing a disruption or delay in one or more of our partnered development programs until adequate replacement personnel could be hired and trained. In addition, we do not have key person life insurance policies on the lives of any of our employees which would help cover the cost of associated with the loss of key employees.

Our operations might be interrupted by the occurrence of a natural disaster or other catastrophic event.

Our operations, including laboratories, offices and other research facilities, are headquartered in San Diego, California. We have additional facilities in Ewing, New Jersey and Minnetonka, Minnesota. We depend on our facilities and on our collaborators, contractors and vendors for the continued operation of our business. Natural disasters or other catastrophic events, pandemics, interruptions in the supply of natural resources, political and governmental changes, wildfires and other fires, tornadoes, floods, explosions, actions of animal rights activists, earthquakes and civil unrest could disrupt our operations or those of our partners, contractors and vendors. Even though we believe we carry commercially reasonable business interruption and liability insurance, and our contractors may carry liability insurance that protect us in certain events, we may suffer losses as a result of business interruptions that exceed the coverage available under our and our contractors' insurance policies or for which we or our contractors do not have coverage. Any natural disaster or catastrophic event could have a significant negative impact on our operations and financial results. Moreover, any such event could delay our partners' research and development programs.

Cyberattacks, security breaches or system breakdowns may disrupt our operations and harm our operating results and reputation.

We and our partners are subject to increasingly sophisticated attempts to gain unauthorized access to our information technology storage and access systems and are devoting resources to protect against such intrusion. Cyberattacks could render us or our partners unable to utilize key systems or access important data needed to operate our business. The wrongful use, theft, deliberate sabotage or any other type of security breach with respect to any of our or any of our vendors and partners' information technology storage and access systems could result in the breakdown or other service interruption, or the disruption of our ability to use such systems or disclosure or dissemination of proprietary and confidential information that is electronically stored, including intellectual property, trade secrets, financial information, regulatory information, strategic plans, sales trends and forecasts, litigation materials or personal information belonging to us, our staff, our patients, customers and/or other business partners which could result in a material adverse impact on our business, operating results and financial condition. We continue to invest in monitoring, and other security and data recovery measures to protect our critical and sensitive data and systems. However, these may not be adequate to prevent or fully recover systems or data from all breakdowns, service interruptions, attacks or breaches of our systems. In addition, our cybersecurity insurance may not be sufficient to cover us against liability related to any such breaches. Furthermore, any physical break-in or trespass of our facilities could result in the misappropriation, theft, sabotage or any other type of security breach with respect to our proprietary and confidential information, including research or clinical data or damage to our research and development equipment and assets. Such adverse effects could be material and irrevocable to our business, operating results, financial condition and reputation.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our properties consist of leased office, laboratory, warehouse and manufacturing facilities. Our administrative offices and research facilities are currently located in San Diego, California. In addition, we have an office in Ewing, New Jersey. We also lease a building in Minnetonka, Minnesota consisting of office, laboratory, manufacturing and warehousing space. As of December 31, 2022, we leased an aggregate of approximately 194,000 square feet of space. We believe our facilities are adequate for our current and near-term needs.

Item 3. Legal Proceedings

From time to time, we may be involved in disputes, including litigation, relating to claims arising out of operations in the normal course of our business. Any of these claims could subject us to costly legal expenses and, while we generally believe that we have adequate insurance to cover many different types of liabilities, our insurance carriers may deny coverage or our policy limits may be inadequate to fully satisfy any damage awards or settlements. If this were to happen, the payment of any such awards could have a material adverse effect on our consolidated results of operations and financial position. Additionally, any such claims, whether or not successful, could damage our reputation and business. We currently are not a party to any legal proceedings, the adverse outcome of which, in management's opinion, individually or in the aggregate, would have a material adverse effect on our consolidated results of operations or financial position.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock is listed on the NASDAQ Global Select Market under the symbol "HALO." As of February 14, 2023, we had approximately 69,016 stockholders of record and beneficial owners of our common stock.

Dividends

We have never declared or paid any dividends on our common stock. We currently intend to retain available cash for funding operations, stock repurchases and other capital initiatives; therefore, we do not expect to pay any dividends on our common stock in the foreseeable future. Any future determination to pay dividends on our common stock will be at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contract restrictions, business prospects and other factors our board of directors may deem relevant.

Purchase of Equity Securities by the Issuer

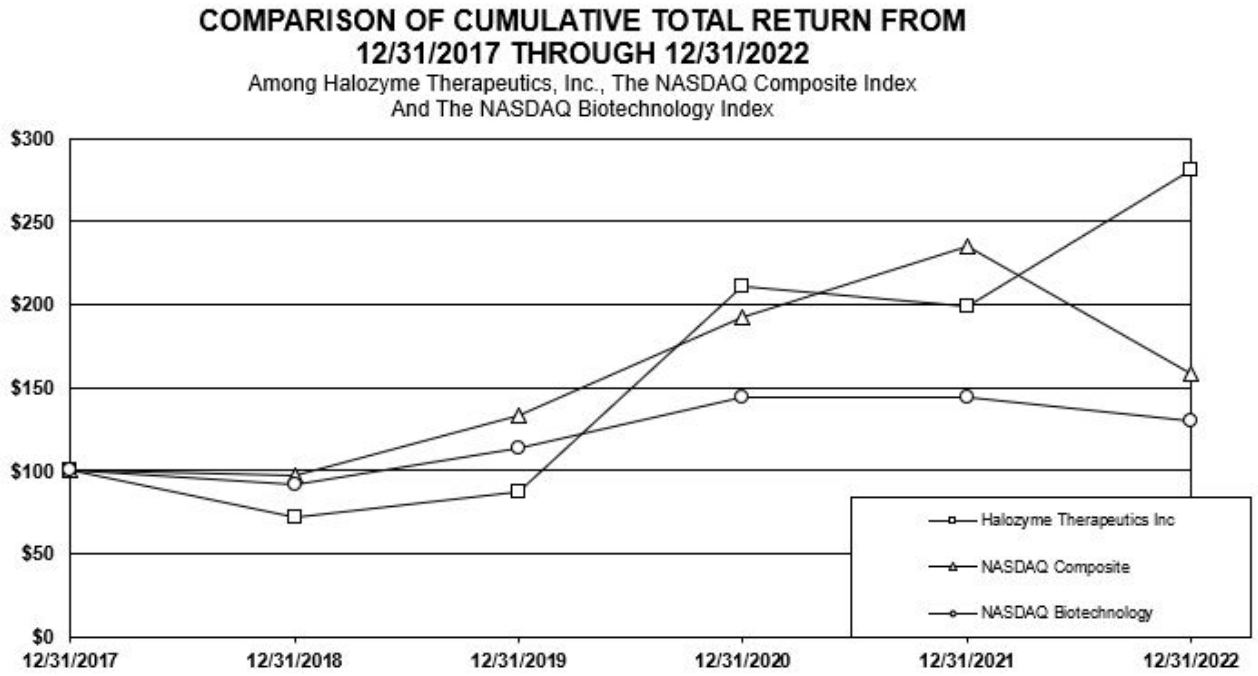
In November 2019, we announced that the Board of Directors authorized the initiation of a capital return program to repurchase up to $550.0 million of outstanding common stock over a three-year period. The shares were purchased through open market transactions and through an Accelerated Share Repurchase (ASR) agreement. During 2021, we repurchased 4.6 million shares of common stock for $200.0 million at an average price of $43.02 under the program. We completed the program in October 2021 having repurchased a total of 22.3 million shares for $550.0 million at an average price per share of $24.72. We retired the repurchased shares and they resumed the status of authorized and unissued shares.

In December 2021, the Board of Directors authorized our second share repurchase program, to repurchase up to $750.0 million of our outstanding common stock over a three-year period. In August 2022, we entered into an ASR agreement with Bank of America to repurchase $109.8 million of our common stock. At inception, pursuant to the agreement, we paid $109.8 million to Bank of America and took an initial delivery of 2.0 million shares. In December 2022, we finalized the transaction and received an additional 0.4 million shares. We retired the repurchased shares and they resumed the status of authorized and unissued shares. Under this program, through December 31, 2022, we repurchased 8.4 million shares of common stock for $350.0 million at an average price of $41.69.

Stock Performance Graph and Cumulative Total Return

Notwithstanding any statement to the contrary in any of our previous or future filings with the SEC, the following information relating to the price performance of our common stock shall not be deemed to be "filed" with the SEC or to be "soliciting material" under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and it shall not be deemed to be incorporated by reference into any of our filings under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent we specifically incorporate it by reference into such filing.

The graph below compares Halozyme Therapeutics, Inc.'s cumulative five-year total shareholder return on common stock with the cumulative total returns of the NASDAQ Composite Index and the NASDAQ Biotechnology Index. The graph tracks the performance of a $100 investment in our common stock and in each of the indexes (with the reinvestment of all dividends) from December 31, 2017 to December 31, 2022. The historical stock price performance included in this graph is not necessarily indicative of future stock price performance.



*$100 invested on 12/31/17 in stock or index, including reinvestment of dividends.

	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022
Halozyme Therapeutics, Inc.	$100	$72	$88	$211	$198	$281
NASDAQ Composite	$100	$97	$133	$192	$235	$159
NASDAQ Biotechnology	$100	$91	$114	$144	$144	$130

Item 6. (Reserved)

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

In addition to historical information, the following discussion contains forward-looking statements that are subject to risks and uncertainties. Actual results may differ substantially from those referred to herein due to a number of factors, including but not limited to risks described in the Part I, Item 1A, Risks Factors, and elsewhere in this Annual Report. References to "Notes" are Notes included in our Notes to Consolidated Financial Statements.

Overview

Halozyme Therapeutics, Inc. is a biopharma technology platform company that provides innovative and disruptive solutions with the goal of improving the patient experience and potentially outcomes.

Our proprietary enzyme, rHuPH20, is used to facilitate the subcutaneous ("SC") delivery of injected drugs and fluids. We license our technology to biopharmaceutical companies to collaboratively develop products that combine our ENHANZE® drug delivery technology ("ENHANZE") with the partners' proprietary compounds.

Our first commercially approved product Hylenex® recombinant ("Hylenex"), and our ENHANZE partners' approved products and product candidates are based on rHuPH20, our patented recombinant human hyaluronidase enzyme. rHuPH20 is the active ingredient Hylenex®, that works by breaking down hyaluronan ("HA"), a naturally occurring carbohydrate that is a major component of the extracellular matrix of the SC space. This temporarily reduces the barrier to bulk fluid flow allowing for improved and more rapid SC delivery of high dose, high volume injectable biologics, such as monoclonal antibodies and other large therapeutic molecules, as well as small molecules and fluids. We refer to the application of rHuPH20 to facilitate the delivery of other drugs or fluids as ENHANZE. We license the ENHANZE technology to form collaborations with biopharmaceutical companies that develop or market drugs requiring or benefiting from injection via the SC route of administration. In the development of proprietary intravenous ("IV") drugs combined with our ENHANZE technology, data have been generated supporting the potential for ENHANZE to reduce patient treatment burden, as a result of shorter duration of SC administration with ENHANZE compared to IV administration. ENHANZE may enable fixed-dose SC dosing compared to weight-based dosing typically required for IV administration, extend the dosing interval for drugs that are already administered subcutaneously and potentially allow for lower rates of infusion related reactions. ENHANZE may enable more flexible treatment options such as home administration by a healthcare professional or potentially the patient or caregiver. Lastly, certain proprietary drugs co-formulated with ENHANZE have been granted additional exclusivity, extending the patent life of the product beyond the patent expiry of the proprietary IV drug.

We currently have ENHANZE collaborations and licensing agreements with F. Hoffmann-La Roche, Ltd. and Hoffmann-La Roche, Inc. ("Roche"), Takeda Pharmaceuticals International AG and Baxalta US Inc. ("Takeda"), Pfizer Inc. ("Pfizer"), Janssen Biotech, Inc. ("Janssen"), AbbVie, Inc. ("AbbVie"), Eli Lilly and Company ("Lilly"), Bristol-Myers Squibb Company ("BMS"), Alexion Pharma International Operations Unlimited Company (an indirect wholly owned subsidiary of AstraZeneca PLC)("Alexion"), argenx BVBA ("argenx"), Horizon Therapeutics plc. ("Horizon"), ViiV Healthcare (the global specialist HIV Company majority owned by GlaxoSmithKline) ("ViiV") and Chugai Pharmaceutical Co., Ltd ("Chugai"). In addition to receiving upfront licensing fees from our ENHANZE collaborations, we are entitled to receive event and sales-based milestone payments, revenues from the sale of bulk rHuPH20 and royalties from commercial sales of approved partner products co-formulated with ENHANZE. We currently receive royalties from three of these collaborations, including royalties from sales of one product from the Takeda collaboration, three products from the Roche collaboration and one product from the Janssen collaboration. Future potential revenues from ENHANZE collaborations and from the sales and/or royalties of our approved products will depend on the ability of our partners, in some areas supported by Halozyme, to develop, manufacture, secure and maintain regulatory approvals for approved products and product candidates and commercialize product candidates.

Through our recent acquisition of Antares Pharma, Inc. ("Antares"), we also develop, manufacture and commercialize, for ourselves or with our partners, drug-device combination products using our advanced auto-injector technologies. Also as a result of our acquisition of Antares, our commercial portfolio of proprietary products includes XYOSTED®, TLANDO® and NOCDURNA®. We have commercialized auto-injector products with several pharmaceutical companies including Teva Pharmaceutical Industries, Ltd. ("Teva"), Covis Group S.a.r.l. ("Covis") and Otter Pharmaceuticals, LLC ("Otter"). We have development programs including auto-injectors with Idorsia Pharmaceuticals Ltd. ("Idorsia") and Pfizer.

Our 2022 and recent key events are as follows:

Roche

- In August 2022, Roche announced that the Phase 3 IMscin001 study evaluating a subcutaneous formulation of Tecentriq® (atezolizumab) with ENHANZE met its co-primary endpoints. The study showed non-inferior levels of Tecentriq in the blood (pharmacokinetics), when injected subcutaneously, compared with IV infusion, in cancer immunotherapy-naïve patients with advanced or metastatic non-small cell lung cancer for whom prior platinum therapy has failed. The safety profile of the SC formulation was consistent with that of IV Tecentriq. In November 2022, Roche submitted a BLA to the FDA and a MAA to the EMA for SC atezolizumab with ENHANZE across all approved indications of IV Tecentriq. In January 2023, the FDA accepted the BLA with a PDUFA goal date of September 15, 2023.
- In November 2022, Roche submitted an Initial Market Application (IMA) for Mabthera SC to the Center for Drug Evaluation (CDE) in China.
- In October 2022, Roche Pharmaceuticals China announced the approval of Herceptin SC (trastuzumab injection subcutaneous with ENHANZE) in China for the treatment of patients with early-stage and metastatic HER2-positive breast cancer.
- In July 2022, Roche submitted an IMA for the fixed-dose combination of Perjeta® (pertuzumab) and Herceptin for subcutaneous injection (Phesgo™) to the CDE in China.
- In April 2022, Roche initiated a phase 3 study evaluating OCREVUS (ocrelizumab) with ENHANZE in subjects with multiple sclerosis.

argenx

- In November 2022, argenx announced the acceptance of the BLA for SC efgartigimod for the treatment of adults with generalized myasthenia gravis (gMG). In January 2023, argenx announced that FDA extended the PDUFA date to June 20, 2023.
- In November 2022, argenx announced the submission of a Marketing Authorization Application to the EMA for SC efgartigimod for the treatment of adults with gMG.
- In June 2022, argenx initiated a phase 2 study evaluating efgartigimod with ENHANZE in subjects with bullous pemphigoid.
- In March 2022, argenx announced that data from argenx's phase 3 ADAPT-SC study evaluating SC efgartigimod (1000mg efgartigimod-PH20) for the treatment of gMG achieved the primary endpoint of total IgG reduction from baseline at day 29, demonstrating statistical non-inferiority to VYVGART® (efgartigimod alfa-fcab) intravenous IV formulation in gMG patients.

Chugai

- In September 2022, Chugai Pharmaceutical Co., Ltd. (a Member of the Roche Group) announced the submission of a NDA in Japan for the fixed-dose SC combination of pertuzumab and trastuzumab (same monoclonal antibodies as in Perjeta and Herceptin) with ENHANZE®.
- In May 2022, Chugai initiated a Phase 1 study to evaluate the pharmacokinetics, pharmacodynamics, and safety of a targeted antibody administered subcutaneously with ENHANZE.
- In March 2022, we entered into a global collaboration and license agreement with Chugai Pharmaceutical Co., Ltd. The license gives Chugai exclusive access to ENHANZE drug delivery technology for an undisclosed target. Under the terms of the agreement, we received an upfront payment of $25 million and Chugai is obligated to make future payments of up to $160 million, in the aggregate, subject to achievement of specified development, regulatory and sales-based milestones. We will also be entitled to receive royalties on sales of commercialized medicines using our ENHANZE technology.

Janssen

- In November 2022, Janssen initiated a Phase 2 study of amivantamab with ENHANZE in multiple regimens in patients with advanced or metastatic solid tumors including epidermal growth factor receptor (EGFR)-mutated non-small cell lung cancer (PALOMA-2).
- In September 2022, Janssen initiated a Phase 3 study of lazertinib and amivantamab with ENHANZE in patients with EGFR-mutated advanced or metastatic non-small cell lung cancer (PALOMA-3).

ViiV

- In June 2022, ViiV initiated enrollment of a Phase 1 single dose escalation study in subjects with HIV to evaluate pharmacokinetics, safety and tolerability of long-acting cabotegravir administered subcutaneously with ENHANZE.
- In March 2022, ViiV initiated enrollment of a Phase 1 study to evaluate the safety and pharmacokinetics of N6LS, a broadly neutralizing antibody, administered subcutaneously with ENHANZE.

Takeda

- In December 2022, Takeda achieved a sales milestone for HYQVIA, triggering a payment of $10 million.
- In July 2022, Takeda filed a sBLA for the potential expanded use of HYQVIA for pediatric indication for primary immunodeficiency.
- In July 2022, Takeda announced positive topline results from pivotal Phase 3 trial evaluating HYQVIA® (Immunoglobulin infusion 10% (Human) with rHuPH20), for maintenance treatment of chronic inflammatory demyelinating polyradiculoneuropathy (CIDP), and Takeda confirmed its intention to submit regulatory applications in the United States and European Union in its fiscal year 2022.

BMS

- BMS plans to initiate a Phase 3 trial in early 2023 to demonstrate the drug exposure level of nivolumab and relatlimab fixed-dose combination with ENHANZE is not inferior to IV administration in participants with previously untreated metastatic or unresectable melanoma (Relativity-127).
- In August 2022, BMS initiated a Phase 3 trial to compare the drug levels of nivolumab with ENHANZE administered subcutaneously versus IV administration in participants with melanoma following complete resection (CheckMate-6GE).
- In June 2022, BMS nominated an undisclosed target resulting in a $5 million payment.

Corporate

- In January 2023, we elected to redeem on March 17, 2023 all of our remaining outstanding 1.25% convertible senior notes due 2024.
- In August 2022, we completed the sale of $720.0 million aggregate principal amount of the 2028 Convertible Senior Note. We used a portion of the net proceeds to facilitate an induced conversion of a portion of the 2024 Convertible Senior Notes. In connection with the induced conversion, we paid the holders $77.6 million in cash and issued 1.51 million shares. We also used a portion of the net proceeds to repay the $250.0 million term loan facility due 2026 and the $120.0 million revolving credit facility.
- In August 2022, we entered into an amendment to our credit agreement that increased the size of our revolving credit facility from $350 million to $575 million.
- In the third quarter of 2022, we accelerated $100 million share repurchase from 2023 into 2022. We repurchased 2.1 million shares of common stock in open market purchases for $90.2 million at an average price per share of $43.09 and entered into an ASR agreement to repurchase $109.8 million of our common stock for which we took an initial delivery 2.0 million shares. In December 2022, we finalized the ASR transaction and received an additional 0.4 million shares for a total of 2.4 million shares at an average price per share of $45.62. During 2022, we repurchased a total of 4.5 million shares for $200.0 million at an average price per share of $44.44. As of December 31, 2022, we repurchased a total of 8.4 million shares for $350.0 million at an average price per share of $41.69 under our $750 million 3-year share repurchase plan.
- In June 2022, we completed an $150 million ASR that was initiated in December of 2021, resulting in the total repurchase of 3.9 million shares at a price of $38.51 per share.
- In June 2022, we announced the commercial launch of TLANDO® (testosterone undecanoate), an oral treatment indicated for testosterone replacement therapy in adult males for conditions associated with a deficiency or absence of endogenous testosterone (primary or hypogonadotropic hypogonadism). TLANDO® was approved by the U.S. Food and Drug Administration (FDA) on March 28, 2022.

- In May 2022, we completed the acquisition of Antares resulting in an expansion of our commercial portfolio of proprietary and partnered products and the potential for future growth through new agreements.
- In May 2022, in connection with the closing of Antares acquisition, we entered into a credit agreement that provided for a $350 million revolving credit facility and a $250 million term loan facility. The proceeds from a $120 million draw on the revolving credit facility and the $250 million term facility were used to fund a portion of the Antares acquisition, refinance Antares' existing debt and pay fees and expenses in connection with the acquisition.
- In March 2022, we entered into an agreement for assignment and assumption of a lease with Seismic Software, Inc. pursuant to which effective January 1, 2023 we assumed Seismic's office lease, as amended with Kilroy Realty L.P. for approximately 73,238 square feet of space in office and research facilities. The premises are intended to serve as our new headquarters which we occupied on January 1, 2023.

Results of Operations

Comparison of Years Ended December 31, 2022 and 2021

Royalties – Royalty revenue was $360.5 million in 2022 compared to $203.9 million in 2021. The increase was mainly driven by continued sales uptake of DARZALEX FASPRO by Janssen and Phesgo by Roche in all geographies and contribution from new device royalty revenue as a result of the Antares acquisition, partially offset by slightly lower sales of Herceptin SC and MabThera SC by Roche. We expect royalty revenue to continue to grow as a result of our 2020 ENHANZE partner product launches, offsetting the ongoing impact from biosimilars related to our mature ENHANZE partner products.

Product Sales, Net – Product sales, net were as follows (in thousands):

	Year Ended December 31,			
	2022	2021	Dollar Change	Percentage Change
Sales of bulk rHuPH20	$ 82,084	$ 80,961	$ 1,123	1 %
Sales of proprietary products	72,849	23,263	49,586	213 %
Sales of device partnered products	36,097	—	36,097	100 %
Total product sales, net	$ 191,030	$ 104,224	$ 86,806	83 %

Total product sales, net increased by $86.8 million in 2022 compared to 2021, primarily due to contribution from our proprietary and device partnered products as the result of the Antares acquisition. We expect that sales of proprietary products will grow in future years as we work to expand market share in the TRT market. We expect that product sales of bulk rHuPH20 and device partnered products will fluctuate in future periods based on the needs of our partners.

Revenues Under Collaborative Agreements – Revenues under collaborative agreements were as follows (in thousands):

	Year Ended December 31,			
	2022	2021	Dollar Change	Percentage Change
Upfront license fees, license fees for the election of additional targets, event-based payments, license maintenance fees and amortization of deferred upfront and other license fees:				
BMS	$ 30,000	$ 25,000	$ 5,000	20 %
Chugai	25,000	—	25,000	100 %
Roche	19,000	5,000	14,000	280 %
Janssen	15,000	59,000	(44,000)	(75)%
Takeda	10,000	—	10,000	100 %
ViiV	—	45,000	(45,000)	(100)%
Subtotal	$ 99,000	$ 134,000	$ (35,000)	(26)%
Device licensing and development revenue	9,611	1,186	8,425	710 %
Total revenues under collaborative agreements	$ 108,611	$ 135,186	$ (26,575)	(20)%

Revenue from license fees decreased by $35.0 million in 2022, compared to 2021 primarily due to the timing of milestones driven by partner activities. Revenue from upfront licenses fees, license fees for the election of additional targets, license maintenance fees and other license fees and event-based payments vary from period to period based on our ENHANZE collaboration activity. We expect these revenues to continue to fluctuate in future periods based on our partners' ability to meet various clinical and regulatory milestones set forth in such agreements and our ability to obtain new collaborative agreements.

Cost of Sales – Cost of sales consists primarily of raw materials, third-party manufacturing costs, fill and finish costs, freight costs, internal costs and manufacturing overhead associated with the production of our proprietary and device partnered products and bulk rHuPH20**.** Cost of product sales were $139.3 million in 2022 compared to $81.4 million in 2021. The increase of $57.9 million in cost of product sales was mainly due to an increase in sales in our proprietary, partnered products as a result of the Antares acquisition and amortization of inventory step-up associated with purchase accounting for the Antares acquisition.

Amortization of intangibles – Amortization of intangibles expense was $43.1 million for 2022. The amortization of intangibles expense is due to the acquisition of Antares in May 2022, in which we acquired intangible assets that are amortized over their useful lives.

Research and Development – Research and development expenses consist of external costs, salaries and benefits and allocation of facilities and other overhead expenses related to research manufacturing, preclinical and regulatory activities related to our ENHANZE collaborations and our development platform. Research and development expenses were $66.6 million in 2022 compared to $35.7 million in 2021. The increase of $30.9 million is primarily due to planned investments in ENHANZE and an increase in compensation expense related to the ongoing combined larger workforce as a result of the Antares acquisition.

Selling, General and Administrative – Selling, general and administrative (SG&A) expenses consist primarily of salaries and related costs for personnel in executive, selling and administrative functions as well as professional fees for legal and accounting, business development, commercial operations support for proprietary products and alliance management and marketing support for our collaborations. SG&A expenses were $143.5 million in 2022 compared to $50.3 million in 2021. The increase of $93.2 million, was primarily due to one-time Antares Pharma acquisition costs and an increase in compensation expense related to the ongoing combined larger workforce.

Interest Expense – Interest expense was $16.9 million in 2022 compared to $7.5 million in 2021. The increase of $9.4 million was primarily due an increase in interest expense related to the 2022 term loans, the revolving credit facility and the 2028 Convertible Notes.

Income Taxes – Income tax expense was $46.8 million in 2022 compared to income tax benefit of $154.2 million in 2021. The increase in income tax expense is due to the recording of our first year of income tax expense in the current year whereas in the prior year period there was an income tax benefit due to the release of the valuation allowance.

Comparison of Years Ended December 31, 2021 and 2020

For discussion related to changes in financial condition and the results of operations for fiscal year 2021 compared to fiscal year 2020, refer to Part II - Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021, which was filed with the SEC on February 22, 2022.

Liquidity and Capital Resources

Our principal sources of liquidity are our existing cash, cash equivalents and available-for-sale marketable securities. As of December 31, 2022, we had cash, cash equivalents and marketable securities of $362.8 million. We believe that our current cash, cash equivalents and marketable securities will be sufficient to fund our operations for at least the next twelve months. We expect to fund our operations going forward with existing cash resources, anticipated revenues from our existing collaborations and cash that we may raise through future transactions. We may raise cash through any one of the following financing vehicles: (i) new collaborative agreements; (ii) expansions or revisions to existing collaborative relationships; (iii) private financings; (iv) other equity or debt financings; (v) monetizing assets; and/or (vi) the public offering of securities.

We may, in the future, draw on our existing line of credit, offer and sell additional equity, debt securities and warrants to purchase any of such securities, either individually or in units to raise capital to raise funds for additional working capital, capital expenditures, share repurchases, acquisitions or for other general corporate purposes. Our material cash requirements include the following contractual and other obligations.

Long-term debt

Our long-term debt consists of convertible notes. The aggregate principal amount of our convertible notes is $1,538.5 million, with $13.5 million classified as short term. Future interest payments associated with our convertible notes total $48.9 million, with $9.3 million payable within 12 months.

Leases

We have lease arrangements related to our office and research facilities and certain autos under non-cancelable operating leases. As of December 31, 2022, we have lease payment obligations of $47.0 million, with $7.8 million payable within 12 months.

Third-party manufacturing obligations

We have contracted with third-party manufacturers for the supply of bulk rHuPH20, fill/finish of Hylenex recombinant, other proprietary products and partnered products. Under these agreements, we are required to purchase certain quantities each year during the terms of the agreements. Contractual obligations for purchases of goods or services include agreements that are enforceable and legally binding to us and that specify all significant terms, including fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. For obligations with cancellation provisions, the amounts disclosed here were limited to the non-cancelable portion of the agreement terms or the minimum cancellation fee. As of December 31, 2022, we had third-party manufacturing obligations of $97.8 million, payable within 12 months.

Other purchase obligations and commitments

Purchase obligations represent an estimate of all open purchase orders and contractual obligations in the ordinary course of business for which we have not received the goods or services. We also have commitments which represents minimum royalty payments to be paid in accordance with the TLANDO exclusive license agreement with Lipocine. As of December 31, 2022, we had other purchase obligations and other commitments of $48.7 million, with $44.2 million payable within 12 months.

The expected timing of payments of the obligations above is estimated based on information we have as of December 31, 2022. Timing of payments and actual amounts paid may be different, depending on the time of receipt of goods or services, or changes to agreed-upon amounts for some obligations.

Our future capital uses and requirements and anticipated sources of funds to satisfy these requirements depend on numerous forward-looking factors. These factors may include, but are not limited to, the following:

- the costs of investments in our ENHANZE platform and auto-injector technology including development of new versions of rHuPH20 and auto-injector devices;
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the costs to develop and validate additional manufacturing processes of rHuPH20, auto-injectors, and testosterone replacement therapies;
- the costs to expand the number of collaboration partner products developed and launched by partners including costs to scale-up manufacturing;
- the amount of royalties and milestones from our partners;
- the effect of competing technological and market developments;
- the terms and timing of any collaborative, licensing and other arrangements that we may establish; and
- the extent to which we acquire or in-license new products, technologies or businesses and invest in development.

Cash Flows

Operating Activities

Net cash provided by operations was $240.1 million in 2022 compared to $299.4 million in 2021. The $59.3 million decrease in cash provided by operations was mainly due to an increase in transaction expenses associated with the Antares acquisition and an increase in working capital spend, partially offset by an increase in royalties revenue for 2022 compared to the prior year.

Investing Activities

Net cash used in investing activities was $487.0 million in 2022 compared to net cash used in investing activities of $406.3 million in 2021. The increase in cash used in investing activities was primarily due to the acquisition of Antares, partially offset by an increase in cash from the sale of marketable securities and the sale of assets in 2022.

Financing Activities

Net cash provided by financing activities was $362.4 million in 2022, compared to net cash provided by financing activities of $77.9 million in 2021, mainly due to $702.0 million cash received from the 2028 Convertible Notes offering and $291.6 million decrease related to the 2024 Convertible Notes induced conversion, a $150.1 million decrease in repurchase of common stock and a $1.5 million increase in net proceeds from the issuance of common stock under equity incentive plans, partially offset by, $784.9 million cash received from the 2027 Convertible Notes offering in the prior year and a $69.1 million payment for the Capped Call Transactions during the current year.

Share Repurchases

In November 2019, our Board of Directors approved a $550 million share repurchase program, pursuant to which we could repurchase our issued and outstanding shares of common stock from time to time. We completed the share repurchase program in October 2021 and retired the repurchased shares. In December 2021, we announced our second share repurchase program, to repurchase up to $750.0 million of our outstanding common stock over a three-year period. See *Note 10. Stockholders' Equity*, within the notes to the consolidated financial statements for additional information regarding our share repurchases.

Long-Term Debt

1.00% Convertible Notes due 2028

In August 2022, we completed the sale of $720.0 million in aggregate principal amount of 1.00% Convertible Senior Notes due 2028 (the "2028 Convertible Notes" and collectively with the 2024 and the 2027 Convertible Notes the "Convertible Notes"). The net proceeds in connection with the issuance of the 2028 Convertible Notes, after deducting the initial purchasers' fee of $18.0 million, was approximately $702.0 million. We also incurred additional debt issuance costs totaling $1.0 million. Debt issuance costs and the initial purchasers' fee are presented as a debt discount.

The 2028 Convertible Notes pay interest semi-annually in arrears on February 15th and August 15th of each year at an annual rate of 1.00%. The 2028 Convertible Notes are general unsecured obligations and rank senior in right of payment to all indebtedness that is expressly subordinated in right of payment to the 2028 Convertible Notes, rank equally in right of payment with all existing and future liabilities that are not so subordinated, are effectively junior to any secured indebtedness to the extent of the value of the assets securing such indebtedness, and are structurally subordinated to all indebtedness and other liabilities (including trade payables) of our current or future subsidiaries. The 2028 Convertible Notes have a maturity date of August 15, 2028.

Holders may convert their 2028 Convertible Notes at their option only in the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on December 31, 2022, if the last reported sale price per share of common stock exceeds 130% of the conversion price for each of at least 20 trading days during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter; (2) during the 5 consecutive business days immediately after any 5 consecutive trading day period (such 5 consecutive trading day period, the "measurement period") in which the trading price per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price per share of our common stock on such trading day and the conversion rate on such trading day; (3) upon the occurrence of certain corporate events or distributions on our common stock, as described in the offering memorandum for the 2028 Convertible Notes; (4) if we call such notes for redemption; and (5) at any time from, and including, February 15, 2028 until the close of business on the second scheduled trading day immediately before the maturity date. As of December 31, 2022, the 2028 Convertible Notes are not convertible.

Upon conversion, we will pay cash for the settlement of principal and for the premium, if applicable, we will pay cash, deliver shares of common stock or a combination of cash and shares of common stock, at our election. The initial conversion rate for the 2028 Convertible Notes is 17.8517 shares of common stock per $1,000 in principal amount of 2028 Convertible Notes, equivalent to a conversion price of approximately $56.02 per share of our common stock. The conversion rate is subject to adjustment in some events but will not be adjusted for any accrued or unpaid interest.

0.25% Convertible Notes due 2027

In March 2021, we completed the sale of $805.0 million in aggregate principal amount of 0.25% Convertible Senior Notes due 2027 (the "2027 Convertible Notes" and collectively with the 2024 Convertible Notes the "Convertible Notes"). The net proceeds in connection with the 2027 Convertible Notes, after deducting the initial purchasers' fee of $20.1 million, was approximately $784.9 million. We also incurred additional debt issuance costs totaling $0.4 million. Debt issuance costs and the initial purchasers' fee are presented as a debt discount.

The 2027 Convertible Notes pay interest semi-annually in arrears on March 1st and September 1st of each year at an annual rate of 0.25%. The 2027 Convertible Notes are general unsecured obligations and will rank senior in right of payment to all indebtedness that is expressly subordinated in right of payment to the 2027 Convertible Notes, will rank equally in right of payment with all existing and future liabilities that are not so subordinated, will be effectively junior to any secured indebtedness to the extent of the value of the assets securing such indebtedness and will be structurally subordinated to all indebtedness and other liabilities (including trade payables) of our current or future subsidiaries. The 2027 Convertible Notes have a maturity date of March 1, 2027.

Holders may convert their 2027 Convertible Notes at their option only in the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on June 30, 2021, if the last reported sale price per share of common stock exceeds 130% of the conversion price for each of at least 20 trading days during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter; (2) during the five consecutive business days immediately after any five consecutive trading day period (such five consecutive trading day period, the "measurement period") in which the trading price per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price per share of our common stock on such trading day and the conversion rate on such trading day; (3) upon the occurrence of certain corporate events or distributions on our common stock, as described in the offering memorandum for the 2027 Convertible Notes; (4) if we call such notes for redemption; and (5) at any time from, and including, September 1, 2026 until the close of business on the scheduled trading day immediately before the maturity date. The Notes will be convertible, regardless of the foregoing circumstances, at any time from, and

including, September 1, 2026 until the close of business on the scheduled trading day immediately preceding the maturity date. As of December 31, 2022, the 2027 Convertible Notes are not convertible.

Upon conversion, we will pay cash for the settlement of principal and for the premium, if applicable, we will pay cash, deliver shares of common stock or a combination of cash and shares of common stock, at our election. The initial conversion rate for the 2027 Convertible Notes is 12.9576 shares of common stock per $1,000 in principal amount of 2027 Convertible Notes, equivalent to a conversion price of approximately $77.17 per share of our common stock. The conversion rate is subject to adjustment.

1.25% Convertible Notes due 2024

In November 2019, we completed the sale of $460.0 million in aggregate principal amount of 1.25% Convertible Senior Notes due 2024 ("2024 Convertible Notes"). The net proceeds in connection with 2024 Convertible Notes, after deducting the initial purchases' fee of $12.7 million, was approximately $447.3 million. We also incurred debt issuance cost totaling $0.3 million. Debt issuance costs and the initial purchasers' fee are presented as a debt discount.

The 2024 Convertible Notes pay interest semi-annually in arrears on June 1st and December 1st of each year, beginning on June 1, 2020, at an annual rate of 1.25%. The 2024 Convertible Notes are general unsecured obligations and will rank senior in right of payment to all indebtedness that is expressly subordinated in right of payment to the 2024 Convertible Notes, will rank equally in right of payment with all existing and future liabilities that are not so subordinated, will be effectively junior to any secured indebtedness to the extent of the value of the assets securing such indebtedness and will be structurally subordinated to all indebtedness and other liabilities (including trade payables) of the our current or future subsidiaries. The 2024 Convertible Notes have a maturity date of December 1, 2024.

Holders may convert their 2024 Convertible Notes at their option only in the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on March 31, 2020, if the last reported sale price per share of common stock exceeds 130% of the conversion price for each of at least 20 trading days during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter; (2) during the five consecutive business days immediately after any five consecutive trading day period (such five consecutive trading day period, the "measurement period") in which the trading price per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price per share of our common stock on such trading day and the conversion rate on such trading day; (3) upon the occurrence of certain corporate events or distributions on our common stock, as described in the offering memorandum for the 2024 Convertible Notes; (4) if we call such notes for redemption; and (5) at any time from, and including, June 1, 2024 until the close of business on the scheduled trading day immediately before the maturity date. As of December 31, 2022, the 2024 Convertible Notes are convertible and are classified as a current liability

In January 2021, we notified the note holders of our irrevocable election to settle the principal of the 2024 Convertible Notes in cash and for the premium, if applicable, to deliver shares of common stock. The conversion rate for the 2024 Convertible Notes will be 41.9208 shares of common stock per $1,000 in principal amount of 2024 Convertible Notes, equivalent to a conversion price of approximately $23.85 per share of our common stock. The conversion rate is subject to adjustment.

In March 2021, we completed a privately negotiated induced conversion of $369.1 million principal amount of the 2024 Convertible Notes ("2021 Note Repurchases" or the "2021 Induced Conversion"). In connection with the 2021 Induced Conversion, we paid approximately $370.2 million in cash, which includes principal and accrued interest, and issued approximately 9.08 million shares of our common stock representing the intrinsic value based on the contractual conversion rate and incremental shares as an inducement for conversion. As a result of the 2021 Induced Conversion, we recorded $21.0 million in induced conversion expense which is included in Other income (expense) of the Condensed Consolidated Statements of Operations for the twelve months ended December 31, 2022. The induced conversion expense represents the fair value of the common stock issued upon conversion in excess of the common stock issuable under the original terms of the 2024 Convertible Notes.

In August 2022, we completed a privately negotiated induced conversion of $77.4 million principal amount of the 2024 Convertible Notes ("2022 Note Repurchases" or the "2022 Induced Conversion"). In connection with the 2022 Induced Conversion, we paid approximately $77.6 million in cash, which includes principal and accrued interest, and issued approximately 1.51 million shares of our common stock representing the intrinsic value based on the contractual conversion rate and incremental shares as an inducement for conversion. As a result of the 2022 Induced Conversion, we recorded $2.7 million in induced conversion expense which is included in other income (expense) of the consolidated statements of income. The induced conversion expense represents the fair value of the common stock issued upon conversion in excess of the common stock issuable under the original terms of the 2024 Convertible Notes.

In January 2023, we issued a notice for the redemption of 2024 Convertible Notes, and we expect to make cash payment of $13.5 million to effect the redemption in March 2023.

Revolving Credit and Term Loan Facilities (May 2022)

In May 2022, in connection with the closing of the Antares acquisition, we entered into a credit agreement with Bank of America, N.A., as Administrative Agent, Swing Line Lender and an L/C Issuer, and the other lenders and L/C Issuers party thereto (the "2022 Credit Agreement), evidencing a credit facility (the "2022 Facility") that provides for (i) a $350 million revolving credit facility (the "Revolving Credit Facility") and (ii) a $250 million term loan facility (the "Term Facility"). The proceeds from a $120 million draw on the Revolving Credit Facility and the $250 million Term Facility were used to fund a portion of the Antares acquisition, refinance Antares' existing debt and pay fees and expenses in connection with the acquisition. The 2022 Credit Agreement contains an expansion feature, which allows us, subject to certain conditions, to increase the aggregate principal amount of the 2022 Facility, provided we remain in compliance with underlying financial covenants on a pro forma basis including the consolidated interest coverage ratio and the consolidated net leverage ratio covenants set forth in the 2022 Credit Agreement. The 2022 Facility will mature on November 30, 2026 unless either the Revolving Credit Facility or the Term Facility is extended prior to such date in accordance with the 2022 Credit Agreement.

The Term Facility requires quarterly scheduled repayments of the term loans in each of the first, second, third and fourth years following the Closing in annual amounts equal to 2.50%, 5.00%, 7.50% and 10.00% of the initial principal amount of the term loans, respectively. The term loans are also subject to mandatory prepayments from the proceeds of certain asset sales, subject to our right to reinvest the proceeds thereof.

Borrowings under the 2022 Facility bear interest, at our option, at a rate equal to an applicable margin plus: (a) the applicable Term Secured Overnight Financing Rate (SOFR) (which includes a SOFR adjustment of 0.10%), or (b) a base rate determined by reference to the highest of (1) the federal funds effective rate plus 0.50%, (2) the Bank of America prime rate, (3) the Term SOFR rate for an interest period of one month plus 1.10%, and (4) 1.00%. The margin for the 2022 Facility ranges, based on our consolidated total net leverage ratio, from 0.25% to 1.25% in the case of base rate loans and from 1.25% to 2.25% in the case of Term SOFR rate loans. In addition to paying interest on the outstanding principal under the Facility, we will pay (i) a commitment fee in respect of the unutilized commitments thereunder and (ii) customary letter of credit fees and agency fees. The commitment fees range from 0.15% to 0.35% per annum based on our consolidated net leverage ratio.

In August 2022, we entered into Amendment No. 1 to the Credit Agreement (the "Amendment") among the Company, the Guarantors (as defined in the Credit Agreement), each L/C Issuer from time to time party thereto, Bank of America, N.A., as Administrative Agent (in such capacity, the "Administrative Agent") and swing line lender (in such capacity, the "Swing Line Lender"), and each lender party thereto, which amends the Credit Agreement dated as of May 24, 2022 (the "Credit Agreement") among the Company, the Guarantors, the Administrative Agent, the Swing Line Lender, each Lender and the L/C Issuers. The Amendment, among other things, increases the size of the revolving credit facility from $350 million to $575 million. The terms of the revolving credit facility are otherwise unchanged. Concurrently with the entry into the Amendment, the Company repaid the entire outstanding term loan facility and repaid all outstanding loans under the revolving credit facility under the Credit Agreement.

As of December 31, 2022, the revolving credit facility was undrawn.

Critical Accounting Estimates

The discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles, or U.S. GAAP. The preparation of our consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. We review our estimates on an ongoing basis. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions. Our significant accounting policies are outlined in Note 2 to the Consolidated Financial Statements included in the Form 10-K. We believe the following accounting policies to be critical to the judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition

Methodology	*Judgment and Uncertainties*	*Effect if Actual Results Differ From Assumptions*
For collaborative agreements, we are entitled to receive event-based payments subject to the collaboration partner's achievement of specified development and regulatory milestones. We recognize revenue when it is deemed probable that these milestones will be achieved, which could be in a period prior to its actual occurrence. At the end of each reporting period, we re-evaluate the probability of achievement of such milestones, and if necessary, adjust our estimate of the overall transaction price.	Revenue is recognized when we determine it is probable a milestone will be achieved. This assessment is based on our past experience with our collaboration partners, market insight and partner communication.	A revenue reversal will be required in the event it is determined that achievement of a milestone, previously deemed probable, will not occur. This reversal may be material.
For collaborative agreements, royalty revenue is recognized in the period the underlying sales occur, but we do not receive final royalty reports from our collaboration partners until after we complete our financial statements for a prior quarter. Therefore, we recognize revenue based on estimates of the royalty earned, which are based on preliminary reports provided by our collaboration partners.	The amount of royalty revenue recognized for the quarter is estimated using our knowledge of past royalty payments, market insight and an estimate made by our collaboration partners provided in a preliminary report.	A final royalty report and associated royalty payment is received approximately 60 days after quarter-end. If necessary, a true-up is recorded at that time if there is a difference from the initial estimated royalty revenue recorded. To date, the true-up entries have not been material.
For collaborative arrangements, when necessary, we perform an allocation of the upfront amount based on relative stand-alone selling prices (SSP) of licenses for individual targets. We determine license SSP using an income-based valuation approach utilizing risk-adjusted discounted cash flow projections.	The inputs used in the valuation model to determine SSP are based on estimates utilizing market data and information provided by our collaboration partners.	Differences in the allocation of the transaction price between delivered and undelivered performance obligations can impact the timing of revenue recognition but do not change the total revenue recognized under any agreement.

Share-Based Payments		
Methodology	***Judgment and Uncertainties***	***Effect if Actual Results Differ From Assumptions***
We maintain a Stock Incentive Plan, which provides for share-based payment awards, including stock options, restricted stock and performance awards. We determine the fair value of our stock option awards at the date of grant using a Black-Scholes model. We determine the fair value of our restricted stock awards at the date of grant using the closing market value of our common stock on the date of grant.	Option-pricing models and generally accepted valuation techniques require management to make assumptions and to apply judgment to determine the fair value of our awards. These assumptions and judgments include estimating the future volatility of our stock price, expected dividend yield and future employee stock option exercise behaviors. Changes in these assumptions can materially affect the fair value estimate. Our performance awards require management to make assumptions regarding the likelihood of achieving long-term Company goals.	We do not currently believe there is a reasonable likelihood that there will be a material change in estimates or assumptions we use to determine stock-based compensation expense. However, if actual results are not consistent with our estimates or assumptions, we may be exposed to changes in share-based compensation expense that could be material. If actual results are not consistent with the assumptions used, the share-based compensation expense reported in our financial statements may not be representative of the actual economic cost of the share-based compensation. A 10% change in our share-based compensation expense for the year ended December 31, 2022 would have affected pre-tax earnings by approximately $2.4 million in 2022.
Business Combinations		
In connection with the Antares acquisition, as disclosed in Note 3, the acquisition of Antares has been accounted for using the acquisition method of accounting in accordance with ASC 805, under the acquisition method of accounting we recognized the identifiable assets acquired and the liabilities assumed at their fair values as of the date of acquisition. We measured the goodwill as the excess of consideration transferred, which we also measure at fair value, over the net of the acquisition date fair values of the identifiable assets acquired and liabilities assumed.	Significant estimates and assumptions used in estimating the fair value of acquired technology and other identifiable intangible assets include future cash flows that we expect to generate from the acquired assets.	If the subsequent actual results and updated projections of the underlying business activity change compared with the assumptions and projections used to develop these values, we could record impairment charges. In addition, we have estimated the economic lives of certain acquired assets and these lives are used to calculate amortization expense. If our estimates of the economic lives change, amortization expenses could be accelerated or slowed.
Contingent Liability		
A contingent liability with a value of $15.7 million was assumed related to TLANDO. The fair value was measured using the income approach, specifically the probability weighted expected return method for the development milestone payments and the option pricing methodology using the Monte Carlo simulation for commercial milestone payments and royalty payments. We remeasure the fair value of the contingent liability on a quarterly basis.	The inputs used in the Monte Carlo simulation include significant estimates and assumptions which include forecasted revenues, cost of debt, risk free rate, weighted average cost of capital, revenue market price risk and revenue volatility. Estimates and assumptions used in the income approach include the probability of achieving certain milestones and a discount rate.	If there is a change in the inputs and assumptions used to fair value the contingent liability, that could have a material impact on our consolidated balance sheet and statements of income.

Goodwill and Intangibles		
We estimate the fair value of acquired intangible assets that have finite useful lives whenever an event or change in circumstances indicates that the carrying value of the asset may not be recoverable. We test for potential impairment of goodwill and other intangible assets that have indefinite useful lives annually in the second fiscal quarter or whenever indicators of impairment arise.	Significant estimates and assumptions used in estimating the fair value of the intangible assets.	A change in any of the estimates and assumptions used may result an impairment charge in our consolidated statement of income.

Recent Accounting Pronouncements

Refer to Note 2, *Summary of Significant Accounting Policies*, of our consolidated financial statements for a discussion of recent accounting pronouncements and their effect, if any, on us.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

As of December 31, 2022, our cash equivalents and marketable securities consisted of investments in money market funds, asset-backed securities, U.S. Treasury securities, corporate debt securities, agency bonds and commercial paper. These investments were made in accordance with our investment policy which specifies the categories, allocations, and ratings of securities we may consider for investment. The primary objective of our investment activities is to preserve principal while at the same time maximizing the income we receive without significantly increasing risk. Some of the financial instruments that we invest in could be subject to market risk. This means that a change in prevailing interest rates may cause the value of the instruments to fluctuate. For example, if we purchase a security that was issued with a fixed interest rate and the prevailing interest rate later rises, the value of that security will probably decline. Based on our current investment portfolio as of December 31, 2022, we do not believe that our results of operations would be materially impacted by an immediate change of 10% in interest rates.

We do not hold or issue derivatives, derivative commodity instruments or other financial instruments for speculative trading purposes. Further, we do not believe our cash, cash equivalents and marketable securities have significant risk of default or illiquidity. We made this determination based on discussions with our investment advisors and a review of our holdings. While we believe our cash, cash equivalents and marketable securities do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value. All of our cash equivalents and marketable securities are recorded at fair market value.

Item 8. Financial Statements and Supplementary Data

Our financial statements are annexed to this report beginning on page F-1.

Item 9. Changes In and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the timelines specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decision regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can only provide reasonable assurance of achieving the desired control objectives, and in reaching a reasonable level of assurance, management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended. Based on this evaluation, our principal executive officer and our principal financial officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

On May 24, 2022, we completed the acquisition of Antares. Under guidelines established by the SEC, companies are permitted to exclude acquisitions from their assessment of internal control over financial reporting during the first year of an acquisition while integrating the acquired company. In conducting our evaluation of the effectiveness of our internal control over financial reporting, we excluded the internal control activities of Antares from our evaluation for the period ended December 31, 2022. We are in the process of integrating Antares into our system of internal control over financial reporting.

Except as noted above, there have been no significant changes in our internal control over financial reporting that occurred during the period ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) and Rule 15d-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, our principal executive and principal financial officers and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with authorizations of our management and directors; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

We have included the financial results of Antares in the consolidated financial statements from the date of acquisition. Antares represented approximately 9% of total assets as of December 31, 2022 and 17% of total revenues, for the year ended December 31, 2022.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2022. In conducting its assessment of the effectiveness of our internal control over financial reporting, our management excluded the internal control activities of Antares from its evaluation for the period ended December 31, 2022. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework (2013 framework) (the COSO criteria). Based on our assessment, management concluded that, as of December 31, 2022, our internal control over financial reporting is effective based on the COSO criteria. The independent registered public accounting firm that audited the consolidated financial statements that are included in this Annual Report on Form 10-K has issued an audit report on the effectiveness of our internal control over financial reporting as of December 31, 2022. The report appears below.

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Halozyme Therapeutics, Inc.

Opinion on Internal Control over Financial Reporting

We have audited Halozyme Therapeutics, Inc.'s internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Halozyme Therapeutics, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria**.**

As indicated in the accompanying Management's Report On Internal Control Over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Antares Pharma, Inc., which is included in the 2022 consolidated financial statements of the Company and constituted 9% of total assets as of December 31, 2022 and 17% of total revenues, for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of Antares Pharma, Inc.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, cash flows, and stockholders' equity for each of the three years in the period ended December 31, 2022, and the related notes and the financial statement schedule listed in the Index at Item 15(a) and our report dated February 21, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

San Diego, California
February 21, 2023

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

None

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item regarding directors is incorporated by reference to our definitive Proxy Statement (the Proxy Statement) to be filed with the Securities and Exchange Commission in connection with our 2023 Annual Meeting of Stockholders under the heading "Election of Directors." The information required by this item regarding our code of ethics is incorporated by reference to the information under the caption "Code of Conduct and Ethics and Corporate Governance Guidelines" to be contained in the Proxy Statement. The information required by this item regarding our audit committee is incorporated by reference to the information under the caption "Board Meetings and Committees—Audit Committee" to be contained in the Proxy Statement. The information required by this item regarding material changes, if any, to the process by which stockholders may recommend nominees to our board of directors is incorporated by reference to the information under the caption "Board Meetings and Committees—Nominating and Governance Committee" to be contained in the Proxy Statement.

Executive Officers

Helen I. Torley, M.B. Ch. B., M.R.C.P. (60), President, Chief Executive Officer and Director. Dr. Torley joined Halozyme in January 2014 as President and Chief Executive Officer and as a member of Halozyme's Board of Directors. Throughout her career, Dr. Torley has led several successful product launches, including Kyprolis®, Prolia®, Sensipar®, and Miacalcin®. Prior to joining Halozyme, Dr. Torley served as Executive Vice President and Chief Commercial Officer for Onyx Pharmaceuticals (Onyx) from August 2011 to December 2013 overseeing the collaboration with Bayer on Nexavar® and Stivarga® and the U.S. launch of Kyprolis. She was responsible for the development of Onyx's commercial capabilities in ex-US markets and in particular, in Europe. Prior to Onyx, Dr. Torley spent 10 years in management positions at Amgen Inc., most recently serving as Vice President and General Manager of the US Nephrology Business Unit from 2003 to 2009 and the U.S. Bone Health Business Unit from 2009 to 2011. From 1997 to 2002, she held various senior management positions at Bristol-Myers Squibb, including Regional Vice President of Cardiovascular and Metabolic Sales and Head of Cardiovascular Global Marketing. She began her career at Sandoz/Novartis, where she ultimately served as Vice President of Medical Affairs, developing and conducting post-marketing clinical studies across all therapeutic areas, including oncology. Within the past five years, Dr. Torley served on the board of directors of Quest Diagnostics Incorporated, a diagnostic information services company. Before joining the industry, Dr. Torley was in medical practice as a senior registrar in rheumatology at the Royal Infirmary in Glasgow, Scotland. Dr. Torley received her Bachelor of Medicine and Bachelor of Surgery degrees (M.B. Ch.B.) from the University of Glasgow and is a Member of the Royal College of Physicians (M.R.C.P).

Nicole LaBrosse (40), Senior Vice President, Chief Financial Officer. Ms. LaBrosse has served as the Senior Vice President, Chief Financial Officer since February 2022 and has over 19 years of public accounting and corporate finance experience. She previously served as the Company's Vice President, Finance and Accounting from January 2020 to February 2022 and as the Company's Executive Director, Controller from July 2017 to December 2019. From June 2015 to June 2017, she was the Company's Senior Director, Financial Reporting. Prior to joining the Company, Ms. LaBrosse was an auditor with PricewaterhouseCoopers, LLP from 2004 to 2015. She received a certified public accounting license after receiving a B.S. degree in corporate finance and accounting and her M.S. degree in accounting from Bentley College.

Mark Snyder (56), Senior Vice President, General Counsel, Chief Compliance Officer and Secretary. Mr. Snyder joined Halozyme in January 2022 as Senior Vice President, General Counsel, Chief Compliance Officer and Secretary. Mr. Snyder has over 30 years of experience in legal and business management roles. Prior to joining Halozyme, from January 2008 to December 2021, Mr. Snyder served in various senior positions in the legal department at Qualcomm Incorporated, a wireless communications company, including his most recent positions as Senior Vice President & Deputy General Counsel, Litigation, from April 2016 to December 2021 and Vice President, Patent Counsel, from October 2010 to April 2016. Before Qualcomm,

Mr. Snyder served as Lead Intellectual Property Counsel at Kyocera Wireless Corp., a wireless communications company, and has held legal and business management roles in two smaller companies. Mr. Snyder began his legal career as a patent attorney at the law firm of Sheridan Ross & McIntosh. Mr. Snyder received his B.S. degree in chemical engineering at the University of Rochester and his M.B.A. degree from Boston College Carroll School of Business. He received his J.D. from Boston College Law School.

Michael J. LaBarre (59), Senior Vice President, Chief Technical Officer. Dr. LaBarre joined Halozyme in June 2008 as Vice President, Product Development and has served in various officer positions most recently as Senior Vice President, Chief Technical Officer since January 2020. Prior to joining Halozyme, Dr. LaBarre served as Vice President, Product Development at Paramount BioSciences, a pharmaceutical company, from April 2006 to June 2008. Prior to that he served as Director, Analytical and Protein Biochemistry, Discovery Research at Biogen Idec, a pharmaceutical company, from December 2003 to April 2006. He also served in various research and development roles at IDEC Pharmaceuticals Corporation, a pharmaceutical company, from November 1995 to December 2003 most recently as Director, Analytical and Formulation Sciences, R&D. Prior to joining IDEC, Dr. LaBarre held research and development positions at various pharmaceutical companies from July 1992 to November 1995. Dr. LaBarre received his Ph.D. in Chemistry from the University of Arizona and his B.S. in Chemistry from Southampton College of Long Island University.

Item 11. Executive Compensation

The information required by this item is incorporated by reference to the information under the captions "*Executive Compensation and Related Information*" and "*Compensation Committee Interlocks and Insider Participation*" to be contained in the Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Other than as set forth below, the information required by this item is incorporated by reference to the information under the caption "*Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*" to be contained in the Proxy Statement.

Equity Compensation Plan Information

The following table summarizes our compensation plans under which our equity securities are authorized for issuance as of December 31, 2022:

Plan Category	Number of Shares to be Issued upon Exercise of Outstanding Options, Restricted Stock Units and Performance Stock Units (a)	Weighted Average Exercise Price of Outstanding Options[2] (b)	Number of Shares Remaining Available for Future Issuance under Equity Compensation Plans (Excluding Shares Reflected in Column (a)) (c)
Equity compensation plans approved by stockholders[1]	6,550,450	$24.99	17,413,834
Equity compensation plans not approved by stockholders	—	—	—
	6,550,450	$24.99	17,413,834

(1) Represents stock options, restricted stock units, and performance stock units under the Amended and Restated 2021 Stock Plan. This includes 2,650,103 shares available for future purchase under our ESPP plan.

(2) This amount does not include performance stock units as there is no exercise price for such units.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item is incorporated by reference to the information under the caption "*Certain Relationships and Related Transactions*" and *"Corporate Governance - Director Independence"* to be contained in the Proxy Statement.

Item 14. Principal Accounting Fees and Services

The information required by this item is incorporated by reference to the information under the caption "*Principal Accounting Fees and Services*" to be contained in the Proxy Statement.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) Documents filed as part of this report.

1. Financial Statements

2. List of all Financial Statement schedules.

The following financial statement schedule of Halozyme Therapeutics, Inc. is filed as part of this Annual Report on Form 10-K and should be read in conjunction with the consolidated financial statements of Halozyme Therapeutics, Inc.

All other schedules are omitted because they are not applicable or the required information is shown in the Financial Statements or notes thereto.

3. List of Exhibits required by Item 601 of Regulation S-K. See part (b) below.

(b) Exhibits.

Exhibit Number	Exhibit Title	Filed Herewith	Incorporated by Reference	
			Form	Date Filed
3.1	Amended and Restated Certification of Incorporation		8-K	5/3/2019
3.2	Bylaws, as amended		8-K	12/10/2021
4.1	Indenture, dated November 18, 2019, between The Bank of New York Mellon Trust Company, N.A., as trustee, and the Registrant		8-K	11/18/2019
4.2	Form of Note, dated November 18, 2019, between the Bank of New York Mellon Trust Company, N.A., as trustee, and the Registrant		8-K	11/18/2019
4.3	Indenture, dated March 1, 2021, between Halozyme Therapeutics, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee, and the Registrant		8-K	3/1/2021
4.4	Form of Note, dated March 1, 2021, between Halozyme Therapeutics, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee, and the Registrant		8-K	3/1/2021
4.5	Indenture, dated August 18, 2022, between Halozyme Therapeutics, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee and registrant.		8-K	8/18/2022
4.6	Form of Note, dated August 18, 2022, between Halozyme Therapeutics, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee, and the Registrant (included within Exhibit 4.5)		8-K	8/18/2022
4.7	Description of Securities		10-K	2/22/2022
10.1	Form of Capped Call Confirmation		8-K	8/18/2022
10.2	Credit Agreement, dated as of May 24, 2022, by and among Halozyme Therapeutics, Inc., the Guarantors, Bank of America N.A. and each of those additional Lenders that are a party to such agreement.		8-K	5/24/2022
10.3	Security Agreement, dated as of May 24, 2022, by and among Halozyme Therapeutics, Inc., the Guarantors and Bank of America N.A		8-K	5/24/2022
10.4	Amendment No. 1 to the Credit Agreement		8-K	8/19/2022
10.5	Agreement for Assignment and Assumption of Lease, Del Mar Corporate Centre I Office Lease and First Amendment to Office Lease		10-Q	5/10/2022
10.6	Lease Agreement, dated July 1, 2019, by and between Antares Pharma, Inc. and Whitewater Properties I, LLC.		8-K	7/5/2019
10.7#	Halozyme Therapeutics, Inc. 2021 Employee Stock Purchase Plan		10-Q	11/8/2022
10.8#	Halozyme Therapeutics, Inc. 2021 Stock Plan		8-K	5/5/2021
10.9#	Form of Stock Option Agreement (2021 Stock Plan)		8-K	5/5/2021

Exhibit Number	Exhibit Title	Filed Herewith	Incorporated by Reference	
			Form	Date Filed
10.10#	Form of Restricted Stock Units Agreement for Officers (2021 Stock Plan)		8-K	5/5/2021
10.11#	Form of Restricted Stock Units Agreement (2021 Stock Plan)		8-K	5/5/2021
10.12#	Form of Restricted Stock Award Agreement (2021 Stock Plan)		8-K	5/5/2021
10.13#	Form of Performance Stock Units (2021 Stock Plan)		8-K	5/5/2021
10.14#	Form of Directors Restricted Stock Units Agreement (2021 Stock Plan)		8-K	5/5/2021
10.15#	Halozyme Therapeutics, Inc. 2011 Stock Plan (as amended through May 2, 2018)		8-K	4/6/2018
10.16#	Form of Stock Option Agreement (2011 Stock Plan)		8-K	5/6/2011
10.17#	Form of Stock Option Agreement for Executive Officers (2011 Stock Plan)		8-K	5/6/2011
10.18#	Form of Restricted Stock Units Agreement for Officers (2011 Stock Plan)		10-Q	8/10/2015
10.19#	Form of Restricted Stock Award Agreement for Officers (2011 Stock Plan)		10-Q	8/10/2015
10.20#	Form of Stock Option Agreement (2011 Stock Plan -grants made on or after 11/4/2015)		10-Q	11/9/2015
10.21#	Form of Restricted Stock Units Agreement (2011 Stock Plan - grants made on or after 11/4/2015)		10-Q	11/9/2015
10.22#	Form of Restricted Stock Units Agreement (2011 Plan - grants made on or after 2/22/2017)		10-K	2/28/2017
10.23#	Form of Indemnity Agreement for Directors and Executive Officers		8-K	12/20/2007
10.24#	Form of PSU Agreement (2011 Stock Plan)		10-Q	8/10/2020
10.25#	Form of PSU Agreement (2011 Stock Plan)		10-K	2/23/2021
10.26#	Severance Policy		10-Q	11/8/2022
10.27#	Form of Amended and Restated Change In Control Agreement with Officer		10-Q	11/9/2015

Exhibit Number	Exhibit Title	Filed Herewith	Incorporated by Reference	
			Form	Date Filed
10.28#	Halozyme Therapeutics, Inc. Executive Incentive Plan		DEF-14A	3/23/2016
10.29#	Halozyme Therapeutics, Inc. Non Qualified Deferred Compensation Plan Adoption Agreement		10-K	2/22/2022
10.30#	Halozyme Therapeutics, Inc Directors Deferred Equity Compensation Plan		10-K	2/22/2022
21.1	Subsidiaries of Registrant	X		
23.1	Consent of Independent Registered Public Accounting Firm	X		
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended	X		
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended	X		
32	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	X		
101.INS	XBRL Instance Document - the instance document does not appear in the interactive Data File because its XBRL tags are embedded within the Inline XBRL document.	X		
101.SCH	XBRL Taxonomy Extension Schema	X		
101.CAL	XBRL Taxonomy Extension Calculation Linkbase	X		
101.DEF	XBRL Taxonomy Extension Definition Linkbase	X		
101.LAB	XBRL Taxonomy Extension Label Linkbase	X		
101.PRE	XBRL Taxonomy Presentation Linkbase	X		
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)	X		

# Indicates management contract or compensatory plan or arrangement.

(c) Financial Statement Schedules. See Item 15(a) 2 above.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Halozyme Therapeutics, Inc.,
a Delaware corporation

Date: February 21, 2023

By: */s/ Helen I. Torley, M.B. Ch.B., M.R.C.P.*
Helen I. Torley, M.B. Ch.B., M.R.C.P.
President and Chief Executive Officer

POWER OF ATTORNEY

Know all persons by these presents, that each person whose signature appears below constitutes and appoints Helen I. Torley and Nicole LaBrosse, and each of them, as his/her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him/her and in his/her name, place, and stead, in any and all capacities, to sign any and all amendments to this Annual Report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he/she might or could do in person, hereby ratifying and confirming that all said attorneys-in-fact and agents, or any of them or their or his/her substitute or substituted, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Helen I. Torley, M.B. Ch.B., M.R.C.P. Helen I. Torley, M.B. Ch.B., M.R.C.P.	President and Chief Executive Officer (Principal Executive Officer), Director	February 21, 2023
/s/ Nicole LaBrosse Nicole LaBrosse	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	February 21, 2023
/s/ Jeffrey W. Henderson Jeffrey W. Henderson	Chair of the Board of Directors	February 21, 2023
/s/ Connie L. Matsui Connie L. Matsui	Director	February 21, 2023
/s/ Jean-Pierre Bizzari Jean-Pierre Bizzari	Director	February 21, 2023
/s/ Bernadette Connaughton Bernadette Connaughton	Director	February 21, 2023
/s/ James M. Daly James M. Daly	Director	February 21, 2023
/s/ Barbara Duncan Barbara Duncan	Director	February 21, 2023
/s/ Matthew L. Posard Matthew L. Posard	Director	February 21, 2023
/s/ Moni Miyashita Moni Miyashita	Director	February 21, 2023

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Halozyme Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Halozyme Therapeutics, Inc. (the Company) as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, cash flows and stockholders' equity for each of the three years in the period ended December 31, 2022, and the related notes and the financial statement schedule listed in the Index at Item 15(a) (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 at 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 U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 21, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 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 financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of these critical audit matters do not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating these critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Determination of Overall Transaction Price for Collaboration Agreements

Description of the Matter

At December 31, 2022 the Company has eleven collaboration agreements. As discussed in Notes 2 and 5 of the financial statements, amounts are included in the transaction price when management determines that it is probable that the amount will not result in a significant reversal of revenue in the future. During 2022, the Company recognized $59.0 million of variable consideration in the transaction price under their collaboration arrangements.

Auditing management's conclusions related to determining the probability of achievement of milestones is complex and highly judgmental as a result of the uncertainties given the progression of developing and commercializing the combined targets is completed by the collaboration partners.

How We Addressed the Matter in Our Audit

We obtained an understanding and evaluated the design and tested the operating effectiveness of controls over the Company's process to routinely evaluate the probability of achievement of milestones and any related constraint for each collaboration, in addition to the controls over the completeness and accuracy of determining the population of agreements and potential milestone payments.

To test the milestone amounts included, or excluded, from the transaction price, we performed audit procedures that included, among others, observing the meetings of the Company's accounting and alliance managers discussing the status of each collaboration agreement. For each milestone, we examined evidence including correspondence with the collaboration partner and evaluated management's conclusions on the probabilities of achievement. We reviewed supporting documentation to corroborate that milestones were included in the transaction price when determined to be probable of achievement. We reviewed the collaboration agreements and related amendments to validate the completeness of the list of targets and potential milestone payments that management considered in their analysis. We performed a lookback analysis to validate the company's accuracy of determining the probability of achieving these milestones.

Valuation of intangible assets acquired in connection with the Antares Pharma, Inc. acquisition

Description of the Matter

As disclosed in Note 3 of the consolidated financial statements, the Company completed the acquisition of Antares Pharma, Inc. ("Antares") on May 24, 2022 for total consideration of approximately $1,045.7 million. The transaction was accounted for as a business combination. The Company recorded intangible assets of $589.8 million, which includes in-process research and development ("IPR&D") of $48.7 million.

Auditing the Company's accounting for its acquisition of Antares was complex due to the significant estimation uncertainty in determining the fair value of the intangible assets. A significant emphasis is placed on the appropriateness of the estimate considerations used by management to determine the fair value of the acquired intangible assets due to sensitivity of the respective fair values to the underlying assumptions. The Company used an income approach to measure the intangible assets. The significant assumptions used to estimate the value of the intangible assets included discount rates and revenue growth rates. These significant assumptions related to the intangible assets are forward looking and could be affected by future economic and market conditions.

How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of internal controls over the Company's process for determining the fair value of intangible assets acquired in connection with the Antares acquisition. This included controls over management's development of the above-described assumptions used in the valuation models applied. To test the estimated fair value of the intangible assets, we performed audit procedures that included, among others, evaluating the Company's use of the income approach and testing the significant assumptions used in the valuation model, as described above. We evaluated the completeness and accuracy of underlying data used in supporting the assumptions and estimates. We evaluated the reasonableness of projected revenue growth used within the valuations against analyst expectations, industry trends, and other market information. In addition, we involved valuation specialists to assist in assessing the significant assumptions and methodologies used by the Company.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2006.

San Diego, California
February 21, 2023

HALOZYME THERAPEUTICS, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except per share amounts)

	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 234,195	$ 118,719
Marketable securities, available-for-sale	128,599	622,203
Accounts receivable, net and other contract assets	231,072	90,975
Inventories	100,123	53,908
Prepaid expenses and other current assets	45,024	40,482
Total current assets	739,013	926,287
Property and equipment, net	75,570	8,794
Prepaid expenses and other assets	26,301	13,414
Goodwill	409,049	—
Intangible assets, net	546,652	—
Deferred tax assets, net	44,426	155,434
Restricted cash	500	500
Total assets	$ 1,841,511	$ 1,104,429
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 17,693	$ 1,541
Accrued expenses	96,516	24,441
Deferred revenue, current portion	3,246	1,746
Current portion of long-term debt, net	13,334	89,419
Total current liabilities	130,789	117,147
Deferred revenue, net of current portion	2,253	2,530
Long-term debt, net	1,492,766	787,255
Other long-term liabilities	30,433	544
Contingent liability	15,472	—
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Preferred stock - $0.001 par value; 20,000 shares authorized; no shares issued and outstanding	—	—
Common stock - $0.001 par value; 300,000 shares authorized; 135,154 and 137,498 shares issued and outstanding at December 31, 2022 and 2021, respectively	135	138
Additional paid-in capital	27,368	256,347
Accumulated other comprehensive loss	(922)	(620)
Retained earnings (Accumulated deficit)	143,217	(58,912)
Total stockholders' equity	169,798	196,953
Total liabilities and stockholders' equity	$ 1,841,511	$ 1,104,429

See accompanying notes to consolidated financial statements.

HALOZYME THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF INCOME
(In thousands, except per share amounts)

	Year Ended December 31,		
	2022	**2021**	**2020**
Revenues:			
Royalties	$ 360,475	$ 203,900	$ 88,596
Product sales, net	191,030	104,224	55,987
Revenues under collaborative agreements	108,611	135,186	123,011
Total revenues	660,116	443,310	267,594
Operating expenses:			
Cost of sales	139,304	81,413	43,367
Amortization of intangibles	43,148	—	—
Research and development	66,607	35,672	34,236
Selling, general and administrative	143,526	50,323	45,736
Total operating expenses	392,585	167,408	123,339
Operating income	267,531	275,902	144,255
Other income (expense):			
Investment and other income, net	1,046	1,102	5,425
Inducement expense related to convertible notes	(2,712)	(20,960)	—
Interest expense	(16,947)	(7,526)	(20,378)
Net income before income taxes	248,918	248,518	129,302
Income tax expense (benefit)	46,789	(154,192)	217
Net income	$ 202,129	$ 402,710	$ 129,085
Net income per share:			
Basic	$ 1.48	$ 2.86	$ 0.95
Diluted	$ 1.44	$ 2.74	$ 0.91
Shares used in computing net income per share:			
Basic	136,844	140,646	136,206
Diluted	140,608	146,796	141,463

See accompanying notes to consolidated financial statements.

HALOZYME THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In thousands)

	Year Ended December 31,		
	2022	2021	2020
Net income	$ 202,129	$ 402,710	$ 129,085
Other comprehensive income:			
Unrealized loss on marketable securities	(349)	(683)	(164)
Foreign currency translation adjustment	8	15	(32)
Unrealized gain (loss) on foreign currency	39	26	(22)
Total comprehensive income	$ 201,827	$ 402,068	$ 128,867

See accompanying notes to consolidated financial statements.

HALOZYME THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,		
	2022	**2021**	**2020**
Operating activities:			
Net income	$ 202,129	$ 402,710	$ 129,085
Adjustments to reconcile net income to net cash provided by operating activities:			
Share-based compensation	24,397	20,820	17,204
Depreciation and amortization	6,493	2,997	3,284
Amortization of intangible assets	43,148	—	—
Amortization of debt discount	7,839	3,642	14,136
Amortization of (accretion of discounts) premiums on marketable securities	1,106	2,257	839
Realized loss on marketable securities	1,727	—	—
Loss (gain) on disposal of equipment	129	—	(772)
Deferral of unearned revenue	—	—	4,632
Recognition of deferred revenue	(2,494)	(1,496)	(4,119)
Lease payments deferred	(903)	(751)	(1,033)
Loss on impairment of right-of-use asset	—	—	577
Induced conversion expense related to convertible notes	2,712	20,960	—
Deferred income taxes (including benefit from valuation allowance release)	40,005	(155,434)	—
Other	(227)	(3)	(13)
Changes in operating assets and liabilities:			
Accounts receivable, net	(83,941)	6,755	(38,288)
Inventories	(17,481)	7,371	(31,388)
Prepaid expenses and other assets	(9,064)	(11,555)	2,518
Accounts payable and accrued expenses	24,535	1,167	(41,208)
Net cash provided by operating activities	240,110	299,440	55,454
Investing activities:			
Purchases of marketable securities	(255,208)	(652,515)	(226,185)
Proceeds from maturities of marketable securities	746,127	247,683	305,967
Acquisitions of business, net of cash acquired	(999,120)	—	—
Purchases of property and equipment	(4,810)	(1,457)	(2,504)
Proceeds from sale of assets	26,006	—	1,076
Net cash (used in) provided by investing activities	(487,005)	(406,289)	78,354
Financing activities:			
Proceeds from term loan	250,000	—	—
Repayment of term loan	(250,000)	—	—
Proceeds from revolving credit facilities	120,000	—	—
Repayment of revolving credit facilities	(120,000)	—	—
Proceeds from issuance of 2027 Convertible Notes, net	—	784,875	—
Repayment of long-term debt	(77,453)	(369,064)	(19,560)
Proceeds from issuance of 2028 Convertible Notes	702,000	—	—
Purchase of capped call	(69,120)	—	—
Payment of debt issuance cost	(7,104)	(424)	—
Repurchase of common stock	(200,002)	(350,058)	(150,117)
Proceeds from issuance of common stock under equity incentive plans, net of taxes paid related to net share settlement	14,050	12,536	63,393
Net cash provided by (used in) financing activities	362,371	77,865	(106,284)
Net increase (decrease) in cash, cash equivalents and restricted cash	115,476	(28,984)	27,524
Cash, cash equivalents and restricted cash at beginning of period	119,219	148,203	120,679
Cash, cash equivalents and restricted cash at end of period	$ 234,695	$ 119,219	$ 148,203

	Year Ended December 31,		
	2022	2021	2020
Supplemental disclosure of cash flow information:			
Interest paid	$ 6,107	$ 3,296	$ 6,534
Income taxes paid (received), net	$ 16,224	$ (375)	$ 180
Supplemental disclosure of non-cash investing and financing activities:			
Amounts accrued for purchases of property and equipment	$ 6,229	$ 72	$ 117
Right-of-use assets obtained in exchange for lease obligation	$ 34,435	$ 318	$ 1,746
Common stock issued for induced conversion related to convertible notes	$ 1,018	$ 7,865	$ —

See accompanying notes to consolidated financial statements.

HALOZYME THERAPEUTICS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity
	Shares	Amount				
BALANCE AT DECEMBER 31, 2019	136,713	$ 137	$ 695,066	$ 240	$ (603,678)	$ 91,765
Share-based compensation expense	—	—	17,204	—	—	17,204
Issuance of common stock pursuant to exercise of stock options and vesting of restricted stock units, net	5,278	5	63,388	—	—	63,393
Issuance of restricted stock awards, net	61	—	—	—	—	—
Repurchase of common stock	(7,022)	(7)	(150,110)			(150,117)
Equity component of convertible notes			(65)			(65)
Other comprehensive loss	—	—	—	(218)	—	(218)
Net Income	—	—	—	—	129,085	129,085
BALANCE AT DECEMBER 31, 2020	135,030	$ 135	$ 625,483	$ 22	$ (474,593)	$ 151,047
Cumulative adjustment from adoption of ASU 2020-06			(65,535)		12,971	(52,564)
Share-based compensation expense	—	—	20,820	—	—	20,820
Issuance of common stock for the induced conversion related to convertible notes	9,083	9	13,095			13,104
Issuance of common stock pursuant to exercise of stock options and vesting of restricted stock units and performance stock units, net and shares issued under ESPP plan	1,497	2	12,534	—	—	12,536
Repurchase of common stock	(8,112)	(8)	(350,050)			(350,058)
Other comprehensive loss	—	—	—	(642)	—	(642)
Net income	—	—	—	—	402,710	402,710
BALANCE AT DECEMBER 31, 2021	137,498	$ 138	$ 256,347	$ (620)	$ (58,912)	$ 196,953
Share-based compensation expense	—	—	24,397	—	—	24,397
Issuance of common stock for the induced conversion related to convertible notes	1,512	1	1,692			1,693
Issuance of common stock pursuant to exercise of stock options and vesting of restricted stock units and performance stock units, net and shares issued under the ESPP plan	1,077	1	14,049	—	—	14,050
Capped call transaction			(69,120)			(69,120)
Repurchase of common stock	(4,933)	(5)	(199,997)			(200,002)
Other comprehensive loss	—	—	—	(302)		(302)
Net income	—	—	—	—	202,129	202,129
BALANCE AT DECEMBER 31, 2022	135,154	$ 135	$ 27,368	$ (922)	$ 143,217	$ 169,798

See accompanying notes to consolidated financial statements.

1. Organization and Business

Halozyme Therapeutics, Inc. is a biopharma technology platform company that provides innovative and disruptive solutions with the goal of improving the patient experience and potentially outcomes.

Our proprietary enzyme, rHuPH20, is used to facilitate the subcutaneous ("SC") delivery of injected drugs and fluids. We license our technology to biopharmaceutical companies to collaboratively develop products that combine our ENHANZE® drug delivery technology ("ENHANZE") with the partners' proprietary compounds.

Our first commercially approved product Hylenex® recombinant ("Hylenex"), and our ENHANZE partners' approved products and product candidates are based on rHuPH20, our patented recombinant human hyaluronidase enzyme. rHuPH20 is the active ingredient in Hylenex, that works by breaking down hyaluronan ("HA"), a naturally occurring carbohydrate that is a major component of the extracellular matrix of the SC space. This temporarily reduces the barrier to bulk fluid flow allowing for improved and more rapid SC delivery of high dose, high volume injectable biologics, such as monoclonal antibodies and other large therapeutic molecules, as well as small molecules and fluids. We refer to the application of rHuPH20 to facilitate the delivery of other drugs or fluids as ENHANZE. We license the ENHANZE technology to form collaborations with biopharmaceutical companies that develop or market drugs requiring or benefiting from injection via the SC route of administration. In the development of proprietary intravenous ("IV") drugs combined with our ENHANZE technology, data have been generated supporting the potential for ENHANZE to reduce patient treatment burden, as a result of shorter duration of SC administration with ENHANZE compared to IV administration. ENHANZE may enable fixed-dose SC dosing compared to weight-based dosing typically required for IV administration, extend the dosing interval for drugs that are already administered subcutaneously and potentially allow for lower rates of infusion related reactions. ENHANZE may enable more flexible treatment options such as home administration by a healthcare professional or potentially the patient or caregiver. Lastly, certain proprietary drugs co-formulated with ENHANZE have been granted additional exclusivity, extending the patent life of the product beyond the patent expiry of the proprietary IV drug.

We currently have ENHANZE collaborations and licensing agreements with F. Hoffmann-La Roche, Ltd. and Hoffmann-La Roche, Inc. ("Roche"), Takeda Pharmaceuticals International AG and Baxalta US Inc. ("Takeda"), Pfizer Inc. ("Pfizer"), Janssen Biotech, Inc. ("Janssen"), AbbVie, Inc. ("AbbVie"), Eli Lilly and Company ("Lilly"), Bristol-Myers Squibb Company ("BMS"), Alexion Pharma (International Operations Unlimited Company (an indirect wholly owned subsidiary of AstraZeneca PLC)("Alexion"), argenx BVBA ("argenx"), Horizon Therapeutics plc. ("Horizon"), ViiV Healthcare (the global specialist HIV Company majority owned by GlaxoSmithKline) ("ViiV") and Chugai Pharmaceutical Co., Ltd ("Chugai"). In addition to receiving upfront licensing fees from our ENHANZE collaborations, we are entitled to receive event and sales-based milestone payments, revenues from the sale of bulk rHuPH20 and royalties from commercial sales of approved partner products co-formulated with ENHANZE. We currently receive royalties from three of these collaborations, including royalties from sales of one product from the Takeda collaboration, three products from the Roche collaboration and one product from the Janssen collaboration. Future potential revenues from ENHANZE collaborations and from the sales and/or royalties of our approved products will depend on the ability of our partners, in some areas supported by Halozyme to develop, manufacture, secure and maintain regulatory approvals for approved products and product candidates and commercialize product candidates.

Through our recent acquisition of Antares Pharma, Inc. ("Antares"), we also develop, manufacture and commercialize, for ourselves or with our partners, drug-device combination products using our advanced auto-injector technologies. Also as a result of our acquisition of Antares, our commercial portfolio of proprietary products includes XYOSTED®, TLANDO® and NOCDURNA®. We have commercialized auto-injector products with several pharmaceutical companies including Teva Pharmaceutical Industries, Ltd. ("Teva"), Covis Group S.a.r.l. ("Covis") and Otter Pharmaceuticals, LLC ("Otter"). We have development programs including auto-injectors with Idorsia Pharmaceuticals Ltd. ("Idorsia") and Pfizer.

Except where specifically noted or the context otherwise requires, references to "Halozyme," "the Company," "we," "our," and "us" in these notes to consolidated financial statements refer to Halozyme Therapeutics, Inc. and each of its directly and indirectly wholly owned subsidiaries disclosed in Note 2.

2. Summary of Significant Accounting Policies

Basis of Presentation

The consolidated financial statements include the accounts of Halozyme Therapeutics, Inc. and our wholly owned subsidiaries, Halozyme, Inc. and Antares Pharma, Inc., and Antares Pharma, Inc.'s wholly owned Swiss subsidiaries, Antares Pharma IPL AG and Antares Pharma AG. All intercompany accounts and transactions have been eliminated.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles ("U.S. GAAP") requires us to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes. On an ongoing basis, we evaluate our estimates and judgments, which are based on historical and anticipated results and trends and on various other assumptions that we believe to be reasonable under the circumstances. By their nature, estimates are subject to an inherent degree of uncertainty and, as such, actual results may differ from our estimates.

Cash Equivalents and Marketable Securities

Cash equivalents consist of highly liquid investments, readily convertible to cash, that mature within 90 days or less from the date of purchase. As of December 31, 2022, our cash and cash equivalents consisted of money market funds, bank certificate of deposits and demand deposits at commercial banks.

Marketable securities are investments with original maturities of more than 90 days from the date of purchase that are specifically identified to fund current operations. Marketable securities are considered available-for-sale. These investments are classified as current assets, even though the stated maturity date may be one year or more beyond the current balance sheet date which reflects management's intention to use the proceeds from the sale of these investments to fund our operations, as necessary. Such available-for-sale investments are carried at fair value with unrealized gains and losses recorded in other comprehensive income (loss) and included as a separate component of stockholders' equity. The cost of marketable securities is adjusted for amortization of premiums or accretion of discounts to maturity, and such amortization or accretion is included in investment and other income, net in the consolidated statements of income. We use the specific identification method for calculating realized gains and losses on marketable securities sold. None of the realized gains and losses and declines in value that were judged to be as a result of credit loss on marketable securities, if any, are included in investment and other income, net in the consolidated statements of operations.

Restricted Cash

Under the terms of the leases of our facilities, we are required to maintain letters of credit as security deposits during the terms of such leases. At December 31, 2022 and 2021, restricted cash of $0.5 million was pledged as collateral for the letters of credit.

Fair Value of Financial Instruments

The authoritative guidance for fair value measurements establishes a three tier fair value hierarchy, which prioritizes the inputs used in measuring fair value. These tiers include: Level 1, defined as observable inputs such as quoted prices in active markets; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs in which little or no market data exists, therefore requiring an entity to develop its own assumptions.

Our financial instruments include cash equivalents, available-for-sale marketable securities, accounts receivable, prepaid expenses and other assets, accounts payable, accrued expenses, long-term debt and contingent liability. Fair value estimates of these instruments are made at a specific point in time, based on relevant market information. These estimates may be subjective in nature and involve uncertainties and matters of significant judgment and therefore cannot be determined with precision. The carrying amount of cash equivalents, accounts receivable, prepaid expenses and other assets, accounts payable and accrued expenses are generally considered to be representative of their respective fair values because of the short-term nature of those instruments.

Available-for-sale marketable securities consist of asset-backed securities, corporate debt securities, U.S. Treasury securities and commercial paper, and are measured at fair value using Level 1 and Level 2 inputs. Level 2 financial instruments are valued using market prices on less active markets and proprietary pricing valuation models with observable inputs, including interest rates, yield curves, maturity dates, issue dates, settlement dates, reported trades, broker-dealer quotes, issue spreads, benchmark securities or other market related data. We obtain the fair value of Level 2 investments from our investment manager, who obtains these fair values from a third-party pricing source. We validate the fair values of Level 2 financial instruments provided by our investment manager by comparing these fair values to a third-party pricing source.

Concentrations of Credit Risk, Sources of Supply and Significant Customers

We are subject to credit risk from our portfolio of cash equivalents and marketable securities. These investments were made in accordance with our investment policy which specifies the categories, allocations, and ratings of securities we may consider for investment. The primary objective of our investment activities is to preserve principal while at the same time maximizing the income we receive without significantly increasing risk. We maintain our cash and cash equivalent balances with one major commercial bank and marketable securities with another financial institution. Deposits held with the financial institutions exceed the amount of insurance provided on such deposits. We are exposed to credit risk in the event of a default by the financial institutions holding our cash, cash equivalents and marketable securities to the extent recorded on the consolidated balance sheets.

We are also subject to credit risk from our accounts receivable related to our product sales and revenues under our license and collaborative agreements. We have license and collaborative agreements with pharmaceutical companies under which we receive payments for royalties, license fees, milestone payments for specific achievements designated in the collaborative agreements, reimbursements of research and development services and supply of bulk formulation of rHuPH20. In addition, we sell proprietary products in the United States to a limited number of established wholesale distributors in the pharmaceutical industry. Credit is extended based on an evaluation of the customer's financial condition, and collateral is not required. Management monitors our exposure to accounts receivable by periodically evaluating the collectability of the accounts receivable based on a variety of factors including the length of time the receivables are past due, the financial health of the customer and historical experience. Based upon the review of these factors, we recorded no allowance for doubtful accounts at December 31, 2022 and 2021. Approximately 52% of the accounts receivable balance at December 31, 2022 represents amounts due from Janssen and Roche. Approximately 90% of the accounts receivable balance at December 31, 2021 represents amounts due from Janssen, Roche and Takeda.

The following table indicates the percentage of total revenues in excess of 10% with any single customer:

	Year Ended December 31,		
	2022	2021	2020
Partner A	20%	25%	35%
Partner B	46%	48%	26%
Partner C	—%	—%	11%
Partner D	—%	10%	—%

We attribute revenues under collaborative agreements, including royalties, to the individual countries where the customer is headquartered. We attribute revenues from product sales to the individual countries to which the product is shipped. Worldwide revenues from external customers are summarized by geographic location in the following table (in thousands):

	Year Ended December 31,		
	2022	2021	2020
United States	$ 437,989	$ 293,089	$ 106,918
Switzerland	166,836	134,117	95,949
Ireland	3	14	30,552
Belgium	2,088	199	20,086
Japan	47,939	11,934	10,644
All other foreign	5,261	3,957	3,445
Total revenues	$ 660,116	$ 443,310	$ 267,594

Accounts Receivable, net

Accounts receivable is recorded at the invoiced amount and is non-interest bearing. Accounts receivable is recorded net of, cash discounts for prompt payment, distribution fees and chargebacks. We recorded no allowance for doubtful accounts at December 31, 2022 and 2021 as the collectability of accounts receivable was reasonably assured.

Inventories

Inventories are stated at lower of cost or net realizable value. Cost is determined on a first-in, first-out basis. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal,

and transportation. Inventories are reviewed periodically for potential excess, dated or obsolete status. We evaluate the carrying value of inventories on a regular basis, taking into account such factors as historical and anticipated future sales compared to quantities on hand, the price we expect to obtain for products in their respective markets compared with historical cost and the remaining shelf life of goods on hand.

Leases

We have entered into operating leases primarily for real estate and automobiles. These leases have contractual terms which range from 3 years to 12 years. We determine if an arrangement contains a lease at inception. Right of use ("ROU") assets and liabilities resulting from operating leases are included in property and equipment, accrued expenses and other long-term liabilities on our consolidated balance sheets. Operating lease ROU assets and liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the discount rate to calculate the present value of future payments. The operating lease ROU asset also includes any lease payments made and excludes lease incentives and initial direct costs incurred. Our leases often include options to extend or terminate the lease. These options are included in the lease term when it is reasonably certain that we will exercise that option. Short-term leases with an initial term of 12 months or less are not recorded on the balance sheet. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term.

We have lease agreements with lease and non-lease components, which are generally accounted for separately. For certain equipment leases, such as automobiles, we account for the lease and non-lease components as a single lease component.

Property and Equipment, Net

Property and equipment, including ROU assets are recorded at cost, less accumulated depreciation and amortization. Equipment is depreciated using the straight-line method over its estimated useful life ranging from three years to ten years and leasehold improvements are amortized using the straight-line method over the estimated useful life of the asset or the lease term, whichever is shorter.

Impairment of Long-Lived Assets

We account for long-lived assets in accordance with authoritative guidance for impairment or disposal of long-lived assets. Long-lived assets are reviewed for events or changes in circumstances, which indicate that their carrying value may not be recoverable.

Comprehensive Income

Comprehensive income is defined as the change in equity during the period from transactions and other events and circumstances from non-owner sources.

Business Combinations

Under the acquisition method of accounting, we allocate the fair value of the total consideration transferred to the tangible and identifiable intangible assets acquired and liabilities assumed based on their estimated fair values on the date of acquisition. These valuations require us to make estimates and assumptions, especially with respect to intangible assets. We record the excess consideration over the aggregate fair value of tangible and intangible assets, net of liabilities assumed, as goodwill. Costs that we incur to complete the business combination, such as legal and other professional fees, are expensed as incurred.

If the initial accounting for a business combination is incomplete by the end of a reporting period that falls within the measurement period, we report provisional amounts in our financial statements. During the measurement period, we adjust the provisional amounts recognized at the acquisition date to reflect new information obtained about facts and circumstances that existed as of the acquisition date that, if known, would have affected the measurement of the amounts recognized as of that date. We record these adjustments to the provisional amounts with a corresponding offset to goodwill. Any adjustments identified after the measurement period are recorded in the consolidated statements of income.

Goodwill, Intangible Assets and Other Long-Lived Asset

Assets acquired, including intangible assets and in-process research and development (IPR&D), and liabilities assumed are measured at fair value as of the acquisition date. Goodwill, which has an indefinite useful life, represents the excess of cost over fair value of the net assets acquired. Intangible assets acquired in a business combination that are used for IPR&D activities are considered indefinite lived until the completion or abandonment of the associated research and development efforts. Upon reaching the end of the relevant research and development project (i.e., upon commercialization), the IPR&D asset is amortized over its estimated useful life. If the relevant research and development project is abandoned, the IPR&D asset is expensed in the period of abandonment.

Goodwill and IPR&D are not amortized; however, they are reviewed for impairment at least annually during the second quarter, or more frequently if an event occurs indicating the potential for impairment. Goodwill and IPR&D are considered to be impaired if the carrying value of the reporting unit or IPR&D asset exceeds its respective fair value.

We perform our goodwill impairment analysis at the reporting unit level, which aligns with our reporting structure and availability of discrete financial information. During the goodwill impairment review, we assess qualitative factors to determine whether it is more likely than not that the fair values of our reporting units are less than the carrying amounts, including goodwill. The qualitative factors include, but are not limited to, macroeconomic conditions, industry and market considerations, and our overall financial performance. If, after assessing the totality of these qualitative factors, we determine that it is not more likely than not that the fair values of our reporting units are less than the carrying amounts, then no additional assessment is deemed necessary. Otherwise, we proceed to compare the estimated fair values of the reporting units with the carrying values, including goodwill. If the carrying amounts of the reporting units exceed the fair values, we record an impairment loss based on the difference. We may elect to bypass the qualitative assessment in a period and proceed to perform the quantitative goodwill impairment test.

Our identifiable intangible assets with finite useful lives are typically comprised of acquired device technologies and product rights. The cost of identifiable intangible assets with finite lives is generally amortized on a straight-line basis over the assets' respective estimated useful lives.

We perform regular reviews to determine if any event has occurred that may indicate that intangible assets with finite useful lives and other long-lived assets are potentially impaired. If indicators of impairment exist, an impairment test is performed to assess the recoverability of the affected assets by determining whether the carrying amount of such assets exceeds the undiscounted expected future cash flows. If the affected assets are not recoverable, we estimate the fair value of the assets and record an impairment loss if the carrying value of the assets exceeds the fair value. Factors that may indicate potential impairment include a significant decline in our stock price and market capitalization compared to the net book value, significant changes in the ability of a particular asset to generate positive cash flows for our strategic business objectives, and the pattern of utilization of a particular asset.

Revenue Recognition

We generate revenues from payments received (i) as royalties from licensing our ENHANZE technology and other royalty arrangements, (ii) under collaborative agreements and (iii) from sales of our proprietary and partnered products. We recognize revenue when we transfer promised goods or services to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. To determine revenue recognition for contracts with customers we perform the following five steps: (i) identify the promised goods or services in the contract; (ii) identify the performance obligations in the contract, including whether they are distinct in the context of the contract; (iii) determine the transaction price, including the constraint on variable consideration; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) we satisfy the performance obligations.

ENHANZE and Device Royalties

Under the terms of our ENHANZE collaboration and license agreements, our partners will pay us royalties at an on average mid-single digit percent rate of their sales if products under the collaboration are commercialized. All amounts owed to us are noncancelable after the underlying triggering event occurs, and nonrefundable once paid. Unless terminated earlier in accordance with its terms, collaborations generally continue in effect until the last to expire royalty payment term, as determined on a product by product and on a country by country basis, with each royalty term starting on the first commercial sale of that product and ending the later of: (i) a specified period or term set forth in the agreement or (ii) expiration of the last to expire of the valid claims of our patents covering rHuPH20 or other specified patents developed under the collaboration which valid claim covers a product developed under the collaboration. When there are no valid claims during the applicable royalty term in a given country, the royalty rate is reduced for those sales. Partners may terminate the agreement prior to expiration for any reason in its entirety or on a target-by-target basis generally upon 90 days prior written notice to us. Upon any such termination, the license granted to partners (in total or with respect to the terminated target, as applicable) will terminate provided, however, that in the event of expiration of the agreement (as opposed to a termination), the on-going licenses granted will become perpetual, non-exclusive and fully paid. Sales-based milestones and royalties are recognized in the period the underlying sales or milestones occur. We do not receive final royalty reports from our ENHANZE partners until after we complete our financial statements for a prior quarter. Therefore, we recognize revenue based on estimates of the royalty earned, which are based on internal estimates and available preliminary reports provided by our partners. We will record adjustments in the following quarter, if necessary, when final royalty reports are received. To date, we have not recorded any material adjustments.

In addition to the royalties received from licensing our ENHANZE technology, we also earn royalties in connection with licenses granted under license and development arrangements with our device partners as a result of our acquisition of Antares.

These royalties are based upon a percentage of commercial sales of partnered products with rates ranging from mid-single digits to low double digits and are tiered based on levels of net sales. These sales-based royalties, for which the license was deemed the predominant element to which the royalties relate, are estimated and recognized in the period in which the partners' commercial sales occur. The royalties are generally reported and payable to us within 45 to 60 days of the end of the period in which the commercial sales are made. We base our estimates of royalties earned on actual sales information from our partners when available or estimated, prescription sales from external sources and estimated net selling price. We will record adjustments in the following quarter, if necessary, when final royalty reports are received. To date, we have not recorded any material adjustments.

Revenue under ENHANZE and Device Collaborative Agreements

ENHANZE Collaboration and License Agreements

Under these agreements, we grant the collaboration partner a worldwide license to develop and commercialize products using our ENHANZE technology to combine our patented rHuPH20 enzyme with their proprietary biologics directed at up to a specified number of targets. Targets are usually licensed on an exclusive, global basis. Targets selected subsequent to inception of the arrangement require payment of an additional license fee. The collaboration partner is responsible for all development, manufacturing, clinical, regulatory, sales and marketing costs for any products developed under the agreement. We are responsible for supply of bulk rHuPH20 based on the collaboration partner's purchase orders, and may also be separately engaged to perform research and development services. While these collaboration agreements are similar in that they originate from the same framework, each one is the result of an arms-length negotiation and thus may vary from one to the other.

We generally collect an upfront license payment from collaboration partners, and are also entitled to receive event-based payments subject to collaboration partners' achievement of specified development, regulatory and sales-based milestones. In several agreements, collaboration partners pay us annual fees to maintain their exclusive license rights if they are unable to advance product development to specified stages. We earn separate fees for bulk rHuPH20 supplies and research and development services.

Although these agreements are in form identified as collaborative agreements, we concluded for accounting purposes they represent contracts with customers and are not subject to accounting literature on collaborative arrangements. This is because we grant to partners licenses to our intellectual property and provide supply of bulk rHuPH20 and research and development services which are all outputs of our ongoing activities, in exchange for respective consideration. Under these collaborative agreements, our partners lead development of assets, and we do not share in significant financial risks of their development or commercialization activities. Accordingly, we concluded our collaborative agreements are appropriately accounted for pursuant to ASC Topic 606, Revenue from Contracts with Customers.

Under all of our ENHANZE collaborative agreements, we have identified licenses to use functional intellectual property as the only performance obligation. The intellectual property underlying the license is our proprietary ENHANZE technology which represents application of rHuPH20 to facilitate delivery of drugs. Each of the licenses grants the partners rights to use our intellectual property as it exists and is identified on the effective date of the license, because there is no ongoing development of the ENHANZE technology required. Therefore, we recognize revenue from licenses at the point when the license becomes effective and the partner has received access to our intellectual property, usually at the inception of the agreement.

When partners can select additional targets to add to the licenses granted, we consider these rights to be options. We evaluate whether such options contain material rights, i.e. have exercise prices that are discounted compared to what we would charge for a similar license to a new partner. The exercise price of these options includes a combination of the target selection fees, event-based milestone payments and royalties. When these amounts in aggregate are not offered at a discount that exceeds discounts available to other customers, we conclude the option does not contain a material right, and we consider grants of additional licensing rights upon option exercises to be separate contracts (target selection contracts).

Generally, we provide indemnification and protection of licensed intellectual property for our customers. These provisions are part of assurance that the licenses meet the agreements' representations and are not obligations to provide goods or services.

We also fulfill purchase orders for supply of bulk rHuPH20 and perform research and development services pursuant to projects authorization forms for our partners, which represent separate contracts. In addition to our licenses, we price our supply of bulk rHuPH20 and research and development services at our regular selling prices, called standalone selling price or ("SSP"). Therefore, our partners do not have material rights to order these items at prices not reflective of SSP. Refer to the discussion below regarding recognition of revenue for these separate contracts.

Transaction price for a contract represents the amount to which we are entitled in exchange for providing goods and services to the customer. Transaction price does not include amounts subject to uncertainties unless it is probable that there will be no significant reversal of revenue when the uncertainty is resolved. Apart from the upfront license payment (or target selection fees in the target selection contracts), all other fees we may earn under our collaborative agreements are subject to

significant uncertainties of product development. Achievement of many of the event-based development and regulatory milestones may not be probable until such milestones are actually achieved. This generally relates to milestones such as obtaining marketing authorization approvals. With respect to other development milestones, e.g., dosing of a first patient in a clinical trial, achievement could be considered probable prior to its actual occurrence, based on the progress towards commencement of the trial. In order to evaluate progress towards commencement of a trial, we assess the status of activities leading up to our partner's initiation of a trial such as feedback received from the applicable regulatory authorities, completion of IND or equivalent filings, readiness and availability of drug, readiness of study sites and our partner's commitment of resources to the program. We do not include any amounts subject to uncertainties in the transaction price until it is probable that the amount will not result in a significant reversal of revenue in the future. At the end of each reporting period, we re-evaluate the probability of achievement of such milestones and any related constraint, and if necessary, adjust our estimate of the overall transaction price.

When target exchange rights are held by partners, and the amounts attributed to these rights are not refundable, they are included in the transaction price. However, they are recorded as deferred revenues because we have a potential performance obligation to provide a new target upon an exchange right being exercised. These amounts are recognized in revenue when the right of exchange expires or is exercised.

Because our agreements have one type of performance obligation (licenses) which are typically all transferred at the same time at agreement inception, allocation of transaction price often is not required. However, allocation is required when licenses for some of the individual targets are subject to rights of exchange, because revenue associated with these targets cannot be recognized. When allocation is needed, we perform an allocation of the upfront amount based on relative SSP of licenses for individual targets. We determine license SSP using an income-based valuation approach utilizing risk-adjusted discounted cash flow projections of the estimated return a licensor would receive. When amounts subject to uncertainties, such as milestones and royalties, are included in the transaction price, we attribute them to the specific individual target licenses which generate such milestone or royalty amounts.

We also estimate SSP of bulk rHuPH20 and research and development services, to determine that our partners do not have material rights to order them at discounted prices. For supplies of bulk rHuPH20, because we effectively act as a contract manufacturer to our partners, we estimate and charge SSP based on the typical contract manufacturer margins consistently with all of our partners. We determine SSP of research and development services based on a fully-burdened labor rate. Our rates are comparable to those we observe in other collaborative agreements. We also have a history of charging similar rates to all of our partners.

Upfront amounts allocated to licenses to individual targets are recognized as revenue when the license is transferred to the partner, as discussed above, if the license is not subject to exchange rights, or when the exchange right expires or is exercised. Development milestones and other fees are recognized in revenue when they are included in the transaction price, because by that time we have already transferred the related license to the partner.

In contracts to provide research and development services, such services represent the only performance obligation. The fees are charged based on hours worked by our employees and the fixed contractual rate per hour, plus third-party pass-through costs, on a monthly basis. We recognize revenues as the related services are performed based on the amounts billed, as the partner consumes the benefit of research and development work simultaneously as we perform these services, and the amounts billed reflect the value of these services to the customer.

Device License, Development and Supply Arrangements

We have several license, development and supply arrangements with pharmaceutical partners as a result of our acquisition of Antares, under which we grant a license to our device technology and provide research and development services that often involve multiple performance obligations and highly-customized deliverables. For such arrangements, we identify each of the promised goods and services within the contract and the distinct performance obligations at inception of the contract and allocate consideration to each performance obligation based on relative SSP, which is generally determined based on the expected cost plus mark-up.

If the contract includes an enforceable right to payment for performance completed to date and performance obligations are satisfied over time, we recognize revenue over the development period using either the input or output method depending on which is most appropriate given the nature of the distinct deliverable. For other contracts that do not contain an enforceable right to payment for performance completed to date, revenue is recognized when control of the product is transferred to the customer. Factors that may indicate that the transfer of control has occurred include the transfer of legal title, transfer of physical possession, the customer has obtained the significant risks and rewards of ownership of the assets and we have a present right to payment.

Our typical payment terms for development contracts may include an upfront payment equal to a percentage of the total contract value with the remaining portion to be billed upon completion and transfer of the individual deliverables or satisfaction

of the individual performance obligations. We record a contract liability for cash received in advance of performance, which is presented within deferred revenue and deferred revenue, long-term in the condensed consolidated balance sheets and recognized as revenue in the condensed consolidated statements of income when the associated performance obligations have been satisfied.

License fees and milestones received in exchange for the grant of a license to our functional intellectual property, such as patented technology and know-how in connection with a partnered development arrangement, are generally recognized at inception of the arrangement, or over the development period depending on the facts and circumstances, as the license is generally not distinct from the non-licensed goods or services to be provided under the contract. Milestone payments that are contingent upon the occurrence of future events are evaluated and recorded at the most likely amount, and to the extent that it is probable that a significant reversal will not occur when the associated uncertainty is resolved.

Refer to Note 5 Revenue, for further discussion on our collaborative arrangements.

Product Sales, Net

Proprietary Product Sales

***Hylenex* Recombinant**

We sell Hylenex recombinant in the U.S. to wholesale pharmaceutical distributors, who sell the product to hospitals and other end-user customers. Sales to wholesalers are made pursuant to purchase orders subject to the terms of a master agreement, and delivery of individual packages of Hylenex recombinant represent performance obligations under each purchase order. We use a contract manufacturer to produce Hylenex recombinant and a third-party logistics (3PL) vendor to process and fulfill orders. We concluded we are the principal in the sales to wholesalers because we control access to services rendered by both vendors and direct their activities. We have no significant obligations to wholesalers to generate pull-through sales.

Selling prices initially billed to wholesalers are subject to discounts for prompt payment and subsequent chargebacks when wholesalers sell Hylenex recombinant at negotiated discounted prices to members of certain group purchasing organizations (“GPOs”) and government programs. We also pay quarterly distribution fees to certain wholesalers for inventory reporting and chargeback processing, and to GPOs as administrative fees for services and for access to GPO members. We concluded the benefits received in exchange for these fees are not distinct from our sales of Hylenex recombinant, and accordingly we apply these amounts to reduce revenues. Wholesalers also have rights to return unsold product nearing or past the expiration date. Because of the shelf life of Hylenex recombinant and our lengthy return period, there may be a significant period of time between when the product is shipped and when we issue credits on returned product.

We estimate the transaction price when we receive each purchase order taking into account the expected reductions of the selling price initially billed to the wholesaler arising from all of the above factors. We have compiled historical experience and data to estimate future returns and chargebacks of Hylenex recombinant and the impact of the other discounts and fees we pay. When estimating these adjustments to the transaction price, we reduce it sufficiently to be able to assert that it is probable that there will be no significant reversal of revenue when the ultimate adjustment amounts are known.

Each purchase order contains only one type of product, and is usually shipped to the wholesaler in a single shipment. Therefore, allocation of the transaction price to individual packages is not required.

We recognize revenue from Hylenex recombinant product sales and related cost of sales upon product delivery to the wholesaler location. At that time, the wholesalers take control of the product as they take title, bear the risk of loss of ownership, and have an enforceable obligation to pay us. They also have the ability to direct sales of product to their customers on terms and at prices they negotiate. Although wholesalers have product return rights, we do not believe they have a significant incentive to return the product to us.

Upon recognition of revenue from product sales of Hylenex recombinant, the estimated amounts of credit for product returns, chargebacks, distribution fees, prompt payment discounts, and GPO fees are included in accrued liabilities and net of accounts receivable in the consolidated balance sheet. We monitor actual product returns, chargebacks, discounts and fees subsequent to the sale. If these amounts differ from our estimates, we make adjustments to these allowances, which are applied to increase or reduce product sales revenue and earnings in the period of adjustment.

In connection with the orders placed by wholesalers, we incur costs such as commissions to our sales representatives. However, as revenue from product sales is recognized upon delivery to the wholesaler, which occurs shortly after we receive a purchase order, we do not capitalize these commissions and other costs, based on application of the practical expedient allowed within the applicable guidance.

Other Proprietary Product Sales

As a result of our acquisition of Antares, our commercial portfolio of proprietary products includes XYOSTED, TLANDO and NOCDURNA, which we sell primarily to wholesale and specialty distributors. Revenue is recognized when control has transferred to the customer, which is typically upon delivery, at the net selling price, which reflects the variable consideration for which reserves and sales allowances are established for estimated returns, wholesale distribution fees, prompt payment discounts, government rebates and chargebacks, plan rebate arrangements and patient discount and support programs.

The determination of certain reserves and sales allowances requires us to make a number of judgements and estimates to reflect our best estimate of the transaction price and the amount of consideration to which we believe we would be ultimately entitled to receive. The expected value is determined based on unit sales data, contractual terms with customers and third-party payers, historical and estimated future percentage of rebates incurred on sales, historical and future insurance plan billings, any new or anticipated changes in programs or regulations that would impact the amount of the actual rebates, customer purchasing patterns, product expiration dates and levels of inventory in the distribution channel. The estimated amounts of credit for product returns, chargebacks, distribution fees, prompt payment discounts, rebates and customer co-pay support programs are included in accrued liabilities and net of accounts receivable in the condensed consolidated balance sheets.

Partnered Product Sales

Bulk rHuPH20

We sell bulk rHuPH20 to partners for use in research and development and, subsequent to receiving marketing approval, we sell it for use in collaboration commercial products. Sales are made pursuant to purchase orders subject to the terms of the collaborative agreement or a supply agreement, and delivery of units of bulk rHuPH20 represent performance obligations under each purchase order. We provide a standard warranty that the product conforms to specifications. We use contract manufacturers to produce bulk rHuPH20 and have concluded we are the principal in the sales to partners. The transaction price for each purchase order of bulk rHuPH20 is fixed based on the cost of production plus a contractual markup, and is not subject to adjustments. Allocation of the transaction price to individual quantities of the product is usually not required because each order contains only one type of product.

We recognize revenue from the sale of bulk rHuPH20 as product sales and related cost of sales upon transfer of title to our partners. At that time, the partners take control of the product, bear the risk of loss of ownership, and have an enforceable obligation to pay us.

Devices

As a result of our acquisition of Antares, we are party to several license, development, supply and distribution arrangements with pharmaceutical partners, under which we produce and are the exclusive supplier of certain products, devices and/or components. Revenue is recognized when or as control of the goods transfers to the customer as discussed below.

We are the exclusive supplier of the Makena® subcutaneous auto-injector product to Covis and the exclusive supplier of OTREXUP® to Otter Pharmaceuticals, LLC (“Otter”). Because these products are custom manufactured for each customer with no alternative use and we have a contractual right to payment for performance completed to date, control is continuously transferred to the customer as the product is produced pursuant to firm purchase orders. Revenue is recognized over time using the output method based on the contractual selling price and number of units produced. The amount of revenue recognized in excess of the amount shipped/billed to the customer, if any, is recorded as contract assets in the condensed consolidated balance sheets due to the short-term nature in which the amount is ultimately expected to be billed and collected from the customer.

All other device partnered product sales are recognized at the point in time in which control is transferred to the customer, which is typically upon shipment. Sales terms and pricing are governed by the respective supply and distribution agreements, and there is generally no right of return. Revenue is recognized at the transaction price, which includes the contractual per unit selling price and estimated variable consideration, such as volume-based pricing arrangements or profit-sharing arrangements, if any. We recognize revenue, including the estimated variable consideration we expect to receive for contract margin on future commercial sales, upon shipment of the goods to our partner. The estimated variable consideration is recognized at an amount we believe is not subject to significant reversal based on historical experience and is adjusted at each reporting period if the most likely amount of expected consideration changes or becomes fixed.

Revenue Presentation

In our consolidated statements of income, we report as revenues under collaborative agreements the upfront payments, event-based development and regulatory milestones and sales milestones. We also include in this category revenues from separate research and development contracts pursuant to project authorization forms. We report royalties received from partners as a separate line in our consolidated statements of income.

Revenues from sales of our proprietary and partnered products are included in product sales, net in our consolidated statements of income.

In the footnotes to our consolidated financial statements, we provide disaggregated revenue information by type of arrangement (product sales, net, collaborative agreements and research and device licensing, and development revenues), and additionally, by type of payment stream received under collaborative agreements (upfront license and target nomination fees, event-based development and regulatory milestones and other fees, sales milestones and royalties).

Cost of Sales

Cost of sales consists primarily of raw materials, third-party manufacturing costs, fill and finish costs, freight costs, internal costs and manufacturing overhead associated with the production of proprietary and partnered products. Cost of sales also consists of the write-down of excess, dated and obsolete inventories and the write-off of inventories that do not meet certain product specifications, if any.

Research and Development Expenses

Research and development expenses include salaries and benefits, facilities and other overhead expenses, research related manufacturing services, contract services and other outside expenses. Research and development expenses are charged to operating expenses as incurred when these expenditures relate to our research and development efforts and have no alternative future uses.

We are obligated to make upfront payments upon execution of certain research and development agreements. Advance payments, including nonrefundable amounts, for goods or services that will be used or rendered for future research and development activities are deferred. Such amounts are recognized as expense as the related goods are delivered or the related services are performed or such time when we do not expect the goods to be delivered or services to be performed.

Share-Based Compensation

We record compensation expense associated with stock options, restricted stock units ("RSUs"), performance stock units ("PSUs") and shares issued under our employee stock purchase plan ("ESPP") in accordance with the authoritative guidance for stock-based compensation. The cost of employee services received in exchange for an award of an equity instrument is measured at the grant date, based on the estimated fair value of the award, and is recognized as expense on a straight-line basis over the requisite service period of the award. Share-based compensation expense for an award with a performance condition is recognized when the achievement of such performance condition is determined to be probable. If the outcome of such performance condition is not determined to be probable or is not met, no compensation expense is recognized and any previously recognized compensation expense is reversed. Forfeitures are recognized as a reduction of share-based compensation expense as they occur.

Income Taxes

We provide for income taxes using the liability method. Under this method, deferred income tax assets and liabilities are determined based on the differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases at each reporting period. We measure deferred tax assets and liabilities using enacted tax rates for the year in which the differences are expected to reverse. Significant judgment is required by management to determine our provision for income taxes, our deferred tax assets and liabilities, and any associated valuation allowances recorded against our net deferred tax assets, which are based on complex and evolving tax regulations. Deferred tax assets ("DTA") and other tax benefits are recorded when they are more likely than not to be realized. On a quarterly basis, we assess the need for valuation allowance on our DTAs, weighing all positive and negative evidence, to assess if it is more-likely-than-not that some or all of our DTAs will be realized.

Segment Information

As a result of the acquisition of Antares, we assessed the organization of our business and concluded that we continue to operate our business in one operating segment, which includes all activities related to the research, development and commercialization of our proprietary enzymes and devices. This segment also includes revenues and expenses related to (i) research and development and manufacturing activities conducted under our collaborative agreements with third parties, and (ii) product sales of proprietary and products. The chief operating decision-maker reviews the operating results on an aggregate basis and manages the operations as a single operating segment.

Adoption and Pending Adoption of Recent Accounting Pronouncements

The following table provides a brief description of recently issued accounting standards, those adopted in the current period and those not yet adopted:

Standard	Description	Effective Date	Effect on the Financial Statements or Other Significant Matters
In October 2021, the FASB issued ASU 2021-08, Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from contracts with customers	The new guidance requires an acquirer to recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Topic 606 as if it had originated the contracts.	January 1, 2023 (Early adoption is permitted, including adoption in an interim period)	We early adopted ASU 2021-08 on April 1, 2022. The adoption did not have a material impact on our condensed consolidated financial position or results of operations.

3. Business Combination

On May 24, 2022, we acquired all outstanding equity interests of Antares Pharma, Inc. according to the terms and conditions of the Agreement and Plan of Merger, dated as of April 12, 2022 (the "Merger Agreement"). Antares is a specialty pharmaceutical company focused primarily on the development and commercialization of pharmaceutical products and technologies that address patient needs in targeted therapeutic areas. We acquired Antares as a part of our strategy to expand as a drug delivery company and include specialty products.

The total purchase consideration of Antares was $1,045.7 million. Each share of Antares common stock issued and outstanding was converted into the right to receive $5.60 in cash without interest, less any applicable withholding taxes ("Merger Consideration"). Additionally, in connection with the transaction, each Antares equity award granted and outstanding as of May 24, 2022 under the Antares' equity compensation plans was converted into the right to receive Merger Consideration. Other components of purchase consideration include cash paid at closing to settle Antares existing debt of $19.7 million and seller transaction costs paid by us on behalf of Antares of $22.9 million.

The acquisition of Antares was funded by cash on hand and borrowings under the new credit agreement with Bank of America, N.A. ("BofA") and other lenders that provides for (i) a $350 million revolving credit facility (the "Revolving Credit Facility") and (ii) a $250 million term loan facility (the "Term Facility", collectively with the Revolving Credit Facility, the "2022 Facility") as described in Note 8. We recognized transaction costs of $21.9 million in the twelve months ended December 31, 2022. These costs are reported in selling, general and administrative expenses in our condensed consolidated statements of income. Transaction costs include, but are not limited to, investment banker, advisory, legal, and other professional fees.

Purchase Consideration

The total purchase consideration was comprised of the following (in thousands):

Cash consideration for Antares shares outstanding as of May 24, 2022	$ 956,886
Consideration for Antares equity compensation awards (a)	45,828
Consideration for seller transaction costs paid by Halozyme	22,906
Consideration related to Antares closing indebtedness settled by Halozyme	19,683
Cash consideration related to cash bonus awards paid by Halozyme	365
Total purchase consideration	**$ 1,045,668**

(a) Consideration for Antares equity compensation awards consists of $32.2 million paid for vested equity awards as well as $13.6 million paid for the pre-combination portion of unvested equity awards that were accelerated as part of the Merger Agreement. The fair value of the unvested equity awards attributable to the post-combination period of $8.7 million is included in our consolidated statements of income in twelve months ended December 31, 2022.

Fair Value of Assets Acquired and Liabilities Assumed

The acquisition of Antares has been accounted for using the acquisition method of accounting in accordance with ASC 805, Business Combinations, with Halozyme treated as the accounting acquirer, which requires, among other things, that the assets acquired and liabilities assumed be recognized at their fair value on the acquisition date. Acquisition accounting is dependent upon certain valuations and other studies that have yet to commence or progress to a stage where there is sufficient information for a definitive measurement. The process for estimating the fair values of identifiable intangible assets and certain tangible assets and assumed liabilities requires the use of judgment in determining the appropriate assumptions and estimates.

The table below presents the preliminary estimated fair values of assets acquired and liabilities assumed on the acquisition date based on valuations and management estimates. Fair value estimates are based on a complex series of judgments about future events and uncertainties and rely heavily on estimates and assumptions. The judgments used to determine the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact our results of operations. We are still finalizing the allocation of the purchase price, therefore, the fair value estimates assigned to intangible assets, goodwill and the related tax impacts of the acquisition, among other items, are subject to change as additional information is received to complete our analysis and certain tax returns are finalized. As a result, the preliminary estimates may be revised during the measurement period. These differences could change the value of the intangible assets acquired, the contingent liability assumed, and the tax impacts related to the acquisition and could have a material impact on our results of operations and financial position.

	Amounts (in thousands)		
	Amounts recognized as of Acquisition date (as initially reported)	Measurement period adjustment	Amounts recognized as of Acquisition date (as adjusted)
Total purchase consideration, net of $46,548 cash acquired	$ 999,120	$ —	$ 999,120
Assets:			
Short-term investments	498	—	498
Accounts receivable, net	82,160	—	82,160
Inventories, net	34,379	(6,311)	28,068
Prepaid expenses and other assets	5,241	—	5,241
Property and equipment, net	28,661	—	28,661
Intangibles, net	987,500	(397,700)	589,800
Liabilities:			—
Accounts Payable	7,197	—	7,197
Accrued expenses	33,705	7,949	41,654
Deferred revenue, current portion	2,509	—	2,509
Deferred revenue, net of current portion	1,207	—	1,207
Deferred tax liabilities, net	159,094	(88,092)	71,002
Other long-term liabilities	135,088	(114,300)	20,788
Net assets acquired, excluding goodwill	$ 799,639	$ (209,568)	$ 590,071
Goodwill	$ 199,481	$ 209,568	$ 409,049

Goodwill is the excess of the consideration transferred over the net assets recognized and represents the expected revenue and cost synergies of the combined company and assembled workforce. Goodwill will be allocated entirely to the single reportable unit. Goodwill recognized as a result of the acquisition is not deductible for tax purposes.

A contingent liability with a preliminary value of $130.0 million was assumed related to TLANDO. We assumed an obligation to pay development milestone payments as well as commercial milestone payments and minimum tiered royalty payments based on TLANDO net sales which are contingent upon future events. The acquisition date fair value was measured using the income approach, specifically the probability weighted expected return method for the development milestone payments and the option pricing methodology using the Monte Carlo simulation for commercial milestone payments and royalty payments.

We recorded measurement period adjustments in fourth quarter of 2022 to decrease intangible assets as a result of revised future cash flow estimates from the initial purchase price allocation and adjustments to accrued expenses. These measurement period adjustments were made to reflect facts and circumstances that existed as of the acquisition date. We also recorded a measurement period adjustment in the fourth quarter of 2022 to reduce the acquisition-date fair value of contingent liability by $114.3 million as a result of revised future cash flow estimates. The measurement period adjustment has been recorded to reflect facts and circumstances that existed as of the acquisition date.

Identifiable Intangible Assets

The estimated fair values of identifiable intangible assets were prepared using the excess earnings method which calculates the present value of the incremental after-tax cash flows attributable solely to each intangible asset. The estimated useful lives are based on forecasted periods of benefit for each intangible asset which consider commercialization dates, the estimated revenue cycle based on the products' competitiveness in the market, and the loss of exclusivity timing with subsequent trending down of revenue. For the ATRS-1902 IPR&D, the useful life is considered indefinite as the asset has not been placed into service. As such, the ATRS-1902 IPR&D will be tested annually for impairment and will not be amortized. Useful lives and preliminary values are presented in the table below.

	Amount (in thousands)	Useful life (years)
Auto-Injector technology platform	$ 402,000	7
XYOSTED proprietary product	136,200	10
TLANDO product rights	2,900	10
ATRS-1902 (IPR&D)	48,700	Indefinite
Estimated fair value of intangible assets acquired	**$ 589,800**	

Unaudited Pro Forma Results

Our consolidated financial statements include Antares' results of operations from the date of acquisition on May 24, 2022 through December 31, 2022. Total revenues and net loss after taxes attributable to Antares during this period and included in our consolidated financial statements for the twelve months ended December 31, 2022 total $112.7 million and $67.6 million, respectively.

The following unaudited pro forma financial information summarizes combined results of operations of Halozyme and Antares as if the companies had been combined as of the beginning of our fiscal year 2021.

	Twelve Months Ended December 31,	
	2022	2021
Total Revenues	$712,683	$627,292
Net income	$218,723	$295,634

The unaudited pro forma financial information for all periods presented includes the business combination accounting effects resulting from this acquisition. The unaudited pro forma results include adjustments to reflect the amortization of the inventory step-up and the incremental intangible asset amortization to be incurred based on preliminary valuations of assets as well as certain material non-recurring transaction adjustments related to the acquisition. Adjustments to interest expense, financing costs and investment income were made to reflect the capital structure of the combined entity. Adjustments to income tax expense also were made to reflect the anticipated effective tax rate of the combined entity. The unaudited pro forma financial information as presented is for informational purposes only and is not necessarily indicative of the results of operations that would have been achieved if the acquisition had taken place at the beginning of fiscal year 2021, nor is it necessarily an indication of trends in future results for a number of reasons, including, but not limited to, differences between the assumptions used to prepare the pro forma information, cost savings from operating efficiencies, potential synergies, and the impact of incremental costs incurred in integrating the businesses.

4. Fair Value Measurement

Available-for-sale marketable securities consisted of the following (in thousands):

	December 31, 2022			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Asset-backed securities	$ 1,146	$ —	$ —	$ 1,146
Corporate debt securities	7,139	—	(9)	7,130
U.S. Treasury securities	111,469	—	(934)	110,535
Agency bonds	2,783	2	(1)	2,784
Commercial paper	7,004	—	—	7,004
	$ 129,541	$ 2	$ (944)	$ 128,599

	December 31, 2021			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Asset-backed securities	$ 32,745	$ —	$ (53)	$ 32,692
Corporate debt securities	58,885	—	(86)	58,799
U.S. Treasury securities	231,230	—	(469)	230,761
Non-U.S. Government Securities	17,232	—	(12)	17,220
Commercial paper	282,731	—	—	282,731
	$ 622,823	$ —	$ (620)	$ 622,203

As of December 31, 2022, 20 available-for-sale marketable securities with a fair market value of $117.2 million were in a gross unrealized loss position of $0.9 million. Based on our review of these marketable securities, we believe none of the unrealized loss is as a result of a credit loss as of December 31, 2022, because we do not intend to sell these securities and it is not more-likely-than-not that we will be required to sell these securities before the recovery of their amortized cost basis.

The estimated fair value of our contractual maturities of available-for-sale debt securities are as follows (in thousands):

	December 31, 2022	December 31, 2021
Due within one year	$ 114,353	$ 500,965
After one but within five years	14,246	121,238
	$ 128,599	$ 622,203

The following table summarizes, by major security type, our cash equivalents and available-for-sale marketable securities that are measured at fair value on a recurring basis and are categorized using the fair value hierarchy (in thousands):

	December 31, 2022			December 31, 2021		
	Level 1	Level 2	Total estimated fair value	Level 1	Level 2	Total estimated fair value
Cash equivalents:						
Money market funds	$ 191,704	$ —	$ 191,704	$ 118,707	$ —	$ 118,707
Available-for-sale marketable securities:						
Asset-backed securities	—	1,146	1,146	—	32,692	32,692
Corporate debt securities	—	7,130	7,130	—	58,799	58,799
U.S. Treasury securities	110,535	—	110,535	230,761	—	230,761
Non-US Government securities	—	—	—	—	17,220	17,220
Agency bonds	2,784	—	2,784			
Commercial paper	—	7,004	7,004	—	282,731	282,731
	$ 305,023	$ 15,280	$ 320,303	$ 349,468	$ 391,442	$ 740,910

We had no available for sale securities that were classified within Level 3 as of December 31, 2022 and 2021.

A contingent liability with a value of $15.7 million was assumed related to TLANDO. The acquisition date fair value was measured using the income approach, specifically the probability weighted expected return method for the development milestone payments and the option pricing methodology using the Monte Carlo simulation for commercial milestone payments and royalty payments. We will remeasure the fair value of the contingent liability on a quarterly basis. Estimates and assumptions used in the Monte Carlo simulation include forecasted revenues, cost of debt, risk free rate, weighted average cost of capital, revenue market price risk and revenue volatility. Estimates and assumptions used in the income approach include the probability of achieving certain milestones and a discount rate. These unobservable inputs represent a Level 3 measurement because they are supported by little or no market activity and reflect our own assumptions in measuring fair value. Changes in the fair value subsequent to the acquisition date is recognized in our consolidated statements of income.

5. Revenue

Our disaggregated revenues were as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Royalties	$360,475	$203,900	$ 88,596
Product sales, net			
Sales of bulk rHuPH20	82,084	80,960	38,956
Sale of proprietary products	72,849	23,264	17,031
Sale of Device Partnered Products	36,097	—	—
Total product sales, net	$191,030	$104,224	$ 55,987
Revenues under collaborative agreements:			
Upfront license and target nomination fees	30,000	42,000	37,264
Event-based development milestones and regulatory milestone and other fees	59,000	42,000	69,500
Sales-based milestones	10,000	50,000	15,000
Device Licensing and development revenue	9,611	1,186	1,247
Total revenues under collaborative agreements	$108,611	$135,186	$123,011
Total revenue	$660,116	$443,310	$267,594

During the year ended December 31, 2022 we recognized revenue related to licenses granted to collaboration partners in prior periods in the amount of $429.5 million. This amount represents royalties and sales milestone earned in the current period, as well as $59.0 million of variable consideration in the contracts where uncertainties have been resolved and the development milestones are probable of being achieved or were achieved. We also recognized revenue of $2.0 million during the year ended December 31, 2022 that had been included in deferred revenues at December 31, 2021. We did not recognize any adjustments to reduce sales reserves and allowances liability related to Hylenex recombinant sales in prior periods.

Accounts receivable, other contract assets and deferred revenues (contract liabilities) from contracts with customers, including collaboration partners, consisted of the following (in thousands):

	December 31, 2022	December 31, 2021
Accounts receivable, net	$ 186,970	$ 90,975
Other contract assets	$ 44,102	$ —
Deferred revenues	$ 5,499	$ 4,276

As of December 31, 2022, the amounts included in the transaction price of our contracts with customers, including collaboration partners, and allocated to goods and services not yet provided were $80.7 million of which $75.2 million relates to unfulfilled product purchase orders and $5.5 million has been collected and reported as deferred revenues. The unfulfilled product purchase orders are estimated to be delivered in 2023. Of the total deferred revenues of $5.5 million, $3.2 million is expected to be used by our customers within the next 12 months.

We recognized contract assets of $44.1 million as of December 31, 2022, which related to development milestones deemed probable of receipt for intellectual property licenses granted to partners in prior periods and for goods or services when control has transferred to the customer, and corresponding revenue is recognized on an over time basis but is not yet billable to the customer in accordance with the terms of the contract.

6. Certain Balance Sheet Items

Accounts receivable consisted of the following (in thousands):

	December 31, 2022	December 31, 2021
Accounts receivable from product sales to partners	$ 62,979	$ 18,504
Accounts receivable from revenues under collaborative agreements	18,776	5,422
Accounts receivable from royalty payments	100,900	63,555
Accounts receivable from other product sales	6,229	4,634
Contract assets	44,102	—
Subtotal	$ 232,986	$ 92,115
Allowance for distribution fees and discounts	(1,914)	(1,140)
Total accounts receivable	$ 231,072	$ 90,975

Inventories consisted of the following (in thousands):

	December 31, 2022	December 31, 2021
Raw materials	$ 13,792	$ 10,672
Work-in-process	40,361	17,451
Finished goods	45,970	25,785
Total inventories	$ 100,123	$ 53,908

Prepaid expenses and other assets consisted of the following (in thousands):

	December 31, 2022	December 31, 2021
Prepaid manufacturing expenses	$ 51,694	$ 47,991
Other prepaid expenses	4,647	3,809
Other assets	14,984	2,096
Total prepaid expenses and other assets	$ 71,325	$ 53,896
Less long-term portion	(26,301)	(13,414)
Total prepaid expenses and other assets, current	$ 45,024	$ 40,482

Prepaid manufacturing expenses include raw materials, slot reservation fees and other amounts paid to contract manufacturing organizations. Such amounts are reclassified to work-in-process inventory as materials are used or the contract manufacturing organization services are complete.

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

	December 31, 2022	December 31, 2021
Research equipment	$ 7,380	$ 7,174
Manufacturing equipment	27,893	5,719
Computer and office equipment	7,855	5,370
Leasehold improvements	6,729	1,628
Subtotal	$ 49,857	$ 19,891
Accumulated depreciation and amortization	(14,756)	(13,100)
Subtotal	$ 35,101	$ 6,791
Right of use of assets	40,469	2,003
Property and equipment, net	$ 75,570	$ 8,794

Depreciation and amortization expense was approximately $6.5 million, $3.0 million, and $3.3 million, inclusive of ROU asset amortization of $3.0 million, $1.6 million and $1.7 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Accrued expenses consisted of the following (in thousands):

	December 31, 2022	December 31, 2021
Accrued compensation and payroll taxes	$ 19,939	$ 9,858
Accrued outsourced manufacturing expenses	12,190	6,514
Income taxes payable	—	1,439
Product returns and sales allowance	30,261	706
Other accrued expenses	29,771	3,648
Lease liability	34,788	2,820
Total accrued expenses	$ 126,949	$ 24,985
Less long-term portion	(30,433)	(544)
Total accrued expenses, current	$ 96,516	$ 24,441

Expense associated with the accretion of the lease liabilities was approximately $0.5 million, $0.3 million and $0.5 million for the twelve months ended December 31, 2022, 2021 and 2020, respectively. Total lease expense for the twelve months ended December 31, 2022, 2021 and 2020 was $3.3 million, $1.9 million and $2.2 million, respectively.

Cash paid for amounts related to leases for the twelve months ended December 31, 2022, 2021 and 2020 was $4.2 million, $2.7 million and $3.2 million, respectively.

7. Goodwill and Intangible Assets

Goodwill

On May 24, 2022, we acquired all outstanding equity interests of Antares. A Goodwill balance of $409.0 million was recognized for the excess of the consideration transferred over the net assets acquired and represents the expected revenue and cost synergies of the combined company and assembled workforce.

A summary of the activity impacting goodwill is presented below (in thousands):

Balance as of December 31, 2021	$ —
Goodwill acquired	409,049
Balance as of December 31, 2022	$ 409,049

Intangible Assets

Our acquired intangible assets are amortized using the straight-line method over their estimated useful lives of seven to ten years. The following table shows the cost, accumulated amortization and weighted average remaining life in years for our acquired intangible assets as of December 31, 2022 (in thousands).

	Weighted average remaining life (in years)	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Auto-Injector technology platform	7	$ 402,000	$ 34,735	$ 367,265
XYOSTED proprietary product	10	136,200	8,238	127,962
TLANDO product rights	10	2,900	175	2,725
Total definite-lived intangibles, net		$ 541,100	$ 43,148	$ 497,952
ATRS-1902 (IPR&D)	Indefinite			48,700
Total Intangibles, net				$ 546,652

The estimated future annual amortization of finite-lived intangible assets is shown in the following table. Actual amortization expense to be reported in future periods could differ from these estimates as a result of acquisitions, divestitures, and asset impairments, among other factors.

Year:	Amortization (in thousands)
2023	$ 71,339
2024	71,339
2025	71,339
2026	71,339
2027	71,339
Thereafter	141,257
Total	$ 497,952

8. Long-Term Debt, Net

1.00% Convertible Notes due 2028

In August 2022, we completed the sale of $720.0 million in aggregate principal amount of 1.00% Convertible Senior Notes due 2028 (the "2028 Convertible Notes" and collectively with the 2024 and the 2027 Convertible Notes the "Convertible Notes"). The net proceeds in connection with the issuance of the 2028 Convertible Notes, after deducting the initial purchasers' fee of $18.0 million, was approximately $702.0 million. We also incurred additional debt issuance costs totaling $1.0 million. Debt issuance costs and the initial purchasers' fee are presented as a debt discount.

The 2028 Convertible Notes pay interest semi-annually in arrears on February 15th and August 15th of each year at an annual rate of 1.00%. The 2028 Convertible Notes are general unsecured obligations and rank senior in right of payment to all indebtedness that is expressly subordinated in right of payment to the 2028 Convertible Notes, rank equally in right of payment with all existing and future liabilities that are not so subordinated, are effectively junior to any secured indebtedness to the extent of the value of the assets securing such indebtedness, and are structurally subordinated to all indebtedness and other liabilities (including trade payables) of our current or future subsidiaries. The 2028 Convertible Notes have a maturity date of August 15, 2028.

Holders may convert their 2028 Convertible Notes at their option only in the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on December 31, 2022, if the last reported sale price per share of common stock exceeds 130% of the conversion price for each of at least 20 trading days during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter; (2) during the five consecutive business days immediately after any five consecutive trading day period (such five consecutive trading day period, the "measurement period") in which the trading price per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price per share of our common stock on such trading day and the conversion rate on such trading day; (3) upon the occurrence of certain corporate events or distributions on our common stock, as described in the offering memorandum for the 2028 Convertible Notes; (4) if we call such notes for redemption; and (5) at any time from, and including, February 15, 2028 until the close of business on the second scheduled trading day immediately before the maturity date. As of December 31, 2022, the 2028 Convertible Notes are not convertible.

Upon conversion, we will pay cash for the settlement of principal and for the premium, if applicable, we will pay cash, deliver shares of common stock or a combination of cash and shares of common stock, at our election. The initial conversion rate for the 2028 Convertible Notes is 17.8517 shares of common stock per $1,000 in principal amount of 2028 Convertible Notes, equivalent to a conversion price of approximately $56.02 per share of our common stock. The conversion rate is subject to adjustment in some events but will not be adjusted for any accrued or unpaid interest.

As of December 31, 2022, we were in compliance with all covenants and there was no material adverse change in our business, operations or financial condition.

Capped Call Transactions

In connection with the offering of the 2028 Convertible Notes, we entered into capped call transactions with certain counterparties (the "Capped Call Transactions"). The Capped Call Transactions are expected generally to reduce potential dilution to holders of our common stock upon conversion of the 2028 Convertible Notes or at our election (subject to certain conditions) offset any cash payments we are required to make in excess of the principal amount of such converted 2028 Convertible Notes. The cap price of the Capped Call Transactions is initially $75.4075 per share of common stock, representing a premium of 75% above the last reported sale price of $43.09 per share of common stock on August 15, 2022, and is subject to certain adjustments under the terms of the Capped Call Transactions. As of December 31, 2022, no capped calls have been exercised.

Pursuant to their terms, the capped calls qualify for classification within stockholders' equity in the condensed consolidated balance sheets, and their fair value is not remeasured and adjusted as long as they continue to qualify for stockholders' equity classification. We paid approximately $69.1 million for the Capped Calls, including applicable transaction costs, which was recorded as a reduction to additional paid-in capital in the Condensed Consolidated Balance Sheets. The Capped Call Transactions are separate transactions entered into by us with the capped call Counterparties, are not part of the terms of the Convertible Notes, and do not affect any holder's rights under the Convertible Notes. Holders of the Convertible Notes do not have any rights with respect to the Capped Call Transactions.

0.25% Convertible Notes due 2027

In March 2021, we completed the sale of $805.0 million in aggregate principal amount of 0.25% Convertible Senior Notes due 2027 (the "2027 Convertible Notes" and collectively with the 2024 Convertible Notes the "Convertible Notes"). The net proceeds in connection with the issuance of the 2027 Convertible Notes, after deducting the initial purchasers' fee of

$20.1 million, was approximately $784.9 million. We also incurred additional debt issuance costs totaling $0.4 million. Debt issuance costs and the initial purchasers' fee are presented as a debt discount.

The 2027 Convertible Notes pay interest semi-annually in arrears on March 1st and September 1st of each year at an annual rate of 0.25%. The 2027 Convertible Notes are general unsecured obligations and will rank senior in right of payment to all indebtedness that is expressly subordinated in right of payment to the 2027 Convertible Notes, will rank equally in right of payment with all existing and future liabilities that are not so subordinated, will be effectively junior to any secured indebtedness to the extent of the value of the assets securing such indebtedness and will be structurally subordinated to all indebtedness and other liabilities (including trade payables) of our current or future subsidiaries. The 2027 Convertible Notes have a maturity date of March 1, 2027.

Holders may convert their 2027 Convertible Notes at their option only in the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on June 30, 2021, if the last reported sale price per share of common stock exceeds 130% of the conversion price for each of at least 20 trading days during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter; (2) during the five consecutive business days immediately after any five consecutive trading day period (such five consecutive trading day period, the "measurement period") in which the trading price per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price per share of our common stock on such trading day and the conversion rate on such trading day; (3) upon the occurrence of certain corporate events or distributions on our common stock, as described in the offering memorandum for the 2027 Convertible Notes; (4) if we call such notes for redemption; and (5) at any time from, and including, September 1, 2026 until the close of business on the scheduled trading day immediately before the maturity date. The Notes will be convertible, regardless of the foregoing circumstances, at any time from, and including, September 1, 2026 until the close of business on the scheduled trading day immediately preceding the maturity date. As of December 31, 2022, the 2027 Convertible Notes are not convertible.

Upon conversion, we will pay cash for the settlement of principal and for the premium, if applicable, we will pay cash, deliver shares of common stock or a combination of cash and shares of common stock, at our election. The initial conversion rate for the 2027 Convertible Notes will be 12.9576 shares of common stock per $1,000 in principal amount of 2027 Convertible Notes, equivalent to a conversion price of approximately $77.17 per share of our common stock. The conversion rate is subject to adjustment.

As of December 31, 2022, we were in compliance with all covenants and there was no material adverse change in our business, operations or financial condition.

1.25% Convertible Notes due 2024

In November 2019, we completed the sale of $460.0 million in aggregate principal amount of 1.25% Convertible Senior Notes due 2024 ("2024 Convertible Notes"). The net proceeds in connection with 2024 Convertible Notes, after deducting the initial purchases' fee of $12.7 million, was approximately $447.3 million. We also incurred debt issuance cost totaling $0.3 million. Debt issuance costs and the initial purchasers' fee are presented as a debt discount.

The 2024 Convertible Notes pay interest semi-annually in arrears on June 1st and December 1st of each year, beginning on June 1, 2020, at an annual rate of 1.25%. The 2024 Convertible Notes are general unsecured obligations and will rank senior in right of payment to all indebtedness that is expressly subordinated in right of payment to the 2024 Convertible Notes, will rank equally in right of payment with all existing and future liabilities that are not so subordinated, will be effectively junior to any secured indebtedness to the extent of the value of the assets securing such indebtedness and will be structurally subordinated to all indebtedness and other liabilities (including trade payables) of the our current or future subsidiaries. The 2024 Convertible Notes have a maturity date of December 1, 2024.

Holders may convert their 2024 Convertible Notes at their option only in the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on March 31, 2020, if the last reported sale price per share of common stock exceeds 130% of the conversion price for each of at least 20 trading days during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter; (2) during the five consecutive business days immediately after any five consecutive trading day period (such five consecutive trading day period, the "measurement period") in which the trading price per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price per share of our common stock on such trading day and the conversion rate on such trading day; (3) upon the occurrence of certain corporate events or distributions on our common stock, as described in the offering memorandum for the 2024 Convertible Notes; (4) if we call such notes for redemption; and (5) at any time from, and including, June 1, 2024 until the close of business on the scheduled trading day immediately before the maturity date. As of December 31, 2022, the 2024 Convertible Notes are convertible and are classified as a current liability

In January 2021 we notified the note holders of our irrevocable election to settle the principal of the 2024 Convertible Notes in cash and for the premium, if applicable, to deliver shares of common stock. The conversion rate for the 2024 Convertible Notes will be 41.9208 shares of common stock per $1,000 in principal amount of 2024 Convertible Notes, equivalent to a conversion price of approximately $23.85 per share of our common stock. The conversion rate is subject to adjustment.

In March 2021, we completed a privately negotiated induced conversion of $369.1 million principal amount of the 2024 Convertible Notes ("2021 Note Repurchases" or the "2021 Induced Conversion"). In connection with the 2021 Induced Conversion, we paid approximately $370.2 million in cash, which includes principal and accrued interest, and issued approximately 9.08 million shares of our common stock representing the intrinsic value based on the contractual conversion rate and incremental shares as an inducement for conversion. As a result of the 2021 Induced Conversion, we recorded $21.0 million in induced conversion expense which is included in Other income (expense) of the Condensed Consolidated Statements of Operations for the twelve months ended December 31, 2022. The induced conversion expense represents the fair value of the common stock issued upon conversion in excess of the common stock issuable under the original terms of the 2024 Convertible Notes.

In August 2022, we completed a privately negotiated induced conversion of $77.4 million principal amount of the 2024 Convertible Notes ("2022 Note Repurchases" or the "2022 Induced Conversion"). In connection with the 2022 Induced Conversion, we paid approximately $77.6 million in cash, which includes principal and accrued interest, and issued approximately 1.51 million shares of our common stock representing the intrinsic value based on the contractual conversion rate and incremental shares as an inducement for conversion. As a result of the 2022 Induced Conversion, we recorded $2.7 million in induced conversion expense which is included in other income (expense) of the consolidated statements of income. The induced conversion expense represents the fair value of the common stock issued upon conversion in excess of the common stock issuable under the original terms of the 2024 Convertible Notes.

In January 2023, we issued a notice for the redemption of 2024 Convertible Notes, and we expect to make cash payment of $13.5 million to effect the redemption in March 2023.

As of December 31, 2022, we were in compliance with all covenants and there was no material adverse change in our business, operations or financial condition.

Net Carrying Amounts of the Convertible Notes

The carrying amount and fair value of our Convertible Notes were as follows as of the dates indicated (amount in thousands).

	December 31, 2022	December 31, 2021
Principal amount:		
2024 Convertible Notes	$ 13,483	$ 90,936
2027 Convertible Notes	805,000	805,000
2028 Convertible Notes	720,000	—
Total Principal Amount	$ 1,538,483	$ 895,936
Unamortized debt discount:		
2024 Convertible Notes	$ (149)	$ (1,517)
2027 Convertible Notes	(14,359)	(17,745)
2028 Convertible Notes	(17,875)	—
Total unamortized debt discount	$ (32,383)	$ (19,262)
Carrying amount:		
2024 Convertible Notes	$ 13,334	$ 89,419
2027 Convertible Notes	790,641	787,255
2028 Convertible Notes	702,125	—
Total carrying amount	$ 1,506,100	$ 876,674
Fair value based on trading levels (Level 2):		
2024 Convertible Notes	$ 32,176	$ 159,678
2027 Convertible Notes	784,770	718,889
2028 Convertible Notes	849,823	—
Total fair value of outstanding notes	$ 1,666,769	$ 878,567
Remaining amortization per period of debt discount (in years):		
2024 Convertible Notes	1.9	2.9
2027 Convertible Notes	4.2	5.2
2028 Convertible Notes	5.6	n/a

The following table summarizes the components of interest expense and the effective interest rates for each of our Convertible Notes for the periods shown (in thousands).

	Twelve Months Ended December 31,	
	2022	2021
Coupon Interest:		
2024 Convertible Notes	$ 771	$ 1,906
2027 Convertible Notes	2,013	1,677
2028 Convertible Notes	2,660	—
Total Coupon Interest	$ 5,444	$ 3,583
Amortization of debt discount:		
2024 Convertible Notes	$ 357	$ 838
2027 Convertible Notes	3,386	2,804
2028 Convertible Notes	1,124	—
Total amortization of debt discount	$ 4,867	$ 3,642
Interest expense:		
2024 Convertible Notes	$ 1,128	$ 2,744
2027 Convertible Notes	5,399	4,481
2028 Convertible Notes	3,784	—
Total interest expense	$ 10,311	$ 7,225
Effective interest rates:		
2024 Convertible Notes	1.8 %	1.8 %
2027 Convertible Notes	0.7 %	0.7 %
2028 Convertible Notes	1.5 %	n/a

Revolving Credit and Term Loan Facilities (May 2022)

In May 2022, in connection with the closing of the Antares acquisition, we entered into a credit agreement, which was subsequently amended, with Bank of America, N.A., as Administrative Agent, Swing Line Lender and an L/C Issuer, and the other lenders and L/C Issuers party thereto (the "2022 Credit Agreement), evidencing a credit facility (the "2022 Facility") that provides for (i) a $350 million revolving credit facility (the "Revolving Credit Facility") and (ii) a $250 million term loan facility (the "Term Facility"). Proceeds from a $120 million draw on the Revolving Credit Facility and the $250 million Term Facility were used to fund a portion of the Antares acquisition, repay Antares' existing debt and pay fees and expenses in connection with the acquisition. The 2022 Credit Agreement contains an expansion feature, which allows us, subject to certain conditions, to increase the aggregate principal amount of the 2022 Facility, provided we remain in compliance with underlying financial covenants on a pro forma basis including the consolidated interest coverage ratio and the consolidated net leverage ratio covenants set forth in the 2022 Credit Agreement. The 2022 Facility will mature on November 30, 2026 unless either the Revolving Credit Facility or the Term Facility is extended prior to such date in accordance with the 2022 Credit Agreement.

The Term Facility requires quarterly scheduled repayments of the term loans in each of the first, second, third and fourth years following the Closing in annual amounts equal to 2.50%, 5.00%, 7.50% and 10.00% of the initial principal amount of the term loans, respectively. The term loans are also subject to mandatory prepayments from the proceeds of certain asset sales, subject to our right to reinvest the proceeds thereof.

Borrowings under the 2022 Facility bear interest, at our option, at a rate equal to an applicable margin plus: (a) the applicable Term Secured Overnight Financing Rate (SOFR) (which includes a SOFR adjustment of 0.10%), or (b) a base rate determined by reference to the highest of (1) the federal funds effective rate plus 0.50%, (2) the Bank of America prime rate, (3) the Term SOFR rate for an interest period of one month plus 1.10%, and (4) 1.00%. The margin for the 2022 Facility ranges, based on our consolidated total net leverage ratio, from 0.25% to 1.25% in the case of base rate loans and from 1.25% to 2.25% in the case of Term SOFR rate loans. In addition to paying interest on the outstanding principal under the Facility, we will pay (i) a commitment fee in respect of the unutilized commitments thereunder and (ii) customary letter of credit fees and agency fees. The commitment fees range from 0.15% to 0.35% per annum based on our consolidated net leverage ratio.

In August 2022, we entered into Amendment No. 1 to the Credit Agreement (the "Amendment") among the Company, the Guarantors (as defined in the Credit Agreement), each L/C Issuer from time to time party thereto, Bank of America, N.A., as Administrative Agent (in such capacity, the "Administrative Agent") and swing line lender (in such capacity, the "Swing Line Lender"), and each lender party thereto, which amends the Credit Agreement dated as of May 24, 2022 (the "Credit Agreement") among the Company, the Guarantors, the Administrative Agent, the Swing Line Lender, each Lender and the L/C Issuers. The Amendment, among other things, increased the size of the revolving credit facility from $350 million to $575 million. The terms of the Revolving Credit Facility are otherwise unchanged. Concurrently with the entry into the Amendment, we repaid the entire outstanding Term Loan Facility and repaid all outstanding loans under the Revolving Credit Facility under the 2022 Credit Agreement.

As of December 31, 2022, the Revolving Credit Facility was undrawn. We incurred a total of $3.6 million in third-party costs related to the 2022 Credit Agreement which is recorded as debt issuance cost within prepaid expenses and other assets in the condensed consolidated balance sheets. As of December 31, 2022, the unamortized debt issuance cost related to the revolving credit facility was $3.1 million.

Future maturities and interest payments of long-term debt as of December 31, 2022, are as follows (in thousands):

2023	$ 22,745
2024	9,213
2025	9,213
2026	9,213
2027	812,535
Thereafter	724,480
Total minimum payments	$ 1,587,399
Less amount representing coupon interest	(48,916)
Gross balance of long-term debt	$ 1,538,483
Less unamortized debt discount	(32,383)
Carrying value of long-term debt	$ 1,506,100
Less current portion of long-term debt	(13,334)
Long-term debt, less current portion and unamortized debt discount	$ 1,492,766

9. Share-based Compensation

We currently grant stock options, restricted stock awards, performance stock units and restricted stock units under the Amended and Restated 2021 Stock Plan ("2021 Stock Plan"), which was approved by the stockholders on May 5, 2021 and provides for the grant of up to 17.8 million shares of common stock to selected employees, consultants and non-employee members of our Board of Directors as stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards and performance awards. Awards are subject to terms and conditions established by the Compensation Committee of our Board of Directors. During the year ended December 31, 2022, we granted share-based awards under the 2021 Stock Plan. At December 31, 2022, 6,550,075 shares were subject to outstanding awards and 14,764,481 shares were available for future grants of share-based awards.

Total share-based compensation expense related to share-based awards excluding the acceleration of Antares equity awards was comprised of the following (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Research and development	$ 9,903	$ 6,992	$ 5,484
Selling, general and administrative	14,494	13,828	11,720
Share-based compensation expense	$ 24,397	$ 20,820	$ 17,204

Share-based compensation expense by type of share-based award (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Stock options	$ 10,973	$ 10,252	$ 8,955
RSAs, RSUs, PSUs and ESPP	13,424	10,568	8,249
	$ 24,397	$ 20,820	$ 17,204

Total unrecognized estimated compensation cost by type of award and the weighted-average remaining requisite service period over which such expense is expected to be recognized (in thousands, unless otherwise noted):

	December 31, 2022	
	Unrecognized Expense	Remaining Weighted-Average Recognition Period (years)
Stock options	$ 26,730	2.66
RSUs	$ 26,488	2.32
PSUs	$ 3,986	1.91
ESPP	$ 247	0.45

In February 2021, our Board of Directors approved our 2021 ESPP and our stockholders approved the plan in May 2021. The ESPP enables eligible employees to purchase shares of our common stock at the end of each offering period at a price equal to 85% of the fair market value of the shares on the first business day or the last business day of the offering period, whichever is lower. Share purchases are funded through payroll deduction of at least 1% and up to 15% of an employee's compensation for each payroll period, and no employee may purchase shares under the ESPP that exceeds $25,000 worth of our common stock for a calendar year. As of December 31, 2022, 2,650,103 shares were available for future purchase. The offering period is generally for a six-months period and the first offering period commenced on June 16, 2021. Offering periods shall commence on or about the sixteenth day of June and December of each year and end on or about the fifteenth day of the next December and June respectively, occurring thereafter. During the twelve months ended December 31, 2022, 32,124 shares were issued pursuant to the ESPP.

Stock Options. Options granted under the Plans must have an exercise price equal to at least 100% of the fair market value of our common stock on the date of grant. The options generally have a maximum contractual term of ten years and vest at the rate of one-fourth of the shares on the first anniversary of the date of grant and 1/48 of the shares monthly thereafter. Certain option awards provide for accelerated vesting if there is a change in control (as defined in the Plans).

A summary of our stock option award activity as of and for the year ended December 31, 2022 is as follows:

	Shares Underlying Stock Options	Weighted Average Exercise Price per Share	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (in Millions)
Outstanding at December 31, 2021	4,965,374	$20.76		
Granted	1,773,912	$37.25		
Exercised	(789,870)	$19.40		
Canceled/forfeited	(581,191)	$33.87		
Outstanding at December 31, 2022	5,368,225	$24.99	6.48	$171.3
Vested and expected to vest at December 31, 2022	5,368,225	$24.99	6.48	$171.3
Exercisable at December 31, 2022	3,176,691	$17.22	4.92	$126.0

The weighted average grant date fair values of options granted during the years ended December 31, 2022, 2021 and 2020 were $14.22 per share, $18.21 per share and $20.74 per share, respectively. The total intrinsic value of options exercised during the years ended December 31, 2022, 2021 and 2020 was approximately $21.6 million, $33.5 million and $49.7 million, respectively. Cash received from stock option exercises for the years ended December 31, 2022, 2021 and 2020 was approximately $15.3 million, $16.6 million and $66.2 million, respectively.

The exercise price of stock options granted is equal to the closing price of the common stock on the date of grant. The fair value of each option award is estimated on the date of grant using the Black-Scholes-Merton option pricing model ("Black-Scholes model"). Expected volatility is based on historical volatility of our common stock. The expected term of options granted is based on analyses of historical employee termination rates and option exercises. The risk-free interest rate is based on the U.S. Treasury yield for a period consistent with the expected term of the option in effect at the time of the grant. The dividend yield assumption is based on the expectation of no future dividend payments. The assumptions used in the Black-Scholes model were as follows:

	Year Ended December 31,		
	2022	2021	2020
Expected volatility	39.91-50.81%	41.01-46.45%	47.57-51.82%
Average expected term (in years)	4.7	4.7	5.1
Risk-free interest rate	1.37-4.27%	0.36-1.20%	0.22-1.67%
Expected dividend yield	—	—	—

*Restricted Stock Units***.** A RSU is a promise by us to issue a share of our common stock upon vesting of the unit. The RSUs will generally vest at the rate of one-fourth of the shares on each anniversary of the date of grant.

The following table summarizes our RSU activity during the year ended December 31, 2022:

	Number of Shares	Weighted Average Grant Date Fair Value	Weighted Average Remaining Contractual Term (yrs)	Aggregate Intrinsic Value (in Millions)
Outstanding at December 31, 2021	858,742	$29.54		
Granted	706,096	$39.18		
Vested	(320,767)	$26.68		
Forfeited	(204,690)	$35.69		
Outstanding at December 31, 2022	1,039,381	$35.76	1.25	$59.1

The estimated fair value of the RSUs was based on the closing market value of our common stock on the date of grant. The total grant date fair value of RSUs vested during the years ended December 31, 2022, 2021 and 2020 was approximately $8.6 million, $6.6 million and $10.1 million, respectively. The fair value of RSUs vested during the years ended December 31, 2022, 2021 and 2020 was approximately $11.3 million, $19.0 million and $14.0 million, respectively.

*Performance Stock Units***.** A PSU is a promise by us to issue a share of our common stock upon achievement of a specific performance condition.

The following table summarizes our PSU activity during the year ended December 31, 2022:

	Number of Shares	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2021	69,382	$40.66
Granted	129,773	$41.42
Vested	(2,565)	$63.41
Forfeited	(53,746)	$27.20
Outstanding at December 31, 2022	142,844	$46.01

The estimated fair value of the PSUs was based on the closing market value of our common stock on the date of grant. The fair value of PSUs vested during the years ended December 31, 2022 and 2021 was $0.2 million and $0.1 million, respectively.

10. Stockholders' Equity

During the years ended December 31, 2022, 2021 and 2020, we issued an aggregate of 789,870, 1,179,032 and 4,705,843 shares of common stock, respectively, in connection with the exercises of stock options, for net proceeds of approximately $15.3 million, $16.6 million and $66.2 million, respectively. For the years ended December 31, 2022, 2021 and 2020, we issued 254,907, 299,958 and 571,963 shares of common stock, respectively, upon vesting of certain RSUs and PSUs for which the RSU holders surrendered 68,425, 94,795 and 142,905 RSUs, respectively, to pay for minimum withholding taxes totaling approximately $4.4 million, $8.2 million and $5.5 million, respectively. Stock options and unvested restricted units totaling approximately 6.6 million, 5.9 million and 6.7 million shares of our common stock were outstanding as of December 31, 2022, 2021 and 2020, respectively.

Share Repurchases

In November 2019, the Board of Directors authorized a capital return program to repurchase up to $550.0 million of outstanding common stock over a three-year period. During 2020, we repurchased 6.5 million shares of common stock for $150.0 million at an average price of $23.05. During 2021, we repurchased 4.6 million shares of common stock for $200.0 million at an average price of $43.02 under the program. The shares were purchased through open market transactions and through an ASR agreement. The $550.0 million share repurchase program was completed in October 2021 having repurchased a total of 22.3 million shares at an average price of $24.72.

In December 2021, the Board of Directors authorized a second capital return program to repurchase up to $750.0 million of outstanding stock over a three-year period. Also in December 2021, as part of the second capital return program, we entered into an ASR agreement to repurchase $150.0 million of common stock. At inception pursuant to the agreement, we paid $150.0 million and took initial delivery of 3.5 million shares. In June 2022, we finalized the transaction and received an additional 0.4 million shares.

In August 2022, concurrent with the sale of 2028 Convertible Notes and the 2022 Induced Conversion, we repurchased 2.1 million shares of common stock in open market purchases for $90.2 million. Also, in August 2022, we entered into an ASR agreement to repurchase $109.8 million of our common stock. At inception, pursuant to the agreement, we paid $109.8 million and took an initial delivery of 2.0 million shares. In December 2022, we finalized the transaction and received an additional 0.4 million shares. We retired the repurchased shares and they resumed their status of authorized and unissued shares.

We had the following activity under the approved share repurchase programs (dollars in thousands, except share and per share data)

	2022		
	Total Number of Shares Purchased	Weighted Average Price paid Per Share	Total Cost[1]
First quarter	—	$0.00	$0
Second quarter	—	$0.00	$0
Third quarter[2]	4,500,216	$44.44	$200,000
Fourth quarter	—	$0.00	$0
	4,500,216	$44.44	$200,000

(1) Included in the total cost of shares purchased is a commission fee of $0.02 per share.
(2) Included is 0.4 million shares delivered in December 2022 upon completion of the ASR.

11. Net Income per share

Basic net income per common share is computed by dividing net income for the period by the weighted average number of common shares outstanding during the period, without consideration for common stock equivalents. Outstanding stock options, unvested RSAs, unvested RSUs, unvested PSUs, common shares expected to be issued under our ESPP and the Convertible Notes are considered common stock equivalents and are only included in the calculation of diluted earnings per common share when net income is reported and their effect is dilutive.

Potentially dilutive common shares issuable upon vesting of stock options, RSAs, RSUs and PSUs are determined using the average share price for each period under the treasury stock method. Potentially dilutive common shares issuable upon conversion of our Convertible Notes are determined using the if-converted method. Since we have committed to settle the principal amount of the Convertible Notes in cash upon conversion only, the number of shares for the conversion spread will be included as a dilutive common stock equivalent.

A reconciliation of the numerators and the denominators of the basic and diluted net income per common share computations is as follows (in thousands, except per share amounts):

	Twelve Months Ended December 31,		
	2022	2021	2020
Numerator:			
Net income	$ 202,129	$ 402,710	$ 129,085
Denominator:			
Weighted average common shares outstanding for basic net income per share	136,844	140,646	136,206
Dilutive potential common stock outstanding:			
Stock Options	2,265	2,737	2,317
RSAs, RSUs, PSUs and ESPP	422	555	627
Convertible Notes	1,077	2,858	2,313
Weighted average common shares outstanding for diluted net income per share	140,608	146,796	141,463
Net income per share:			
Basic	$ 1.48	$ 2.86	$ 0.95
Diluted	$ 1.44	$ 2.74	$ 0.91

Shares which have been excluded from the calculation of diluted net income per common share because their effect was anti-dilutive, include the following (shares in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
Anti-dilutive securities [(1)]	20.7	13.8	18.6

(1). The anti-dilutive securities include outstanding stock options, unvested RSUs, unvested PSUs, common shares expected to be issued under our ESPP and Convertible Notes.

12. Commitments and Contingencies

Operating Leases

Our properties consist of leased office, laboratory, warehouse and manufacturing facilities. Our administrative offices and research facilities are located in San Diego, California. In addition, we have an office in Ewing, New Jersey. We also lease a building in Minnetonka, Minnesota consisting of office, laboratory, manufacturing and warehousing space. We lease an aggregate of approximately 194,000 square feet of space.

In March 2022, we entered into an agreement for assignment and assumption of lease with Seismic Software, Inc. pursuant to which effective January 1, 2023, we assumed Seismic's office lease, as amended with Kilroy Realty L.P. for approximately 73,238 square feet of space in office and research facilities which commenced on December 1, 2022.

We also pay a pro rata share of operating costs, insurance costs, utilities and real property taxes.

Additionally, we lease certain office equipment under operating leases. Total rent expense was approximately $3.3 million, $2.0 million and $2.3 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Approximate annual future minimum operating lease payments as of December 31, 2022 are as follows (in thousands):

Year:	Operating Leases
2023	$ 7,800
2024	6,173
2025	5,464
2026	5,149
2027	5,296
Thereafter	17,133
Total minimum lease payments	$ 47,015
Less imputed interest	(12,227)
Total	$ 34,788

The weighted-average remaining lease term of our operating leases is approximately 7.64 years.

Legal Contingencies

From time to time, we may be involved in disputes, including litigation, relating to claims arising out of operations in the normal course of our business. Any of these claims could subject us to costly legal expenses and, while we generally believe that we have adequate insurance to cover many different types of liabilities, our insurance carriers may deny coverage or our policy limits may be inadequate to fully satisfy any damage awards or settlements. If this were to happen, the payment of any such awards could have a material adverse effect on our consolidated results of operations and financial position. Additionally, any such claims, whether or not successful, could damage our reputation and business. We currently are not a party to any legal proceedings, the adverse outcome of which, in management's opinion, individually or in the aggregate, would have a material adverse effect on our consolidated results of operations or financial position.

13. Income Taxes

Total income (loss) before income taxes summarized by region were as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
United States	$ 248,918	$ 248,071	$ 130,427
Foreign	—	447	(1,125)
Net income before income taxes	$ 248,918	$ 248,518	$ 129,302

Significant components of our net deferred tax assets/(liabilities) were as follows (in thousands).

	December 31,	
	2022	2021
Deferred tax assets:		
Net operating loss carryforwards	$ 32,887	$ 42,182
Deferred revenue	837	909
Research and development and orphan drug credits	96,133	109,041
Share-based compensation	6,353	1,814
ASC 842 lease liability	2,480	600
Capitalized research expense	10,168	—
Transaction related expense	2,354	—
Inventory related reserves	18,395	—
Interest expense limitation	—	—
Other, net	3,054	3,449
	$ 172,661	$ 157,995
Valuation allowance for deferred tax assets	(707)	(500)
Deferred tax assets, net of valuation allowance	$ 171,954	$ 157,495
Deferred tax liabilities:		
Non-deductible book amortization	(115,578)	
Depreciation	(2,559)	(1,185)
Convertible note	—	(17)
ASC 842 right of use asset	(9,061)	(426)
Other, net	(330)	(433)
Total deferred tax liabilities	$ (127,528)	$ (2,061)
Net deferred tax asset	$ 44,426	$ 155,434

A valuation allowance of $0.7 million and $0.5 million has been established to offset the net deferred tax assets as of December 31, 2022 and 2021, respectively, as realization of such assets is uncertain.

On a periodic basis, we reassess the valuation allowance of our DTAs, weighing all positive and negative evidence, to assess if it is more-likely-than-not that some or all of our DTAs will be realized. In 2021, we have demonstrated profitability and cumulative pretax income and are forecasting income growth. After assessing both the positive and negative evidence, we determined that it was more likely than not that our DTAs would be realized and released the valuation allowance in 2021.

On May 24, 2022, we acquired the outstanding shares of Antares Pharma Inc. This transaction was treated as a non-taxable acquisition, we have increased our deferred tax liabilities by approximately $119.7 million related to acquired intellectual property and a step-up to the value of inventory the amortization of which will not be tax deductible.

Income tax (benefit) expense was comprised of the following components (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Current - federal	$ 6,157	$ (9)	$ (11)
Current - state	2,525	1,251	228
Deferred - federal	44,757	(117,925)	—
Deferred - state	(6,650)	(37,509)	—
	$ 46,789	$ (154,192)	$ 217

The provision for income taxes on earnings subject to income taxes differs from the statutory federal income tax rate due to the following:

	Year Ended December 31,		
	2022	2021	2020
Federal income tax expense (benefit) at 21%	21.00 %	21.00 %	21.00 %
State income tax expense (benefit), net of federal income tax impact	0.82 %	2.67 %	(1.59)%
(Decrease) increase in valuation allowance	(0.39)%	(84.92)%	34.59 %
Worthless stock deduction of international subsidiary	— %	— %	(52.07)%
Foreign income subject to tax at other than federal statutory rate	— %	0.02 %	0.16 %
Share-based compensation	(0.66)%	(2.50)%	(1.89)%
Executive compensation limitation	2.61 %	2.32 %	1.61 %
Non-deductible expenses and other	(0.40)%	0.54 %	(1.64)%
Foreign-derived intangible income	(5.06)%	(1.18)%	— %
Transaction costs	0.88 %	— %	— %
	18.80 %	(62.05)%	0.17 %

At December 31, 2022, our unrecognized tax benefit and uncertain tax positions were $19.5 million, which will impact the effective tax rate when resolved. Of the unrecognized tax benefits, we do not expect any significant changes to occur in the next 12 months. Interest and/or penalties related to uncertain income tax positions are recognized by us as a component of income tax expense. For the years ended December 31, 2022, 2021 and 2020, we recognized an immaterial amount of interest and penalties.

The following table summarizes the activity related to our unrecognized tax benefits (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Gross unrecognized tax benefits at beginning of period	$ 17,692	$ 19,167	$ 21,483
Increases in tax positions for prior years	—	21	41
Decreases in tax positions for prior years and lapse in statue of limitations	(1,148)	(1,496)	(2,357)
Increases in tax positions related to business acquisition	2,151	—	—
Increases in tax positions for current year	787	—	—
Gross unrecognized tax benefits at end of period	$ 19,482	$ 17,692	$ 19,167

At December 31, 2022, we had federal, California and other state tax net operating loss carryforwards of approximately $31.2 million, $237.4 million and $63.4 million, respectively. The California and Minnesota net operating loss carryforwards begin to expire in 2028 and 2022, respectively.

As a result of the acquisition of Antares, we acquired federal and Minnesota research and development credits of approximately $7.4 million and $0.72 million, respectively. We expect to be able to fully utilize these attributes without limitation.

At December 31, 2022, we had federal, California and Minnesota research and development tax credit carryforwards of approximately $30.8 million, $17.0 million and $0.7 million, respectively. The federal research and development tax credits will begin to expire in 2030 unless previously utilized. The California research and development tax credits will carryforward indefinitely until utilized. The Minnesota research and development credit will begin to expire in 2023 unless previously utilized. Additionally, we had Orphan Drug Credit carryforwards of $70.0 million which will begin to expire in 2034.

Pursuant to Internal Revenue Code Section 382, the annual use of the net operating loss carryforwards and research and development tax credits could be limited by any greater than 50% ownership change during any three year testing period. As a result of any such ownership change, portions of our net operating loss carryforwards and research and development tax credits are subject to annual limitations. We completed an updated Section 382 analysis regarding the limitation of the net operating losses and research and development credits as of December 31, 2020. Based upon the analysis, we determined that ownership changes occurred in prior years; however, the annual limitations on net operating loss and research and development tax credit carryforwards will not have a material impact on the future utilization of such carryforwards.

We do not provide for U.S. income taxes on the undistributed earnings of our foreign subsidiary as it is our intention to utilize those earnings in the foreign operations for an indefinite period of time. At December 31, 2022 and 2021, there were no undistributed earnings in foreign subsidiaries.

We are subject to taxation in the U.S. and in various state and foreign jurisdictions. Our tax years for 2008 and forward are subject to examination by the U.S. and California tax authorities due to the carryforward of unutilized net operating losses and research and development credits.

14. Employee Savings Plan

We have an employee savings plan pursuant to Section 401(k) of the Internal Revenue Code. All employees are eligible to participate, provided they meet the requirements of the plan. We are not required to make matching contributions under the plan. However, we voluntarily contributed to the plan approximately $2.6 million, $1.1 million and $1.1 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Halozyme Therapeutics, Inc.

Schedule II

Valuation and Qualifying Accounts
(in thousands)

	Balance at Beginning of Period	Acquired	Additions	Deductions	Balance at End of Period
For the year ended December 31, 2022					
Accounts receivable allowances [1]	$ 1,140	$ 924	$ 5,946	$ (6,096)	$ 1,914
For the year ended December 31, 2021					
Accounts receivable allowances [1]	$ 1,003	$ —	$ 8,131	$ (7,994)	$ 1,140
For the year ended December 31, 2020					
Accounts receivable allowances [1]	$ 797	$ —	$ 13,276	$ (13,070)	$ 1,003

(1) Allowances are for chargebacks, prompt payment discounts and distribution fees related to proprietary product sales.

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