UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2023

OR

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

For the transition period from _to_

Commission File Number 001-36352

AKEBIA THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**20-8756903**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
245 First Street, Cambridge, MA	**02142**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (617) 871-2098

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.00001 par value per share	**AKBA**	**The Nasdaq Capital Market**

Securities registered pursuant to 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 an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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

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

Indicate by check mark whether the registrant 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 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, based on the closing price of the registrant's Common Stock on The Nasdaq Global Market on June 30, 2023, was $169,721,714.

The number of shares of registrant's Common Stock outstanding as of March 13, 2024 was 209,372,275.

DOCUMENTS INCORPORATED BY REFERENCE

The registrant intends to file a definitive proxy statement pursuant to Regulation 14A in connection with its 2024 Annual Meeting of Stockholders within 120 days after the end of the registrant's fiscal year ended December 31, 2023. Portions of the proxy statement are incorporated by reference into Part III of this Annual Report on Form 10-K.

Akebia Therapeutics, Inc.
Form 10-K
For the Year Ended December 31, 2023

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In this Annual Report on Form 10-K, or Form 10-K, unless otherwise stated or the context otherwise requires, references to "Akebia," "we," "us," "our," "the Company," "our Company" and similar references refer to Akebia Therapeutics, Inc. and, where appropriate, its consolidated subsidiaries. On December 12, 2018, in connection with the consummation of the merger, or Merger, with Keryx Biopharmaceuticals, Inc., or Keryx, Keryx became a wholly owned subsidiary of the Company.

AURYXIA®, AKEBIA Therapeutics®, Vafseo® and their associated logos are trademarks of Akebia and/or its affiliates. All other trademarks, trade names and service marks appearing in this Form 10-K are the property of their respective owners. Solely for convenience, trademarks, trade names and service marks referred to in this Form 10-K may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that the applicable licensor will not assert, to the fullest extent under applicable law, its rights to these trademarks and trade names. We do not intend our use or display of other companies' trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other company.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, or Form 10-K, contains forward-looking statements that are being made pursuant to the provisions of the U.S. Private Securities Litigation Reform Act of 1995 with the intention of obtaining the benefits of the "safe harbor" provisions of that Act. All statements contained in this Form 10-K other than statements of historical fact are forward-looking statements. These forward-looking statements may be accompanied by words such as "anticipate," "believe," "build," "can," "contemplate," "continue," "could," "should," "designed," "estimate," "project," "expect," "forecast," "future," "goal," "intend," "likely," "may," "plan," "possible," "potential," "predict," "strategy," "seek," "target," "will," "would," and other words and terms of similar meaning, but the absence of these words does not necessarily mean that a statement is not forward-looking. These forward-looking statements include, but are not limited to, statements about:

- the timing of or likelihood of regulatory filings and approvals, including with respect to labeling or other restrictions, such as the anticipated timing of a response by the FDA to our resubmission of our new drug application for vadadustat following our receipt of a complete response letter from the FDA, and potential indications for vadadustat;
- the potential therapeutic benefits, safety profile, and effectiveness of vadadustat;
- our pipeline and portfolio, including its potential, and our related research and development activities;
- the timing, investment and associated activities involved in continued commercialization of Auryxia® (ferric citrate), its growth opportunities and our ability to execute thereon;
- the potential indications, demand and market opportunity, potential and acceptance of Auryxia and vadadustat, if approved, including the size of eligible patient populations;
- the potential therapeutic applications of the hypoxia inducible factor pathway;
- our competitive position, including estimates, developments and projections relating to our competitors and their products and product candidates, and our industry;
- our expectations, projections and estimates regarding our capital requirements, need for additional capital, financing our future cash needs, costs, expenses, revenues, capital resources, cash flows, financial performance, profitability, tax obligations, liquidity, growth, contractual obligations and the period of time our cash resources will fund our current operating plan, estimates with respect to our ability to operate as a going concern, our internal control over financial reporting and disclosure controls and procedures, and any future deficiencies or material weaknesses in our internal controls and procedures;
- delivering value broadly to the kidney community, as well as others who may benefit from our medicines, will result in delivering value for stockholders;
- the direct or indirect impacts of the recent COVID-19 pandemic on our business, operations and the markets and communities in which we and our partners, collaborators, vendors, and customers operate;
- our manufacturing, supply and quality matters and any recalls, write-downs, impairments or other related consequences or potential consequences;
- estimates, beliefs and judgments related to the valuation of intangible asset, goodwill, debt and other assets and liabilities, including classification of expenses, assets and liabilities, our impairment analyses and our methodology and assumptions regarding fair value measurements;
- the timing of the availability and disclosure of clinical trial data and results;
- the designs of our studies, and the type of information and data expected from our studies and the expected benefits thereof;
- our and our collaborators' strategy, plans and expectations with respect to the development, manufacturing, supply, commercialization, launch, marketing and sale of Auryxia, Vafseo and vadadustat, if approved, and the associated timing thereof;
- our ability to maintain any marketing authorizations we currently hold or will obtain, including our marketing authorizations for Auryxia and our ability to complete post-marketing requirements with respect thereto;
- our ability to negotiate, secure and maintain adequate pricing, coverage and reimbursement terms and processes on a timely basis, or at all, with third-party payors for Auryxia and vadadustat, if approved;
- the timing of initiation of our clinical trials and plans to conduct preclinical studies and clinical trials in the future;
- the timing and amounts of payments from or to our collaborators and licensees, and the anticipated arrangements and benefits under our collaboration and license agreements, including with respect to milestones and royalties;

- our intellectual property position, including obtaining and maintaining patents, and the timing, outcome and impact of administrative, regulatory, legal and other proceedings relating to our patents and other proprietary and intellectual property rights, patent infringement suits that we have filed or may file, or other actions that we may take against companies, and the timing and resolution thereof;
- expected ongoing reliance on third parties, including with respect to the development, manufacturing, supply and commercialization of Auryxia and vadadustat, if approved;
- accounting standards and estimates, their impact, and their expected timing of completion;
- estimated periods of performance of key contracts;
- our facilities, lease commitments, and future availability of facilities;
- cybersecurity;
- insurance coverage;
- management of personnel, including our management team, and our employees, including employee compensation, employee relations, and our ability to attract, train and retain high quality employees;
- the implementation of our business model, current operating plan, and strategic plans for our business, product candidates and technology, and business development opportunities including potential collaborations, alliances, mergers, acquisitions or licensing of assets;
- additional costs we may incur due to events associated with or resulting from our prior workforce reductions or other operating expenses, including additional costs related to vadadustat and selling, general and administrative expenses; and
- the timing, outcome and impact of current and any future legal proceedings.

Any or all of these forward-looking statements in this Form 10-K may turn out to be inaccurate. These forward-looking statements involve risks and uncertainties, including those that are discussed below under the heading "Risk Factors Summary", and the risk factors identified further in Part I, Item 1A. "Risk Factors" included in this Form 10-K and elsewhere in this Form 10-K and in our Securities and Exchange Commission reports filed after this report, that could cause our actual results, financial condition, performance or achievements to be materially different from those indicated in these forward-looking statements. Given these risks and uncertainties, you should not place undue reliance on these forward-looking statements. Forward-looking statements speak only as of the date of this Form 10-K. Except as required by law, we assume no obligation to publicly update or revise these forward-looking statements for any reason. Unless otherwise stated, our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

This Form 10-K also contains estimates and other information concerning our industry and the markets for certain diseases, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Unless otherwise expressly stated, we obtained this industry, market and other data from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources.

RISK FACTORS SUMMARY

Investing in our common stock involves numerous risks, including the risks summarized below and described in further detail in "Part I, Item 1A. Risk Factors" of this Form 10-K, any one of which could materially adversely affect our business, financial condition, results of operations, and prospects. These risks include, but are not limited to, the following.

- We have incurred significant losses since our inception and anticipate that we will continue to incur losses and cannot guarantee when, if ever, we will become profitable or attain positive cash flows.
- We may require substantial additional financing to fund our business. A failure to obtain this necessary capital when needed, or on acceptable terms, could force us to delay, limit, reduce or terminate our product development or commercialization efforts.
- Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our product and product candidates on unfavorable terms to us.
- If we fail to comply with the continued listing requirements of Nasdaq, our common stock may be delisted and the price of our common stock and our ability to access the capital markets could be negatively impacted.
- We may not be successful in our efforts to identify, acquire, in-license, discover, develop and commercialize additional products or product candidates or our decisions to prioritize the development of certain product candidates over others may not be successful, which could impair our ability to grow.
- We may engage in strategic transactions to acquire assets, businesses, or rights to products, product candidates or technologies or form collaborations or make investments in other companies or technologies that could harm our operating results, dilute our stockholders' ownership, increase our debt, or cause us to incur significant expense.
- Our obligations in connection with the Agreement for the Provision of a Loan Facility, or the BlackRock Credit Agreement, with Kreos Capital VII (UK) Limited, or Kreos, which are funds and accounts managed by BlackRock Inc., collectively BlackRock, and requirements and restrictions in the BlackRock Credit Agreement could adversely affect our financial condition and restrict our operations.
- Our Royalty Interest Acquisition Agreement with HealthCare Royalty Partners IV, L.P. contains various covenants and other provisions, which, if violated, could materially adversely affect our financial condition.
- Our business is substantially dependent on the commercial success of Auryxia and vadadustat, if approved. If we are unable to continue to successfully commercialize Auryxia or vadadustat, if approved and commercialized, our results of operations and financial condition will be materially harmed.
- If we are unable to maintain or expand, or, if vadadustat is approved, initiate, sales and marketing capabilities or enter into additional agreements with third parties, we may not be successful in commercializing Auryxia, vadadustat, if approved, or any other product candidates that may be approved.
- Our, or our partners', failure to obtain or maintain adequate coverage, pricing and reimbursement for Auryxia, vadadustat, if approved, or any other future approved products, could have a material adverse effect on our or our collaboration partners' ability to sell such approved products profitably and otherwise have a material adverse impact on our business.
- We face substantial competition, which may result in others discovering, developing or commercializing products before, or more successfully than, we do.
- The commercialization of Riona and Vafseo in Japan, Vafseo in Europe and other territories where it is approved, and our current and potential future efforts with respect to the development and commercialization of our products and product candidates outside of the United States, or U.S., subject us to a variety of risks associated with international operations, which could materially adversely affect our business.
- Clinical drug development involves a lengthy and expensive process with an uncertain outcome, and we will incur additional costs in connection with, and may experience delays in completing, or ultimately be unable to complete, the development of vadadustat and any other product candidates.
- We may find it difficult to enroll patients in our clinical trials, which could delay or prevent clinical trials of Auryxia, vadadustat or any other product or product candidate, including those that may be in-licensed or acquired.
- Conducting clinical trials outside of the U.S., as we have done historically and as we may decide to do in the future, presents additional risks and complexities and, if we decide to conduct a clinical trial outside of the U.S. in the future, we may not complete such trials successfully, in a timely manner, or at all, which could affect our ability to obtain regulatory approvals.
- Auryxia, vadadustat or any other product or product candidate, including those that may be in-licensed or acquired, may cause undesirable side effects or have other properties that may delay or prevent marketing approval or limit their commercial potential.

- We may not be able to obtain marketing approval for vadadustat or any other product candidate, or we may experience significant delays in doing so, any of which would materially harm our business.
- Products approved for marketing are subject to extensive post-marketing regulatory requirements and could be subject to post-marketing restrictions or withdrawal from the market, and we may be subject to penalties, including withdrawal of marketing approval, if we fail to comply with regulatory requirements or if we experience unanticipated problems with our products, or product candidates, when and if any of them is approved.
- We are subject to complex regulatory schemes that require significant resources to ensure compliance and our failure to comply with applicable laws could subject us to government scrutiny or enforcement, potentially resulting in costly investigations, fines, penalties or sanctions, contractual damages, reputational harm, administrative burdens and diminished profits and future earnings.
- We will incur significant liability if it is determined that we are promoting any “off-label” use of Auryxia or any other product we may develop, in-license or acquire or if it is determined that any of our activities violates the federal Anti-Kickback Statute.
- Disruptions in the U.S. Food and Drug Administration, regulatory authorities outside the U.S. and other government agencies caused by global health concerns or funding shortages could prevent new products and services from being developed or commercialized in a timely manner, which could negatively impact our business.
- Compliance with privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and process data globally, and the failure to comply with such requirements could subject us to significant fines and penalties, which may have a material adverse effect on our business, financial condition or results of operations.
- Legislative and regulatory healthcare reform may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and affect the prices we may obtain for any products that are approved in the U.S. or foreign jurisdictions.
- We depend on collaborations with third parties for the development and commercialization of Auryxia, Riona, Vafseo and vadadustat and if these collaborations are not successful or if our collaborators terminate their agreements with us, we may not be able to capitalize on the market potential of Auryxia, Riona, Vafseo and vadadustat, and our business could be materially harmed.
- We may seek to establish additional collaborations and, if we are not able to establish them on commercially reasonable terms, or at all, we may have to alter our development and commercialization plans.
- We rely upon third parties to conduct all aspects of our product manufacturing and commercial distribution, and in many instances only have a single supplier or distributor, and the loss of these manufacturers or distributors, their failure to supply us on a timely basis, or at all, or their failure to successfully carry out their contractual duties or comply with regulatory requirements, cGMP requirements, or guidance could cause delays in or disruptions to our supply chain and substantially harm our business.
- We rely upon third parties to conduct our clinical trials and certain of our preclinical studies. If they do not successfully carry out their contractual duties, comply with regulatory requirements or meet expected deadlines, we may not be able to obtain or maintain marketing approval for Auryxia, vadadustat or any of our product candidates, and our business could be substantially harmed.
- If the licensor of certain intellectual property relating to Auryxia terminates, modifies or threatens to terminate existing contracts or relationships with us, our business may be materially harmed.
- If we are unable to adequately protect our intellectual property, third parties may be able to use our intellectual property, which could adversely affect our ability to compete in the market.
- We may not be able to protect our intellectual property rights throughout the world.
- The intellectual property that we own or have licensed and related non-patent exclusivity relating to our current and future products is, and may be, limited, which could adversely affect our ability to compete in the market and adversely affect the value of Auryxia, vadadustat, if approved, or future products.
- The market entry of one or more generic competitors or any third party’s attempt to challenge our intellectual property rights will likely limit Auryxia sales and have an adverse impact on our business and results of operation.
- Litigation and administrative proceedings, including third party claims of intellectual property infringement and opposition/invalidation proceedings against third party patents, may be costly and time consuming and may delay or harm our drug discovery, development and commercialization efforts.
- We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties.

- If we fail to attract, retain and motivate senior management and qualified personnel, we may be unable to successfully develop, obtain and/or maintain marketing approval of and commercialize vadadustat or commercialize Auryxia.
- Our cost savings plan and the associated workforce reductions implemented in April, May and November 2022 may not result in anticipated savings, could result in total costs and expenses that are greater than expected and could disrupt our business.
- We may encounter difficulties in managing our growth, including with respect to our employee base, and managing our partnerships and operations successfully.
- We have identified a material weakness in our internal control over financial reporting as of December 31, 2023 relating to our accounting for inventory and inventory related transactions. If we are not able to remediate this material weakness, or if we experience additional material weaknesses or other deficiencies in our internal control over financial reporting in the future or otherwise fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately or timely report our financial results or prevent fraud, and we may conclude that our internal control over financial reporting is not effective, which may adversely affect our business.
- We are currently subject to legal proceedings that could result in substantial costs and divert management's attention, and we could be subject to additional legal proceedings.
- Our stock price has been and may continue to be volatile, which could result in substantial losses for holders or future purchasers of our common stock and lawsuits against us and our officers and directors.

PART I

Item 1. Business

Overview

We are a fully integrated, commercial-stage biopharmaceutical company committed to addressing patients' unmet needs. We have built a business focused on developing and commercializing innovative therapeutics that we believe serve as a foundation for future growth. Our purpose is to better the life of each person impacted by kidney disease, and we have established ourselves as a leader in the kidney community. We believe our demonstrated ability to deliver value broadly to the kidney community has enabled us to build a sustainable company. Upon this solid foundation and our continued commitment to patients, we believe focusing on all patients who can realize a meaningful benefit from our medicines will deliver value for our shareholders.

Our current portfolio and hypoxia-inducible factor (HIF)-based pipeline includes:

Product	Indication	Region(s)	Discovery	Phase 1	Phase 2	Phase 3	Regulatory Review	Commercial Approval	In Market
Auryxia® (ferric citrate)	Hyperphosphatemia, IDA	United States[1], Japan[2] and Taiwan[2]							
Vafseo®	Anemia DD-CKD, Anemia NDD-CKD	Japan[3]							
Vafseo®	Anemia DD-CKD	European Union[4], United Kingdom[4], Switzerland[4], Australia[4], Taiwan[5] and Korea[5]							
Vadadustat	Anemia DD-CKD	United States[1]							
Vadadustat	Anemia NDD-CKD	Global[6]							
AKB-9090	AKI, ARDS	Global[1]							
AKB-10108	ROP	Global[1]							

[1] Marketed by Akebia
[2] Marketed by JT Torii
[3] Marketed by MTPC
[4] To be marketed by Medice
[5] To be marketed by MTPC
[6] To be marketed by Akebia; MTPC and Medice have certain rights in their territories

Auryxia® (ferric citrate) is an orally administered medicine approved and marketed in the United States, or U.S., for two indications: (1) the control of serum phosphorus levels in adult patients with dialysis dependent chronic kidney disease, or DD-CKD, and (2) the treatment of iron deficiency anemia, or IDA, in adult patients with non-dialysis-dependent chronic kidney disease, or NDD-CKD. Today, we market Auryxia in the U.S. with our well-established, nephrology-focused commercial organization. Our Japanese sublicensee, Japan Tobacco, Inc., and its subsidiary, Torii Pharmaceutical Co., Ltd., collectively, JT and Torii, commercialize ferric citrate hydrate as Riona in Japan. Averoa SAS, or Averoa, has an exclusive license to develop and commercialize ferric citrate in the European Economic Area, or EEA, Turkey, Switzerland and the United Kingdom, or UK. We expect Averoa will apply for marketing authorization for ferric citrate in Europe.

Vafseo® (vadadustat) is a HIF prolyl hydroxylase, or HIF-PH, inhibitor, approved in 36 countries as a treatment for anemia due to chronic kidney disease, or CKD.

- In the European Union, or EU, the UK, Switzerland and Australia, vadadustat is approved under the trade name Vafseo for the treatment of symptomatic anemia associated with CKD in adults on chronic maintenance dialysis. In May 2023, we entered into a License Agreement with MEDICE Arzneimittel Pütter GmbH & Co. KG, or Medice, pursuant to which we granted Medice an exclusive license to develop and commercialize vadadustat for the treatment of anemia in patients with CKD in the EEA, the UK, Switzerland and Australia, or the Medice Territory.
- In Japan, vadadustat is approved as a treatment for anemia due to CKD in both dialysis dependent and non-dialysis dependent patients under the trade name Vafseo, and is marketed and sold by our collaborator Mitsubishi Tanabe Pharma Corporation, or MTPC. In Taiwan, vadadustat is approved for the treatment of symptomatic anemia due to CKD in adult patients on chronic maintenance dialysis and in Korea as an anemia treatment for patients with CKD on hemodialysis. MTPC plans to commercialize vadadustat in Taiwan.

We continue to pursue approval for vadadustat in the U.S. In September 2023, we completed our resubmission to our New Drug Application, or NDA, for the treatment of anemia due to CKD in adult patients on dialysis to the U.S. Food and Drug Administration, or FDA. In October 2023, the FDA acknowledged that the resubmission was complete, classified it as a Class 2 response and set a user fee goal date, or PDUFA Date, of March 27, 2024.

We initially submitted an NDA to the FDA for vadadustat in March of 2021. On March 29, 2022, the FDA issued a complete response letter, or CRL, to our NDA. The FDA concluded that the data in the NDA did not support a favorable benefit-risk assessment of vadadustat for dialysis and non-dialysis patients. The FDA expressed safety concerns, noting failure to meet non-inferiority in Major Adverse Cardiovascular Events, or MACE, in the non-dialysis patient population, the increased risk of thromboembolic events driven by vascular access thrombosis in dialysis patients and the risk of drug-induced liver injury. We believe there are compelling data supporting a positive benefit-risk profile for the use of vadadustat broadly in patients with CKD. In October 2022, we submitted a Formal Dispute Resolution Request, or FDRR, with the FDA regarding the CRL focused on the favorable balance of the benefits and risks of vadadustat for the treatment of adult patients with anemia due to CKD on dialysis. In May 2023, the Office of New Drugs, or OND, denied our appeal but provided a path forward for us to resubmit the NDA for vadadustat for the treatment of anemia due to CKD for dialysis dependent patients without the need for us to generate additional clinical data. This led to the NDA resubmission in September 2023.

We own full rights to vadadustat in the U.S., subject to our licensing agreement with Vifor (International) Ltd. (now a part of CSL Limited), or CSL Vifor. If we obtain FDA approval for vadadustat as an oral treatment for anemia due to CKD in adult dialysis patients, we plan to commercialize vadadustat in the U.S. with CSL Vifor. Beyond seeking U.S. approval, we have several lifecycle management and indication expansion opportunities currently under evaluation for vadadustat, including the potential for alternative dosing and label expansion for treatment of anemia due to CKD in adult patients not on dialysis.

Our HIF-based pipeline assets are molecules being evaluated to target areas of unmet needs in acute care settings. The discovery of HIF laid the foundation to explore the central role of oxygen sensing in many diseases. As we have seen through the development of vadadustat as a treatment for anemia due to CKD, when stabilized, HIF triggers wide-ranging adaptive, protective responses during hypoxic or ischemic conditions. We have selected two additional HIF molecules for preclinical development: AKB-9090, for use in an acute care setting, potentially for acute kidney disease, or AKI, or acute respiratory distress syndrome, or ARDS, and AKB-10108 for retinopathy of prematurity, or ROP, in neonates.

We continue to explore additional commercial and development opportunities to expand our pipeline and portfolio of novel therapeutics through both internal research and external innovation to leverage our fully integrated team.

Strategy

Our strategic focus and business operations are driven by our commitment to patients. Our broad understanding of kidney disease helps us serve the unmet needs of kidney patients and others impacted by chronic and debilitating illness. Our team has extensive experience in developing and commercializing innovative products, a deep understanding of the renal space commercially as well as the biological pathways involved in kidney disease and business development expertise. We are focused on executing on the following four key initiatives:

- **Maximize the Value of Auryxia:** We continue to use our nephrology-focused commercial organization to increase awareness and the demand for and adoption of Auryxia for its approved indications with key stakeholders including nephrologists, third-party payors, dialysis organizations and patients. Auryxia has contributed consistent, meaningful revenue to the business since it became part of our portfolio in 2018. Our goals are to grow Auryxia net product revenue in 2024 and position the brand to enable our team to leverage potential tailwinds which could slow revenue decline upon loss of exclusivity, or LoE, for Auryxia in March 2025.
- **Unlock Significant Value with Potential U.S. Vadadustat Approval and Commercial Launch Globally:** Our near-term goal is to secure approval for vadadustat as an oral treatment for anemia due to CKD in adult dialysis patients in the U.S., which is the largest market opportunity globally for this population. We will also continue to support our partners in preparation to launch Vafseo in Europe, Taiwan and potentially other countries to pursue our goal of

enabling broad access to vadadustat for patients globally. We own full rights to vadadustat in China, Latin America and certain other territories and U.S. rights subject to our license agreement with CSL Vifor, which could provide potential long-term value.

- **Advance pipeline, with focus on HIF-based molecules:** As a leader in HIF biology, we aim to thoughtfully invest in our pipeline, including our decision to advance two HIF-based molecules for potential use in acute care settings to the clinic. Through pipeline advancement, our goal is to target new market opportunities in areas of high unmet need.
- **Explore Strategic Growth:** We continue to explore additional commercial and development opportunities to expand our pipeline and portfolio of novel therapeutics through both internal research and external innovation to leverage our fully integrated team.

In addition to our work to maximize net product revenue, we plan to pursue initiatives to ensure strategic use of capital, most recently securing access to a term loan with a payback period beyond a potential launch of vadadustat in the U.S., if approved. We will also continue on our path of financial discipline, cross-organizational efficiency and operational effectiveness.

Background on Chronic Kidney Disease

There is a clear need to improve the quality of life outcomes for people living with kidney disease. CKD is a condition in which the kidneys are progressively damaged to the point that they cannot properly filter the blood circulating in the body. This damage causes waste products to build up in the patient's blood, leading to other health problems, including anemia, cardiovascular disease and bone disease. In the U.S., CKD significantly impacts the U.S. healthcare system, potentially affecting about 37 million patients and costing Medicare nearly $125.0 billion annually for treating Medicare beneficiaries with CKD or end-stage renal disease, or ESRD, according to the Centers for Disease Control and Prevention.

The prevalence and incidence of CKD is increasing in all segments of the U.S. population. Risk factors for the development of CKD include concomitant diseases such as obesity, hypertension, diabetes mellitus and cardiovascular disease, lifestyle factors such as tobacco use and inactivity, family history, aging and prenatal factors such as maternal diabetes mellitus, low birth weight and small-for-gestational-age status. The progression of CKD towards renal failure is complicated by multiple conditions which further deteriorate kidney function and the general health of patients if left untreated. Typically the prevalence of these conditions increases as CKD progresses. For instance, patients with CKD often experience high phosphorus and develop hyperphosphatemia, which can result in bone disease, vascular calcification and calciphylaxis (skin ulceration). Additionally, anemia, characterized by low hemoglobin levels, is typically associated with fatigue, worsening quality of life, increased hospitalizations and increased mortality.

Anemia, or low hemoglobin/red blood count, in patients with CKD most commonly arises from two etiologies:

1. Anemia due to CKD: results from inadequate levels of erythropoietin, or EPO, a protein hormone synthesized by specialized cells in the kidney that stimulates red blood cell, or RBC, production in the bone marrow. As renal function declines, the body progressively loses the ability to produce endogenous EPO; and
2. IDA: results from low levels of iron due to abnormal iron absorption and utilization in patients with CKD.

Auryxia

Auryxia is an iron-based, non-calcium, non-chewable, orally-administered tablet approved and marketed in the U.S., Japan and Taiwan for the treatment of hyperphosphatemia in adult patients with dialysis dependent CKD and for the treatment of IDA in adult patients with NDD-CKD.

Market Opportunity – Hyperphosphatemia and Iron Deficiency Anemia

Hyperphosphatemia is a metabolic disorder characterized by elevated serum phosphorus levels. Phosphorus is a vital element required for most cellular processes and, in individuals with normal kidney function, excess dietary phosphorus is removed by the kidneys and excreted in urine. In adults with functioning kidneys, normal serum phosphorus levels are 2.5 to 4.5 mg/dL. In adults with DD-CKD, elevated phosphorus levels, or hyperphosphatemia, can be associated with adverse effects, including increased risk for cardiovascular disease, bone disease and death.

Phosphate binders and phosphate inhibitors are the only interventions marketed for the treatment of hyperphosphatemia. According to the U.S. Renal Data System 2022 Annual Data Report, there were nearly 558,000 patients in the U.S. on dialysis in 2020, of which approximately 80% were treated with a phosphate binder. Phosphate binders need to be taken with meals and snacks, and it is not uncommon for DD-CKD patients to be prescribed as many as 12 or more phosphate binder pills per day, among other medications. Patients taking phosphate binders also experience gastrointestinal tolerability issues. As a result of the pill burden and tolerability issues associated phosphate binders, prescribed phosphate binders are often intolerable for many patients, leading to lack of treatment adherence.

In addition, in 2020 approximately 44% of patients treated with a phosphate binder were treated solely with a calcium-based binder, which can lead to side effects such as increased cardiovascular risk, hypercalcemia and gastrointestinal-related adverse events. Due to the risks associated with calcium-based binders, in 2017 Kidney Disease: Improving Global Outcomes, or KDIGO, recommended that clinicians limit the use of calcium-based binders.

Anemia is a condition characterized by abnormally low levels of hemoglobin. Hemoglobin is contained within RBCs and carries oxygen to other parts of the body. If there are too few RBCs or if hemoglobin levels are low, the cells in the body will not get enough oxygen. IDA is a common form of anemia that is caused by patients not having enough iron to manufacture healthy RBCs. Although anyone can develop IDA, IDA is particularly common in NDD-CKD patients. IDA is associated with fatigue, lethargy, decrease quality of life, cardiovascular complications, hospitalizations and increased mortality.

We estimate that there are more than 500,000 adult patients in the U.S. with NDD-CKD diagnosed with IDA and managed by a nephrologist. Currently, there are two forms of iron therapy used to treat IDA: oral iron supplements and iron delivered via intravenous infusion, or IV, iron. Oral iron is currently the first-line iron replacement therapy for most physicians; however, oral iron supplements are poorly absorbed by many patients, which may adversely impact their effectiveness, and are associated with certain side effects, such as constipation, diarrhea and cramping, that may adversely affect treatment adherence. IV iron is viewed as an effective treatment; however, like other intravenous medicines, it is logistically difficult to administer in an office setting, where NDD-CKD patients are more often treated.

Commercialization

We market Auryxia in the U.S. through our well-established, nephrology-focused sales force and commercial organization.

Auryxia, as an oral drug, is covered by Medicare under Part D and commercial channels. Patients with hyperphosphatemia have access to Auryxia through the major Medicare Part D plans and the ten largest commercial plans and pharmacy benefit managers in the U.S., which provide coverage for approximately 127 million people. In September 2018, the Centers for Medicare & Medicaid Services, or CMS, decided that Auryxia would no longer be covered by Medicare for the treatment of IDA. While this decision does not impact CMS coverage for the treatment of hyperphosphatemia, it requires all Auryxia prescriptions for Medicare patients to undergo a prior authorization, or PA, to ensure their use in that indication. We decided beginning in 2022 to terminate certain Part D contracts, as patients no longer had the access benefit given the PA requirement. Now, patients must go through a medical exemption process, which is very similar to a PA review. While we believe this had, and may continue to have, a negative impact on our overall sales volume, we believe it had a significant positive impact on our net selling price.

In recognition of the evolution of chronic kidney care to value-based reimbursement and care delivery, in late 2022 we shifted our commercial model to align to customer objectives. The team of key account managers are focused on high value individual prescribers that represent approximately 70% of Auryxia prescribing and 40% of the overall binder market potential. The team also focuses on large group practices that are part of the Comprehensive Kidney Care Contracting, or CKCC, program. These entities are focused on delivering coordinated, cost-effective care for advanced CKD patients, including those receiving dialysis. This customer group requires different clinical and economic rationale for supporting product use in protocols and formularies. Therefore, we have aligned key account managers to these high-volume, value-based care organizations. We believe this model is more aligned to our customers' needs and recognition of our product's value proposition.

JT and Torii market Riona in Japan. We receive tiered double-digit royalties from JT and Torii based on their sales in Japan.

Vadadustat

Market Opportunity

Anemia is common in patients with CKD, and its prevalence increases with disease progression. Anemia due to CKD results from inadequate EPO levels, negatively affecting RBC production. Left untreated, anemia accelerates the overall deterioration of patient health with increased morbidity and mortality. Based on third-party prevalence data and company estimates, approximately 5.7 million people in the U.S. with CKD suffer from anemia. According to the U.S. Renal Data System 2022 Annual Data Report, there were nearly 558,000 patients in the U.S. on dialysis in 2020, of which 86% were on in-center hemodialysis and the remainder on home dialysis, which includes both peritoneal dialysis and home hemodialysis.

The current standard of care for anemia due to CKD is treatment by injectable recombinant human erythropoiesis-stimulating agents, or ESAs, such as Epogen® (epoetin alfa), Aranesp® (darbepoetin alfa) or Mircera® (methoxy polyethylene glycol-epoetin beta), or blood transfusion. Based on publicly available information on ESA sales and market data compiled by a third-party vendor, global sales of injectable ESAs for all uses were estimated to be approximately $10.0 billion in 2022. The vast majority of these sales are believed to have been for the treatment of anemia due to CKD. In Europe, within the EU5, which refers to the five largest markets in Europe or France, Germany, Italy, Spain and England, more than 200,000 dialysis patients are diagnosed with anemia due to CKD and are treated with ESAs.

When administered to a patient, injectable ESAs provide supraphysiological levels of exogenous EPO to stimulate production of RBCs. While injectable ESAs can be effective in raising hemoglobin levels, they have the potential to cause significant side effects, and need to be injected subcutaneously or intravenously. In particular, injectable ESAs may lead to thrombosis, stroke, myocardial infarction and death. Also, controlled trials have demonstrated that patients experienced greater risk of death, serious adverse cardiovascular reactions, and stroke when administered ESAs to a target hemoglobin level of greater than 11g/dL. While these safety concerns, which became evident starting in 2006, have led to a significant reduction in the use of injectable ESAs, and an increase in the use of injectable iron, injectable ESAs remain the current standard of care for the treatment of anemia due to CKD in patients on dialysis and not dialysis dependent.

We believe there is a significant opportunity for vadadustat to address limitations of injectable ESAs and become a new oral option for the treatment of anemia due to CKD in adult patients on dialysis, if approved. In addition, clinical data from our Phase 3 $INNO_2VATE$ program showed vadadustat was non-inferior to darbepoetin alfa with respect to hematological efficacy (change in hemoglobin concentration) and cardiovascular safety (MACE) in adult patients on dialysis.

Injectable ESAs are administered by dialysis center staff to approximately 90% of in-center hemodialysis patients and 75% of home dialysis patients. Although the significant majority of dialysis patients are cared for in-center, recently, several factors including the COVID-19 pandemic, changing patient preferences, government initiatives and reimbursement changes are supporting a shift toward home dialysis. We believe as an oral therapeutic, vadadustat has potential to be a convenient treatment alternative to injectable ESAs not only for in-center dialysis patients, but also for the growing number of home dialysis patients and patients transitioning to home dialysis.

Given the concentration of dialysis clinics in large networks, with DaVita, Inc., or DaVita, and Fresenius Kidney Care Group LLC, or Fresenius, accounting for a vast majority of the dialysis population in the U.S., treatment is usually driven by medical protocols that are implemented across the entire network of clinics. These protocols are informed by very large data sets and when updated, result in rapid change applicable to large segments of the patient population. This is particularly true of medications covered under the ESRD Prospective Payment System, or PPS, in Medicare, or the ESRD Bundle, a payment structure with a flat base rate per dialysis session adjusted for individual patient and facility characteristics. Dialysis-related drugs are included in the ESRD Bundle if they fall into functional categories such as anemia management and bone and mineral metabolism, except that oral-only drugs are exempted from inclusion until 2025. In a final ESRD PPS rule published in November 2018, CMS confirmed that it will expand the Transitional Drug Add-on Payment Adjustment, or TDAPA, to all new dialysis drugs approved by the FDA after January 1, 2020. The TDAPA will provide separate payment for new drugs for two years based on the drug's Average Sales Price, or ASP, that will be in addition to the base rate in order to facilitate the adoption of innovative therapies. Although there are several details that need further clarification, and the precise timing of when we could receive codes to allow for reimbursement under TDAPA is not known, the codes are assigned on a quarterly basis, and the rule provides support for our assumption that new anemia treatments, including those in the HIF-PH inhibitor class, will be included in the ESRD Bundle and will be eligible for separate payment initially under TDAPA, and we expect to receive TDAPA designation for vadadustat six months post-filing acceptance if approved by the FDA.

Commercialization

We are supporting MTPC's commercialization of vadadustat in Japan and will support Medice's commercialization of vadadustat in Europe. We are also preparing for a potential commercial launch of vadadustat in the U.S., if approved.

If we obtain FDA approval for vadadustat for the treatment of anemia due to CKD in adult patients, we plan to commercialize vadadustat in the U.S. with CSL Vifor. Today, we have an established and embedded commercial team with approximately 30 key account managers supported by our commercial operations team. There is a more than 96% overlap in call points that exists between Auryxia and vadadustat. Enhancing the ability of our commercial team, we also have renal expertise across our organization, including among our leadership team and Board of Directors, as well as existing relationships with dialysis organizations that we believe will enhance our commercial effectiveness if vadadustat is approved.

In February 2022, we entered into a Second Amended and Restated License Agreement, or the Vifor Agreement, with CSL Vifor, under which we granted CSL Vifor an exclusive license to sell vadadustat to Fresenius Medical Care North America and its affiliates, including Fresenius, to certain third-party dialysis organizations approved by us, to independent dialysis organizations that are members of certain group purchasing organizations and to certain non-retail specialty pharmacies, collectively, the Supply Group, in the U.S., or Vifor Territory. If approved, we plan to market vadadustat in the U.S., including to the Supply Group, and we plan to sell vadadustat directly to organizations outside the Supply Group. During the term of the Vifor Agreement, CSL Vifor is not permitted to sell any HIF product that competes with vadadustat in the Vifor Territory to the Supply Group.

Clinical Development Program

Below is a summary of the clinical development work undertaken for vadadustat.

Vadadustat Global Phase 3 Clinical Program in Anemia Due To CKD

We conducted a global Phase 3 clinical development program for vadadustat, which included two programs, INNO$_2$VATE and PRO$_2$TECT. INNO$_2$VATE evaluated vadadustat in adult DD-CKD patients with anemia due to CKD in two studies, and PRO$_2$TECT evaluated vadadustat in adult NDD-CKD patients with anemia due to CKD in two studies. Combined, we enrolled approximately 7,500 patients in these studies and evaluated a once daily oral dosing of vadadustat against an injectable ESA active comparator, darbepoetin alfa.

Both the INNO$_2$VATE and PRO$_2$TECT Phase 3 programs were global, multicenter, open-label, sponsor-blind, active-controlled non-inferiority programs. In both programs, patients were randomized 1:1 to receive either oral vadadustat or injectable darbepoetin alfa. The primary efficacy endpoint for each study in the INNO$_2$VATE and PRO$_2$TECT programs was the mean change in hemoglobin between baseline and the primary evaluation period. Non-inferiority, or NI, for the primary efficacy endpoint was achieved if the lower bound of the 95% confidence interval for the between-group difference of the mean hemoglobin change did not fall below the pre-specified NI margin. Both the INNO$_2$VATE and PRO$_2$TECT programs included the primary safety endpoint of the assessment of MACE, with a comparison of vadadustat to darbepoetin alfa. MACE is defined as the composite endpoint of all-cause mortality, non-fatal myocardial infarction, or non-fatal stroke. The primary safety analysis for each program was based on the combined MACE events from the two studies in each of INNO$_2$VATE and PRO$_2$TECT. NI for the primary safety analysis was achieved if the upper bound of the 95% confidence interval for the hazard ratio of vadadustat to darbepoetin alfa did not exceed the pre-specified NI margin. We prospectively defined and agreed to non-inferiority margins with the U.S. and European regulatory authorities and agreed with the U.S. regulatory authorities on the key components of our statistical analysis plan.

Top-line Results from Global Phase 3 INNO$_2$VATE Program within DD-CKD Adult Patients

The two INNO$_2$VATE studies (*Correction/Conversion* and *Conversion*), which collectively enrolled 3,923 patients, evaluated the efficacy and safety of vadadustat versus darbepoetin alfa for the treatment of anemia due to CKD in DD-CKD adult patients.

Vadadustat achieved the primary and key secondary efficacy endpoint in each of the two INNO$_2$VATE studies, demonstrating non-inferiority to darbepoetin alfa as measured by a mean change in hemoglobin, or Hb, between baseline and the primary evaluation period (weeks 24 to 36) and secondary evaluation period (weeks 40 to 52). Vadadustat also achieved the primary safety endpoint of the INNO$_2$VATE program, defined as non-inferiority of vadadustat versus darbepoetin alfa in time to first occurrence of MACE across both INNO$_2$VATE studies.

Primary and Key Secondary Efficacy Endpoint Results

Vadadustat achieved each of the INNO$_2$VATE studies' primary efficacy endpoints of mean change in Hb between baseline and the primary evaluation period compared to darbepoetin alfa, in DD-CKD adult patients, demonstrating non-inferiority to darbepoetin alfa based on using a non-inferiority margin of -0.75 g/dL.

In INNO$_2$VATE's *Correction/Conversion* study of incident dialysis patients (n=369):

- ***Primary Efficacy Endpoint Result***: Vadadustat was *non-inferior* to darbepoetin alfa. The least square mean difference in Hb was -0.31 g/dL (95% CI: -0.53, -0.10), achieving the pre-specified non-inferiority criterion of -0.75 g/dL. The mean (SD) Hb level at week 24 to week 36 was 10.36 (1.13) g/dL for vadadustat-treated patients compared to 10.61 (0.94) g/dL for darbepoetin alfa-treated patients.
- ***Key Secondary Efficacy Endpoint Result***: Vadadustat sustained the target Hb efficacy response at weeks 40 to 52 achieving non-inferiority compared to darbepoetin alfa. The least square mean difference in Hb was -0.07 g/dL (95% CI: -0.34, 0.19). The mean (SD) Hb level at week 40 to week 52 was 10.51 (1.19) g/dL for vadadustat treated-patients compared to 10.55 (1.14) g/dL for darbepoetin alfa-treated patients.

In INNO$_2$VATE's *Conversion* study of prevalent dialysis patients (n=3,554):

- ***Primary Efficacy Endpoint Result***: Vadadustat was *non-inferior* to darbepoetin alfa. The least square mean difference in Hb was -0.17 g/dL (95% CI: -0.23, -0.10), achieving the pre-specified non-inferiority criterion of -0.75 g/dL. The mean (SD) Hb level at week 24 to week 36 was 10.36 (1.01) g/dL for vadadustat-treated patients compared to 10.53 (0.96) g/dL for darbepoetin alfa-treated patients.
- ***Key Secondary Efficacy Endpoint Result***: Vadadustat sustained efficacy in the *Conversion* study demonstrating non-inferiority to darbepoetin with a least square mean difference in Hb of -0.18 g/dL (95% CI: -0.25, -0.12). The mean (SD) Hb level at week 40 to week 52 was 10.40 (1.04) g/dL in the vadadustat-treated patients compared to 10.58 (0.98) g/dL for darbepoetin treated patients.

Primary Safety Major Adverse Cardiovascular Events (MACE) Endpoint Result

Vadadustat achieved the INNO$_2$VATE program's primary safety endpoint of non-inferiority for MACE. In the primary analysis of time to first MACE event, vadadustat demonstrated non-inferiority to darbepoetin alfa using a non-inferiority margin of 1.25 based on discussion with the FDA and a non-inferiority margin of 1.3 based on discussion with the EMA.

The INNO$_2$VATE program (*Correction/Conversion* and *Conversion* studies) of dialysis patients (n=3,902):

- Vadadustat was *non-inferior* to darbepoetin alfa. The upper bound of the 95% confidence interval (CI) of the Hazard Ratio (HR) was below the pre-specified non-inferiority margin of 1.25 for primary MACE analysis (HR 0.96, 95% CI: 0.83, 1.11.).

The incidence of treatment emergent adverse events, or TEAEs, during the *Correction/Conversion* study in vadadustat treated patients was 83.8% and 85.5 % in darbepoetin alfa treated patients. During the study, the most common TEAEs reported in vadadustat/darbepoetin alfa treated patients were hypertension (16.2%/ 12.9%) and diarrhea (10.1%/ 9.7%). Serious TEAEs were lower in vadadustat treated patients at 49.7% compared to 56.5% for darbepoetin alfa treated patients. The incidence of TEAEs during the *Conversion* study in the vadadustat treated patients was 88.3%, and 89.3% in darbepoetin alfa treated patients. During the study, the most common TEAEs reported in vadadustat/darbepoetin alfa treated patients were diarrhea (13.0%/ 10.1%), pneumonia (11.0%/ 9.7%), hypertension (10.6%/ 13.8%), and hyperkalemia (9.0%/ 10.8%). Serious TEAEs were slightly lower for vadadustat treated patients at 55.0% and 58.3% for darbepoetin alfa-treated patients. Patients with DD-CKD experienced an increased risk of thromboembolic events compared to darbepoetin alfa with a time to first event HR of 1.20 (95% CI 0.96 –- 1.50) driven by thrombosis of vascular access.

INNO$_2$VATE results on key secondary safety endpoints showed that vadadustat also demonstrated non-inferiority to darbepoetin alfa in analyses of expanded MACE, cardiovascular MACE, cardiovascular mortality, and all-cause mortality.

Top-line Results from Global Phase 3 PRO$_2$TECT Program within NDD-CKD Adult Patients

The two PRO$_2$TECT studies (*Correction* and *Conversion*), which collectively enrolled 3,476 patients, evaluated the efficacy and safety of vadadustat for the treatment of anemia due to CKD in NDD-CKD adult patients.

Vadadustat achieved the primary and key secondary efficacy endpoint in each of the two PRO$_2$TECT studies, demonstrating non-inferiority to darbepoetin alfa as measured by a mean change in Hb between baseline and the primary evaluation period (weeks 24 to 36) and secondary evaluation period (weeks 40 to 52). Vadadustat did not meet the primary safety endpoint of the PRO$_2$TECT program, defined as non-inferiority of vadadustat versus darbepoetin alfa in time to first occurrence of MACE, across both PRO$_2$TECT studies.

Primary and Key Secondary Efficacy Endpoint Results

Vadadustat achieved each of the PRO$_2$TECT studies' primary efficacy endpoints of mean change in Hb between baseline and the primary evaluation period compared to darbepoetin alfa, in adult patients on dialysis, demonstrating non-inferiority to darbepoetin alfa using an NI margin of -0.75 g/dL.

In PRO$_2$TECT's *Correction* study (n=1,751):

- ***Primary Efficacy Endpoint Result***: Vadadustat was non-inferior to darbepoetin alfa. The least square mean difference in Hb was 0.05 g/dL (95% CI: -0.04, 0.15), achieving the pre-specified NI criterion of -0.75 g/dL. The mean (SD) Hb level at week 24 to week 36 was 10.39 (0.99) g/dL for vadadustat-treated patients compared to 10.35 (1.03) g/dL for darbepoetin alfa-treated patients.
- ***Key Secondary Efficacy Endpoint Result***: Vadadustat sustained the target Hb efficacy response at weeks 40 to 52 achieving non-inferiority compared to darbepoetin alfa. The least square mean difference in Hb was 0.04 g/dL (95% CI: -0.06, 0.14). The mean (SD) Hb level at week 40 to week 52 was 10.48 (1.05) g/dL for vadadustat-treated patients compared to 10.45 (1.01) g/dL for darbepoetin alfa-treated patients.

In PRO$_2$TECT's *Conversion* study (n=1,725):

- ***Primary Efficacy Endpoint Result***: Vadadustat was non-inferior to darbepoetin alfa. The least square mean difference in Hb was -0.01 g/dL (95% CI: -0.09, 0.07), achieving the pre-specified NI criterion of -0.75 g/dL. The mean (SD) Hb level at week 24 to week 36 was 10.77 (0.98) g/dL for vadadustat-treated patients compared to 10.77 (0.99) g/dL for darbepoetin alfa-treated patients.
- ***Key Secondary Efficacy Endpoint Result***: Vadadustat sustained efficacy in the Conversion study demonstrating non-inferiority to darbepoetin with a least square mean difference in Hb of 0.00 g/dL (95% CI: -0.10, 0.09). The mean (SD) Hb level at week 40 to week 52 was 10.80 (1.04) g/dL in the vadadustat-treated patients compared to 10.79 (1.05) g/dL for darbepoetin alpha-treated patients.

Primary Safety Major Adverse Cardiovascular Events (MACE) Endpoint Result

The PRO_2TECT program (*Correction* and *Conversion* studies) (n=3,471):

- ***Primary Safety MACE Endpoint Result***: Vadadustat did not meet the PRO2TECT program's primary safety endpoint of non-inferiority for MACE. The upper bound of the 95% confidence interval of the Hazard Ratio (HR) was above the pre-specified NI margin of 1.25 for primary MACE analysis (HR 1.17, 95% CI: 1.01, 1.36).

Analysis of MACE events conducted by Akebia in the PRO_2TECT program revealed that the greater number of MACE events observed among vadadustat patients as compared to the active comparator was primarily related to an excess of non-cardiovascular death and death-of-unknown-cause in regions outside of the U.S. where significant differences in treatment patterns for NDD-CKD patients were observed.

The PRO_2TECT analysis plan was prospectively designed to analyze the effect of regional differences, most notably, well-known differences in Hb treatment targets. Within PRO_2TECT, U.S. patients were treated to a target Hb range of 10 to 11 g/dL and non-U.S. patients were treated to a target Hb range of 10 to 12 g/dL. In October of 2020, we presented a pre-specified regional analysis that showed vadadustat was not associated with a clinically meaningful increase in cardiovascular risk compared to darbepoetin alfa in U.S. patients treated to a target Hb range of 10 to 11 g/dL, in an analysis of MACE (HR 1.06, 95% CI: 0.87, 1.29).

The incidence of TEAEs during the *Correction* study in the vadadustat-treated patients was 90.9%, and 91.6% in darbepoetin alfa-treated patients. During the study, the most common TEAEs reported in vadadustat/darbepoetin alfa-treated patients were end-stage renal disease (34.7%/ 35.2%), hypertension (17.7%/ 22.1.%), hyperkalemia (12.3.%/ 15.6%), urinary tract infection (12.9%/ 12.0%), diarrhea (13.9%/ 10.0%), peripheral oedema (12.5%/ 10.5%), fall (9.6%/ 10%) and nausea (10%/ 8.2%). Serious TEAEs were 65.3% for vadadustat-treated patients and 64.5% for darbepoetin alfa-treated patients. The incidence of TEAEs during the *Conversion* study in vadadustat treated patients was 89.1% and 87.7% in darbepoetin alfa-treated patients. During the study, the most common TEAEs reported in vadadustat/darbepoetin alfa-treated patients were end-stage renal disease (27.5%/ 28.4%), hypertension (14.4%/ 14.8%), urinary tract infection (12.2%/ 14.5%), diarrhea (13.8.%/ 8.8.%), peripheral oedema (9.9%/ 10.1%) and pneumonia (10.0%/ 9.7%). Serious TEAEs were 58.5% for vadadustat-treated patients and 56.6% for darbepoetin alfa-treated patients.

Hepatic Safety Profile of Vadadustat in Clinical Studies

During the conduct of our Phase 3 program our team and hepatic experts analyzed hepatic cases (unblinded to treatment). Further, following the completion of our global Phase 3 clinical program for vadadustat, there was a review of hepatic safety across the vadadustat clinical program, which included eight completed Phase 2 and 3 studies in NDD-CKD patients, 10 completed Phase 1, 2, and 3 studies, and two then-ongoing Phase 3b studies in DD-CKD patients, and 18 completed studies in healthy subjects (17 Phase 1 and one Phase 3). This review consisted of a blinded re-assessment of hepatic events conducted by a separate panel of hepatic experts. While hepatocellular injury attributed to vadadustat was reported in less than 1% of patients, there was one case of severe hepatocellular injury with jaundice, and we cannot guarantee that similar events will not happen in the future. Additionally, the FDA expressed safety concerns related to the risk of drug-induced liver injury in the CRL that it issued in March 2022.

Modified Dosing Studies

From May 2020 to January 2023, we also conducted additional studies of vadadustat evaluating a modified approach to a once-daily and three-times weekly dosing, including assessment of a vadadustat starting dose based on an individual’s pre-conversion ESA dose prior to study entry and higher titration doses of vadadustat (up to 1200 mg).

The FO_2CUS study evaluated the efficacy and safety of vadadustat in hemodialysis patients who were converted from a long-acting ESA to three-times weekly oral vadadustat dosing for the maintenance treatment of anemia. FO_2CUS was an open-label, active-controlled, sponsor-blinded study that evaluated 456 hemodialysis patients who were randomized (1:1:1) into a vadadustat 600mg starting dose, vadadustat 900mg starting dose, or a long-acting ESA (Mircera®) treatment arms.

The MO_2DIFY study evaluated the efficacy and safety of vadadustat in hemodialysis patients using a modified once-daily dosing regimen different from the $INNO_2VATE$ program dosing and a three-times-weekly dosing regimen of oral vadadustat compared to darbepoetin alfa.

FO_2CUS Study

Primary and Secondary Efficacy Endpoint Results

In the FO_2CUS study, each vadadustat starting dose regimen (600 mg, 900 mg) and the combined vadadustat-treated group achieved the primary efficacy endpoint of the mean change in Hb between baseline and the primary evaluation period (weeks 20-26) compared to Mircera in adult patients on hemodialysis, demonstrating non-inferiority to Mircera based on a non-inferiority margin of -0.75 g/dL. Similarly, each starting dose regimen of vadadustat and the combined vadadustat-treated group achieved the secondary efficacy endpoint of the mean change in Hb between baseline and the secondary evaluation period (weeks 46-52).

In the FO_2CUS study in hemodialysis patients (n=456):

- ***Primary Efficacy Endpoint Results***: Vadadustat demonstrated non-inferiority to Mircera. The least square mean difference in Hb was -0.43 g/dL (-0.67, -0.20) for the vadadustat 600 mg starting dose group, -0.23 g/dL (-0.46, 0.01) for the vadadustat 900 mg starting dose group, and -0.33 g/dL (-0.53, -0.13) for the combined vadadustat-treated group, achieving the pre-specified non-inferiority margin of -0.75 g/dL. The mean Hb level during the primary evaluation period was 10.11 (0.061) g/dL for the combined vadadustat-treated group compared to 10.41 (0.068) g/dL for Mircera-treated group.
- ***Secondary Efficacy Endpoint Results***: Vadadustat demonstrated non-inferiority to Mircera. The least square mean difference in Hb was -0.27 g/dL (-0.54, -0.00) for the vadadustat 600 mg starting dose group, -0.38 g/dL (-0.67, -0.10) for the vadadustat 900 mg starting dose group, and -0.33 g/dL (-0.56, -0.09) for the combined vadadustat-treated group. The mean Hb level during the secondary evaluation period was 10.03 (0.066) g/dL for the combined vadadustat-treated group compared to 10.28 (0.076) g/dL for the Mircera-treated group.

Safety Results

In the FO_2CUS study, a total of 78.7% of patients experienced any TEAEs in the combined vadadustat-treated group, and 75.3% experienced any TEAEs in the Mircera-treated group. The data demonstrated that 44.5% of patients experienced any serious TEAEs in the combined vadadustat-treated group, and 44.7% of patients experienced any serious TEAEs in the Mircera-treated group. During the study, the most common TEAEs reported in vadadustat-/Mircera- treated patients were COVID-19 (14.6%/16.0%), diarrhea (12.3%/8.0%) and hyperkalaemia (9.0%/10.7%).

MO_2DIFY Study

Primary and Secondary Efficacy Endpoint Results

In the MO_2DIFY study, the vadadustat once-daily, or QD, treatment (starting dose: 300 or 450 mg) achieved the primary efficacy endpoint of the mean change in Hb from baseline to the primary evaluation period (weeks 20-26) compared to darbepoetin alfa in adult patients on hemodialysis, demonstrating non-inferiority to darbepoetin alfa based on a non-inferiority margin of -0.75 g/dL. Vadadustat three-times-weekly, or TIW, treatment (starting dose: 600 or 750) did not demonstrate noninferiority to darbepoetin alfa. Based on a sensitivity analysis using the per protocol population, both vadadustat dosing regimens demonstrated noninferiority to darbepoetin alfa of the mean change in Hb between baseline and the primary evaluation period.

Neither dosing regimen of vadadustat achieved the secondary efficacy endpoint of the mean change in Hb between baseline and the secondary evaluation period (weeks 46-52).

In the MO_2DIFY study in hemodialysis patients (n=319):

- ***Primary Efficacy Endpoint Results***: Vadadustat QD treatment was non-inferior to darbepoetin alfa. The least square mean difference in Hb was -0.27 g/dL (-0.55, 0.01) for the vadadustat QD-treated group, meeting the pre-specified non-inferiority margin of -0.75 g/dL. The least square mean difference in Hb was -0.53 g/dL (-0.80, -0.25) for the vadadustat TIW-treated group. The mean Hb level during the primary evaluation period was 10.23 (1.07) g/dL and 10.02 (0.87) g/dL for the vadadustat QD and vadadustat TIW groups respectively, compared to 10.45 (0.83) g/dL for the darbepoetin alfa group.
- ***Secondary Efficacy Endpoint Results***: The secondary efficacy endpoint was the change in average Hb between baseline and the secondary evaluation period (Weeks 46 to 52). The least square mean difference in Hb was -0.40 g/dL (-0.79, -0.02) for the vadadustat QD-treated group and -0.42 g/dL (-0.81, -0.02) for the vadadustat TIW-treated group. Since noninferiority for the secondary efficacy endpoint of vadadustat TIW to darbepoetin alfa was not established, no claims of noninferiority were made for the secondary efficacy endpoint.
- ***Other efficacy Endpoint***: The proportion of subjects with an average Hb value within the target range (US [10.0 to 11.0 g/dL] and Europe [10.0 to 12.0 g/dL]) was similar in the vadadustat QD, vadadustat TIW and darbepoetin alfa treatment groups during the primary evaluation period (weeks 20 to 26) (51.0%, 50.7%, and 54.5%, respectively) and secondary evaluation period (weeks 46 to 52) (50.4%, 48.3%, and 51.3%, respectively).

Safety Results

Among all randomized patients who received at least one dose of the study medication (n=317), 84.8% and 84.6% of patients in the vadadustat QD and TIW groups, respectively, experienced any TEAEs, compared to 80.6% in the darbepoetin alfa group. The data showed that 44.8% of patients in the vadadustat QD group and 45.2% in the vadadustat TIW group experienced any treatment-emergent serious adverse events, compared to 43.5% of patients in the darbepoetin alfa group. The most commonly reported TEAEs in patients treated with vadadustat QD, vadadustat TIW, and darbepoetin alfa were COVID-19 (13.3%, 12.5%, and 13.0% respectively), diarrhea (13.3%, 14.4%, and 5.6% respectively), and anemia (7.6%, 10.6%, and 9.3% respectively).

Pipeline

We continue to add to our pipeline and portfolio of novel therapeutics through internal research, discovery and development. We have invested resources to build out a preclinical portfolio and have selected two candidates for further preclinical development: AKB-9090, a drug targeting critical-care indications, and AKB-10108, a drug targeting conditions related to premature birth. We intend to explore AKB-9090 for potential use in AKI and ARDS, and AKB-10108 for potential use in ROP.

Acute Kidney Injury (AKI)

AKI is a sudden decline in the ability of the kidneys to work and perform their normal functions. AKI occurs in 20-30% of the approximately two million patients that undergo cardiac surgeries annually and there are no current treatments available for cardiovascular surgery-related AKI.

Stabilization of HIF by prolyl hydroxylase inhibition leads to the release of erythropoietin, a shift to anaerobic metabolism (glycolysis) and decreased inflammatory responses that collectively lessen kidney ischemia-reperfusion injury and ameliorate the decline in kidney function. Data from our preclinical studies showed AKB-9090 to be highly active in lessening the severity of AKI in an animal model of ischemia-reperfusion injury.

Acute Respiratory Distress Syndrome (ARDS)

ARDS is a life-threatening acute form of lung disease characterized by acute bilateral pulmonary edema and severe hypoxemia (low blood oxygen). Despite improvement in supportive care, a third-party study indicated high hospital mortality rates for patients with ARDS admitted to participating intensive care units. The mortality rate among patients with ARDS in the study was: 34.9% with mild ARDS; 40.3% with moderate ARDS and 46.1% with severe ARDS. There are currently no treatments available for ARDS except for supportive care.

Stabilization of HIF by prolyl hydroxylase inhibition leads to the release of erythropoietin, increased extracellular adenosine signaling, increased glycolytic activity and decreased inflammation in lung epithelial cells that promote resolution of the lung injury. Vadadustat lessened the severity of COVID-19 pneumonia in a clinical trial (NCT04478071) and improved outcomes in animal models of acute lung injury. We plan to conduct a trial with vadadustat for the treatment of ARDS due to suspected aspiration, pathogen-associated pneumonia, or sepsis in hospitalized patients, which could further validate the therapeutic approach for HIF stabilization in ARDS and provide clinical data to support clinical development of an alternative HIF-based molecule such as AKB-9090 for ARDS. Based on the data and our strategic business considerations, we may not pursue vadadustat as a treatment for ARDS.

Retinopathy of Prematurity (ROP)

ROP is the leading cause of blindness in preterm infants globally and occurs due to incomplete retinal development and abnormal blood vessel growth in the retina. ROP is caused by the high oxygen therapy used to treat preterm babies, which prevents retina growth. Annually, there are approximately 100,000 new cases of infant blindness worldwide due to ROP and currently no preventative therapy.

HIF-PH inhibitors can protect the retina by stabilizing HIF, which degrades during hyperoxia, allowing normal retinal development and preventing abnormal blood vessel growth that can lead to scarring, bleeding, retinal detachment and blindness. Data from our preclinical studies of AKB-10108 in mouse and rat models of ROP showed significant improvements in retinal development under hyperoxic conditions, as well as significant reductions in abnormal blood vessel growth after returning to normal oxygen levels.

Manufacturing and Supply

Overview

We neither own nor operate, and currently have no plans to own or operate, any manufacturing or distribution facilities. We rely on third-party contract manufacturing organizations, or CMOs, to produce all of our preclinical, clinical and commercial supply, and third-party distributors to distribute Auryxia. We have established relationships with several CMOs and expect to continue to rely on either existing or alternative distributors and CMOs to distribute our products and supply our ongoing and planned preclinical studies and clinical trials and for commercial production. Our CMOs have other clients and may have other priorities that could affect their ability to perform the work satisfactorily and/or on a timely basis. Both of these occurrences would be beyond our control. All clinical and commercial supplies are manufactured under current Good Manufacturing Practices, or cGMPs, which is a regulatory standard for the production of pharmaceuticals that will be used in humans.

Vadadustat

We currently rely on a single-source supplier for the direct manufacture of our drug substance and drug product for clinical and commercial supply of vadadustat. We have entered into supply agreements with STA Pharmaceutical Hong Kong Limited, or STA, for the manufacture of vadadustat drug substance and drug product for commercial use. We plan to mitigate potential commercial supply risks for vadadustat, if any, through inventory management and we may enter into additional manufacturing arrangements for both drug substance and drug product if vadadustat is approved in the U.S.

Vadadustat is a small molecule. The synthesis of vadadustat is reliable and reproducible from starting materials available from multiple sources at commercially relevant scale using no unusual manufacturing equipment. Vadadustat can be formulated into compressed tablets using proprietary processes. As with any supply program, obtaining raw materials and finished drug product of the required quality and quantity cannot be guaranteed, and we cannot ensure that we will be successful in this endeavor.

Auryxia

The active pharmaceutical ingredient of Auryxia, ferric citrate, is a small molecule. The synthesis of ferric citrate is reliable and reproducible from starting materials available from multiple sources at commercially relevant scale. Ferric citrate can be formulated into compressed tablets using proprietary manufacturing processes. As with any supply program, obtaining raw materials and finished drug product of the required quality and quantity cannot be guaranteed, and we cannot ensure that we will be successful in this endeavor.

We utilize third parties for the commercial distribution of Auryxia, including wholesale distributors and certain specialty pharmacy providers. We have also engaged Cardinal Health as the exclusive third-party logistics distribution agent for commercial sales of Auryxia. The third-party logistics provides services to the Company that include storage, distribution, processing product returns, customer service support, logistics support, electronic data interface and system access support

We have established CMO relationships for the supply of Auryxia to help ensure that we will have sufficient material for ongoing commercial sales and clinical trials. We currently rely on a single-source supplier for the manufacture of our drug substance for clinical and commercial supply of Auryxia. The drug substance for Auryxia is supplied by Siegfried Evionnaz SA, pursuant to a supply agreement, as amended, with pricing structured on a per-kilogram basis. Auryxia drug product is supplied by Patheon Manufacturing Services LLC (Thermo Fisher) pursuant to a Master Manufacturing Service Agreement with per-bottle pricing structured on a tiered basis, with the price reduced as the product volume increases. These agreements require that we satisfy certain minimum purchase requirements, but we are not obligated to use them as our exclusive suppliers. For more information about our manufacturing agreements for Auryxia, see Part II, Item 7. Management’s Discussion and Analysis and Note 10, *Commitments and Contingencies*, to our consolidated financial statements in Part II, Item 8. Financial Statements and Supplementary Data.

License and Collaboration Agreements

Vadadustat License and Collaboration Agreements

Medice License Agreement

On May 24, 2023, or the Medice Effective Date, we entered into the Medice License Agreement with Medice, under which we granted to Medice an exclusive license to develop and commercialize vadadustat for the treatment of anemia in adult patients with chronic kidney disease in the Medice Territory.

Under the Medice License Agreement, we received an up-front payment of $10.0 million and are eligible to receive the following payments:

(i) commercial milestone payments up to an aggregate of $100.0 million, and

(ii) tiered royalties ranging from 10% to 30% of Medice's annual net sales of vadadustat in the Medice Territory, subject to reduction in certain circumstances.

The royalties will expire on a country-by-country basis upon the latest to occur of (i) the date of expiration of the last-to-expire valid claim of ours, Medice or joint patent that covers vadadustat in such country in the Medice Territory, (ii) the date of expiration of data or regulatory exclusivity for vadadustat in such country in the Medice Territory and (iii) the date that is 12 years from first commercial sale of vadadustat in such country in the Medice Territory.

Under the Medice License Agreement, we retain the right to develop vadadustat for non-dialysis patients with anemia due to chronic kidney disease in the Medice Territory. If we develop vadadustat for non-dialysis patients and vadadustat receives marketing approval for non-dialysis patients in the Medice Territory, Medice will commercialize vadadustat for both indications in the Medice Territory. In this instance, we would receive 70% of the net product margin of any sales of vadadustat in the non-dialysis patient population, unless Medice requests to share the cost of the development necessary to gain approval to market vadadustat for non-dialysis patients in the Medice Territory and the parties agree on alternative financial terms.

We and Medice established a joint steering committee to oversee the development and commercialization of vadadustat in the Medice Territory.

The Medice License Agreement expires on the date of expiration of all payment obligations due thereunder with respect to vadadustat in the last country in the Medice Territory, unless earlier terminated in accordance with the terms of the Medice License Agreement. Either party may, subject to a cure period, terminate the Medice License Agreement in the event of the other party's uncured material breach. Medice has the right to terminate the Medice License Agreement in its entirety for convenience upon twelve months' prior written notice delivered on or after the date that is twelve months after the Medice Effective Date.

The Medice License Agreement includes customary terms relating to, among others, indemnification, confidentiality, remedies, and representations and warranties. The Medice License Agreement provides that we and Medice will enter into a supply agreement pursuant to which we will supply vadadustat to Medice for commercial use in the Medice Territory. We are currently negotiating the terms of the supply agreement with Medice.

MTPC Collaboration Agreement

In December 2015, we entered into a collaboration agreement with MTPC, as amended, or the MTPC Agreement, providing MTPC with exclusive development and commercialization rights to vadadustat in Japan and certain other Asian countries, or the MTPC Territory. In addition, we supply vadadustat to MTPC for both clinical and commercial use in the MTPC Territory, subject to MTPC's option to manufacture commercial drug product in the MTPC Territory. On July 15, 2020, we entered into a supply agreement with MTPC for the commercial supply of vadadustat for use in Japan and certain other Asian countries, as contemplated by the MTPC Agreement, which was amended effective as of December 5, 2022.

Unless earlier terminated, the MTPC Agreement will continue in effect on a country-by-country basis until the later of the following: (i) expiration of the last-to-expire patent covering vadadustat in such country in the MTPC Territory; (ii) expiration of marketing or regulatory exclusivity in such country in the MTPC Territory; or (iii) ten years after the first commercial sale of vadadustat in such country in the MTPC Territory. MTPC may terminate the MTPC Agreement upon twelve months' notice. Either party may terminate the MTPC Agreement upon the material breach of the other party that is not cured within a specified time period or upon the insolvency of the other party.

Under the terms of the MTPC Agreement, we are eligible to receive payments from MTPC of up to approximately $225.0 million in the aggregate based on the achievement of certain development, regulatory and sales milestones, as well as tiered royalty payments ranging from 13% to 20% on annual net sales of vadadustat in the MTPC Territory, subject to reduction upon launch of a generic product on a country-by-country basis.

In February 2021, we entered into a royalty interest acquisition agreement with HealthCare Royalty Partners IV, L.P., or HCR, whereby we sold our right to receive royalties and sales milestones for vadadustat in Japan and certain other Asian countries in the MTPC territory under the MTPC Agreement, subject to certain caps and other terms and conditions. For more information on our royalty interest acquisition agreement with HCR, see Note 8, *Deferred Revenue, Refund Liability and Liability Related to Sale of Future Royalties*, to our consolidated financial statements in Part II, Item 8. Financial Statements and Supplementary Data of this Form 10-K.

CSL Vifor License Agreement

The Vifor Agreement grants CSL Vifor an exclusive license to sell vadadustat to the Supply Group in the Vifor Territory. We currently retain rights to commercialize vadadustat for use in the non-dialysis dependent CKD market, to market vadadustat to the Supply Group and to market and sell to dialysis organizations outside of the Supply Group. During the term of the Vifor Agreement, CSL Vifor is not permitted to sell any HIF product that competes with vadadustat in the Vifor Territory to the Supply Group. The Vifor Agreement provides that we will enter into a commercial supply agreement with CSL Vifor for vadadustat pursuant to which we will supply all of CSL Vifor's requirements for vadadustat in the Vifor Territory. We have not yet entered into a supply agreement with CSL Vifor.

The Vifor Agreement is structured as a profit share arrangement between us and CSL Vifor in which we will receive approximately 66% of the profit, net of certain pre-specified costs. In connection with the amendment and restatement of the Vifor Agreement in February 2022, CSL Vifor made an upfront payment to us of $25.0 million. In addition, we entered into certain investment agreements with CSL Vifor, pursuant to which we sold CSL Vifor an aggregate of 7,571,429 shares of our common stock for a total of $70.0 million. The shares have not been registered pursuant to the Securities Act of 1933, as amended, or the Securities Act, and were issued and sold in reliance upon the exemption from registration contained in

Section 4(a)(2) of the Securities Act and Rule 506 promulgated thereunder as the transaction did not involve any public offering within the meaning of Section 4(a)(2) of the Securities Act. Finally, CSL Vifor contributed $40.0 million to a working capital facility, or Working Capital Fund, established to partially fund our costs of purchasing vadadustat from our contract manufacturers. The amount available under the Working Capital Fund is reviewed at specified intervals and is adjusted based on a number of factors including outstanding supply commitments for vadadustat for the Vifor Territory and agreed upon vadadustat inventory levels held by us for the Vifor Territory. Additionally, upon termination or expiration of the Vifor Agreement for any reason other than convenience by CSL Vifor (including following receipt of the CRL for vadadustat), we will be required to refund the outstanding balance of the Working Capital Fund on the date of termination or expiration.

Unless earlier terminated, the Vifor Agreement will expire upon the later of the expiration of all patents that claim or cover vadadustat or the expiration of marketing or regulatory exclusivity for vadadustat in the Vifor Territory. CSL Vifor may terminate the Vifor Agreement in its entirety upon 30 months' prior written notice after the first anniversary of the receipt of regulatory approval, if approved, from the FDA for vadadustat for dialysis-dependent CKD patients. We may terminate the Vifor Agreement in its entirety for convenience, following the earlier of a certain period of time elapsing or following certain specified regulatory events, and upon six months' prior written notice. If we terminate for convenience, subject to a specified exception, we will pay a termination fee to CSL Vifor. In addition, either party may, subject to a cure period, terminate the Vifor Agreement in the event of the other party's uncured material breach or bankruptcy. We may also terminate the Vifor Agreement upon the occurrence of certain other events.

Auryxia License and Collaboration Agreements

Averoa License Agreement

On December 22, 2022, we and Averoa entered into a license agreement, or Averoa License Agreement, pursuant to which we granted to Averoa an exclusive license to develop and commercialize ferric citrate, or Averoa Licensed Product, in the EEA, Turkey, Switzerland and the United Kingdom, or Averoa Territory. We and Averoa have established a joint steering committee to oversee the development, manufacturing and commercialization of the Averoa Licensed Product in the Averoa Territory. We expect Averoa will apply for marketing authorization for ferric citrate in Europe.

Under the Averoa License Agreement, we are entitled to receive tiered, escalating royalties ranging from a mid-single digit percentage to a low double-digit percentage of Averoa's annual net sales of the Averoa Licensed Product in the Averoa Territory, including certain minimum royalty amounts in certain years, and subject to reduction in certain circumstances. The royalties will expire on a country-by-country basis upon the last to occur of (a) ten years following the date of first commercial sale of the Licensed Product in such country; (b) expiration of the last valid claim of our patent rights and joint patent rights in such country; and (c) the date of expiration of the data, regulatory, or marketing exclusivity period conferred by the applicable regulatory authority in such country with respect to the Licensed Product. We have not received royalties from Averoa. As of December 31, 2023, we have not received any consideration under this agreement.

The Averoa License Agreement expires on the date of expiration of all royalty obligations due thereunder with respect to the Averoa Licensed Product on a country-by-country basis in the Averoa Territory, unless earlier terminated in accordance with the Averoa License Agreement.

The Averoa License Agreement provides that we and Averoa will enter into a supply agreement pursuant to which we will supply the Averoa Licensed Product to Averoa for commercial use in the Averoa Territory. We will have the right to terminate the supply agreement upon twenty-four months' notice. We have not yet entered into a supply agreement with Averoa.

Sublicense Agreement with Japan Tobacco Inc. and Torii Pharmaceutical Co., Ltd.

In September 2007, we entered into a Sublicense Agreement with JT and Torii, under which JT and Torii obtained the exclusive sublicense rights for the development and commercialization of ferric citrate in Japan. Effective June 8, 2009, we entered into an Amended and Restated Sublicense Agreement, which was amended in June 2013, or the Revised Agreement, with JT and Torii.

In January 2014, JT and Torii received manufacturing and marketing approval of ferric citrate from the Japanese Ministry of Health, Labour and Welfare. Ferric citrate hydrate, which launched in May 2014 and is being marketed in Japan by Torii under the brand name Riona, is indicated as an oral treatment for the improvement of hyperphosphatemia in patients with CKD, including NDD-CKD and DD-CKD. In July 2019, JT and Torii, reported positive top-line results from a pivotal Phase 3 comparative study evaluating Riona for the treatment of IDA in adult patients in Japan, which was approved in March 2021. In May 2020, JT and Torii filed an application for approval of IDA as an additional indication for Riona in Japan. Under the terms of the Revised Agreement with JT and Torii, we are eligible to receive royalty payments based on a tiered low double-digit percentage of net sales of Riona in Japan inclusive of amounts that we must pay to Panion on JT and Torii's net sales of Riona under the Panion Amended License Agreement, subject to certain reductions upon expiration or termination of the Panion Amended License Agreement, and may also receive up to an additional $55.0 million upon the achievement of certain annual net sales milestones. We recorded $5.4 million in license revenue related to royalties earned on net sales of Riona in Japan during the twelve months ended December 31, 2023.

The sublicense under the Revised Agreement terminates upon the expiration of all underlying patent rights. Also, JT and Torii may terminate the Revised Agreement with or without cause upon at least six months prior written notice to us. Additionally, either party may terminate the Revised Agreement for cause upon 60 days' prior written notice after the breach of any uncured material provision of the Revised Agreement, or after certain insolvency events.

License Agreement with Panion & BF Biotech, Inc. for Which We Currently Pay Royalties

On April 17, 2019, we and Panion & BF Biotech, Inc., or Panion, entered into a second amended and restated license agreement, or the Panion Amended License Agreement, which amended and restated in full the license agreement between us and Panion. The Panion Amended License Agreement provides us with an exclusive license under Panion-owned know-how and patents covering the rights to sublicense, develop, make, use, sell, offer for sale, import and export ferric citrate worldwide, excluding certain Asian Pacific counties, or the Licensor Territory. The Panion Amended License Agreement also provides Panion with an exclusive license under our patents covering the rights to sublicense (with our written consent), develop, make, use, sell, offer for sale, import and export ferric citrate in certain countries in the Licensor Territory. Consistent with the Panion License Agreement, under the Panion Amended License Agreement, Panion is eligible to receive from us or any sublicensee royalty payments based on a mid-single digit percentage of net sales of ferric citrate in our licensed territories. We are eligible to receive from Panion or any sublicensee royalty payments based on a mid-single digit percentage of net sales of ferric citrate in Panion's licensed territories.

The Panion Amended License Agreement terminates upon the expiration of each of our and Panion's obligations to pay royalties thereunder. In addition, we may terminate the Panion Amended License Agreement (i) in its entirety or (ii) with respect to one or more countries in our licensed territory, in either case upon 90 days' notice. We and Panion also each have the right to terminate the Panion Amended License Agreement upon the occurrence of a material breach of the Panion Amended License Agreement by the other party, subject to certain cure provisions, or certain insolvency events. The Panion Amended License Agreement also provides that, on a country-by-country basis, during the term and until the second anniversary of the expiration of our or Panion's obligation, as applicable, to pay royalties in a country in which such party has ferric citrate for sale on the date of such expiration, neither the other party nor its affiliates will, directly or indirectly, sell, distribute or otherwise commercialize or supply or cause to supply ferric citrate to a third party for sale or distribution in such country. In addition, the Panion Amended License Agreement provides that each of us and Panion has the right, but not the obligation, to conduct litigation against any infringer of certain patent rights under the Panion Amended License Agreement in certain territories.

During the year ended December 31, 2023, we recorded $10.0 million in royalties due to Panion relating to the sales of Auryxia in the U.S. and JT and Torii net sales of Riona in Japan.

Cyclerion Therapeutics License Agreement

In June 2021, we entered into the Cyclerion Agreement with Cyclerion Therapeutics, Inc., or Cyclerion, under which Cyclerion granted us an exclusive global license under certain intellectual property rights to research, develop and commercialize praliciguat, an investigational oral soluble guanylate cyclase, or sGC, stimulator.

Under the terms of the Cyclerion Agreement, we paid $3.0 million in cash upfront to Cyclerion and expensed the amount to research and development, or R&D, expense in June 2021. In addition, Cyclerion is eligible to receive up to an aggregate of $222.0 million from us in specified development and regulatory milestone payments on a product-by-product basis. Cyclerion will also be eligible to receive specified commercial milestones as well as tiered royalties ranging from a mid-single-digit to mid-teen percentage of net sales, on a product-by-product basis, and subject to reduction upon expiration of patent rights or the launch of a generic product in the territory.

Unless earlier terminated, the Cyclerion Agreement will expire on a product-by-product and country-by-country basis upon the expiration of the last royalty term, which ends upon the longest of (i) the expiration of the patents licensed under the Cyclerion Agreement, (ii) the expiration of regulatory exclusivity for such product and (iii) 10 years from first commercial sale of such product. We may terminate the Cyclerion Agreement in its entirety or only with respect to a particular licensed compound or product upon 180 days' prior written notice to Cyclerion. We and Cyclerion also have customary termination rights, subject to a cure period, in the event of the other party's material breach of the Cyclerion Agreement or in the event of certain additional circumstances.

Intellectual Property

The proprietary nature of, and protection for, our products, product candidates and our discovery programs, processes and know-how are important to our business. Our policy is to seek to protect our proprietary position by, among other methods, filing patent applications related to our proprietary technology, inventions and improvements that are important to the development and implementation of our business. We also rely on know-how, continuing technological innovation and potential in-licensing opportunities to develop and maintain our proprietary position. Additionally, we may benefit from a variety of statutory frameworks in the U.S., Europe and other countries that provide periods of non-patent-based exclusivity for qualifying molecules.

Our commercial success will depend in part on obtaining and maintaining patent protection of our current products as well as current and future product candidates, methods of their use and the methods used to develop and manufacture them, as well as successfully defending these patents against third-party challenges. Our ability to stop third parties from making, using, selling, offering to sell or importing our products depends on the extent to which we have rights under valid and enforceable patents that cover these activities. We cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future, nor can we be sure that any of our existing patents or any patents that may be granted to us in the future will be commercially useful in protecting our product candidates, discovery programs and processes. Even once patents successfully issue, third parties may challenge the validity, enforceability, inventorship, or scope thereof, which may result in such patents being narrowed, invalidated or held not infringed or unenforceable. For this and more comprehensive risks related to our intellectual property, please see "Risk Factors—Risks Related to our Intellectual Property" in Part I, Item 1A. Risk Factors.

Individual patents extend for varying periods of time depending on the date of filing of the patent application or the date of patent issuance and the legal term of patents in the countries in which they are obtained. Generally, patents issued from applications filed in the U.S. are effective for 20 years from the earliest filing date of a U.S. non-provisional application or an international application filed under the Patent Cooperation Treaty. In addition, in certain instances, a patent term can be extended to recapture a portion of the term effectively lost as a result of the FDA regulatory review period, however, the restoration period cannot be longer than five years and the total patent term including the restoration period must not exceed 14 years following FDA approval. The duration of foreign patents varies in accordance with provisions of applicable local law, but typically is also 20 years from the earliest international filing date. Patent term recapture for loss of term as a result of the regulatory review period is available in some foreign jurisdictions. In the U.S., a patent's term may also be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the U.S. Patent and Trademark Office, or USPTO, in granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier-filed patent.

Changes in either the patent laws or interpretations of patent laws in the U.S. and other countries can diminish our ability to protect our inventions and enforce our intellectual property rights. Accordingly, we cannot predict the breadth or enforceability of claims that may be granted in our patents or in third-party patents. The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights. Our ability to maintain and solidify our proprietary position for our drugs and technology will depend on our success in obtaining effective claims and enforcing those claims once granted. We do not know whether any of the patent applications that we may file or license from third parties will result in the issuance of any patents. The issued patents that we own or license or may receive or acquire in the future may be challenged, invalidated or circumvented, and the rights granted under any issued patents may not provide us with sufficient protection or competitive advantages against competitors with similar technology. Furthermore, our competitors may be able to independently develop and commercialize similar drugs or duplicate our technology, business model or strategy without infringing our patents. Because of the extensive time required for clinical development and regulatory review of a drug we may develop, it is possible that, before any of our drugs can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thereby reducing any advantage of any such patent. The patent positions for vadadustat and Auryxia are summarized below.

Vadadustat Patent Portfolio

We hold 19 issued patents covering the composition of matter, polymorph, method of treating anemia, pharmaceutical compositions of vadadustat, and processes for manufacturing vadadustat in the U.S. and additional patents issued or pending in many other major jurisdictions worldwide, including Europe, Japan, China, South Korea, Brazil, Mexico, Russia, Israel and India. The expected expiration dates for these patents are between 2027 and 2039 plus any extensions or adjustments of term available under national law.

We also hold patents and patent applications directed to starting materials and intermediates in the processes for manufacturing vadadustat, dosing regimens, formulations and various other aspects relating to the treatment of anemia using vadadustat that are expected to expire between 2032 and 2042 exclusive of possible patent term extensions or adjustments.

We have ongoing opposition proceedings relating to vadadustat. See Part I, Item 3. Legal Proceedings for further information relating to these matters.

Auryxia Patent Portfolio

Pursuant to the Panion Amended License Agreement, we have the exclusive rights under a series of patents and patent applications to commercialize Auryxia worldwide, excluding certain Asian-Pacific countries. These patents and patent applications include claims directed to compositions of matter, pharmaceutical compositions, methods of treatment, as well as methods for the manufacture of Auryxia.

Our patent rights include 14 issued U.S. patents listed in the Orange Book covering the composition of matter, method of treating hyperphosphatemia, and pharmaceutical compositions of Auryxia. The expected expiration dates for these patents are between 2024 and 2030 plus any additional patent term extensions that may be available.

Pursuant to the sublicense with our Japanese partner, Japan Tobacco Inc., or JT, and its subsidiary, Torii Pharmaceutical Co. Ltd., or Torii, we have exclusively sublicensed certain Japanese patent rights to JT and Torii. These sublicensed rights include several Japanese patents and pending patent applications with composition of matter claims, methods of synthesizing claims, and methods of use claims covering Riona, the trade name under which JT and Torii market ferric citrate in Japan. The expected expiration dates for these patents and pending patent applications are between 2025 and 2028. To date, to our knowledge, no contested proceedings or third-party claims have been lodged against any of these Japanese patents.

Pursuant to the sublicense with our European partner, Averoa, we have exclusively sublicensed certain European patent rights to Averoa. These sublicensed rights include several European patents and pending patent applications with composition of matter claims and methods of use claims covering ferric citrate. The expected expiration dates for these patents and pending patent applications are between 2024 and 2036. To date, to our knowledge, no contested proceedings or third-party claims have been lodged against any of these European patents.

We received Paragraph IV certification notice letters regarding abbreviated new drug applications, or ANDAs, submitted to the FDA by third parties requesting approval for generic versions of Auryxia tablets (210 mg ferric iron per tablet). In response we filed certain complaints for patent infringement against six third parties, and have entered into settlement and license agreements with each of the six ANDA filers. Each settlement agreement granted the defendants a license to market a generic version of Auryxia in the U.S. beginning on March 20, 2025 (subject to FDA approval), or earlier under certain circumstances customary for settlement agreements of this nature.

Other Intellectual Property Rights

We depend upon trademarks, trade secrets, know-how and continuing technological advances to develop and maintain our competitive position. To maintain the confidentiality of trade secrets and proprietary information, we require our employees, scientific advisors, consultants and collaborators, upon commencement of a relationship with us, to execute confidentiality agreements and, in the case of parties other than our research and development collaborators, to agree to assign their inventions to us. These agreements are designed to protect our proprietary information and to grant us ownership of technologies that are developed in connection with their relationship with us. These agreements may not, however, provide protection for our trade secrets in the event of unauthorized disclosure of such information.

In addition to patent protection, we may utilize orphan drug regulations, pediatric exclusivity or other provisions of the Food, Drug and Cosmetic Act of 1938, as amended, or FDCA, such as new chemical entity exclusivity or new formulation exclusivity, to provide market exclusivity for a product candidate. In the U.S., the FDA has the authority to grant additional data protection for approved drugs where the sponsor conducts specified testing in pediatric or adolescent populations. If granted, this pediatric exclusivity may provide an additional six months which are added to the term of data protection as well as to the term of a relevant patent, to the extent these protections have not already expired. We may also seek to utilize market exclusivities in other territories. We cannot assure you that our products or any product candidates we may acquire or in-license, will obtain such orphan drug designation, pediatric exclusivity, new chemical entity exclusivity or any other market exclusivity in the U.S., European Union, or EU, or any other territory, or that we will be the first to receive the respective regulatory approval for such drugs so as to be eligible for any market exclusivity protection.

Know-How

In addition to patents, we rely upon unpatented know-how and continuing technological innovation to develop and maintain our competitive position. We seek to protect our proprietary information, in part, using confidentiality agreements with our collaborators, employees and consultants and invention assignment provisions in the confidentiality agreements with our employees. These agreements are designed to protect our proprietary information and, in the case of the invention assignment provisions, to grant us ownership of technologies that are developed by our employees. These agreements may be breached, and we may not have adequate remedies for any breach.

To the extent that our commercial partners, collaborators, employees and consultants use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

The Hatch-Waxman Act

Orange Book Listing

In seeking approval for a drug through an NDA, sponsors are required to list with the FDA each patent whose claims cover the sponsor's product. Upon approval of a drug, each of the patents listed in the application for the drug is then published in the FDA's Approved Drug Products with Therapeutic Equivalence Evaluations, commonly known as the Orange Book. Drugs listed in the Orange Book can, in turn, be cited by potential generic competitors in support of approval of an ANDA. An ANDA provides for marketing of a drug product that has the same active ingredients in the same strengths and dosage form as the listed drug and has been shown through bioequivalence testing to be therapeutically equivalent to the listed drug. Other than the requirement for bioequivalence testing, ANDA sponsors are usually not required to conduct, or submit results of, nonclinical or clinical tests to prove the safety or effectiveness of their drug product. Drugs approved in this way are commonly referred to as "generic equivalents" to the listed drug and can often be substituted by pharmacists under prescriptions written for the original listed drug.

The ANDA sponsor is required to make certain certifications to the FDA concerning any patents listed for the approved product in the FDA's Orange Book. Specifically, the sponsor must certify that: (i) the required patent information has not been filed; (ii) the listed patent has expired; (iii) the listed patent has not expired but will expire on a particular date and approval is sought after patent expiration; or (iv) the listed patent is invalid or will not be infringed by the new product. The ANDA sponsor may also elect to submit a Section viii statement, certifying that its proposed ANDA label does not contain or carve out any language regarding the patented method-of-use, rather than certify to a listed method-of-use patent.

If the sponsor does not challenge the listed patents, the ANDA will not be approved until all the listed patents claiming the referenced product have expired. A certification that the new product will not infringe the already approved product's listed patents, or that such patents are invalid, is called a Paragraph IV certification. If the ANDA sponsor has provided a Paragraph IV certification to the FDA, the sponsor must also send notice of the Paragraph IV certification to the NDA and patent holders once the ANDA has been accepted for filing by the FDA. The NDA and patent holders may then initiate a patent infringement lawsuit in response to the notice of the Paragraph IV certification. The filing of a patent infringement lawsuit within 45 days of the receipt of a Paragraph IV certification automatically prevents the FDA from approving the ANDA until the earlier of 30 months from receiving the Paragraph IV certification, expiration of the patent, settlement of the lawsuit or a decision in the infringement case that is favorable to the ANDA sponsor. Also, the ANDA will not be approved until any applicable non-patent exclusivity listed in the Orange Book for the referenced product has expired.

Exclusivity

Upon NDA approval of a new chemical entity, or NCE, which is a drug that contains an active moiety that has not been approved by the FDA in any other NDA, that drug receives five years of marketing exclusivity during which time the FDA cannot accept any ANDA seeking approval of a generic version of that drug. Certain changes to a drug, such as the addition of a new indication to the package insert, are associated with a three-year period of exclusivity during which the FDA cannot approve an ANDA for a generic drug that includes such changes.

An ANDA may be submitted one year before NCE exclusivity expires if a Paragraph IV certification is filed. If there is no listed patent in the Orange Book, there may not be a Paragraph IV certification, and, thus, no ANDA may be filed before the expiration of the exclusivity period.

Patent Term Extension

After NDA approval, owners of relevant drug patents or their agents may apply for up to a five-year patent extension for delays caused by FDA regulatory review. The allowable patent term extension is calculated as half of the drug's testing phase which is the time between Investigational New Drug application, or IND submission, and NDA submission, and all of the review phase, which is the time between NDA submission and approval, up to a maximum of five years. The time can be shortened if the FDA determines that the sponsor did not pursue approval with due diligence. The total patent term after the extension may not exceed 14 years from the date of approval by virtue of the patent term extension.

We have filed applications under the patent term extension provisions of 35 U.S.C. § 156 for U.S. Patent Nos. 8,299,298, 8,093,423, 7,767,851 and 8,338,642 each of which covers Auryxia for delays caused by FDA regulatory review. If granted, we can utilize the patent term extension on one of these patents, however, we cannot assure you that we can obtain any extension of the term of these patents. Upon expiration of these patents, competitors who obtain the requisite regulatory approval may potentially offer products with the same composition and/or method of use as our product, so long as the competitors do not infringe any other patents that we may own or license.

For patents that might expire before a determination regarding patent term extension, the patent owner or its agent may request an interim patent term extension. An interim patent extension increases the patent term by one year and may be renewed up to four times. For each interim patent extension granted, the post-approval patent extension is reduced by one year. The director of the USPTO must determine that approval of the drug covered by the patent for which a patent extension is being sought is likely.

In addition, certain jurisdictions outside of the U.S., including Japan, have provisions that provide for patent term extension. In October 2014, following the regulatory approval of Riona in Japan, the Japan Patent office granted the patent term extensions filed by our sublicensee, JT, for Japanese Patents Nos. 4964585 and 4173553. As a result of the extension of patent term, Japanese Patent No. 4173553 expired in November 2022 and Japanese Patent No. 4964585 will expire in November 2025 for hyperphosphatemia and December 2028 for iron deficiency anemia.

In the future, if and when our product candidates, including vadadustat, receive approval by the FDA or foreign regulatory authorities, we expect to apply for patent term extensions on issued patents covering those drugs, depending upon the length of the clinical trials for each product candidate and other factors. There can be no assurance that any of our pending patent applications will issue or that we will benefit from any patent term extension or favorable adjustment to the term of any of our patents.

Competition

The pharmaceutical and biotechnology industries are highly competitive, with several key players offering innovative solutions. The growing prevalence of CKD and the increasing demand for better anemia management solutions continue to drive competition innovation in this market. Our competitors include public and private pharmaceutical and biotechnology companies, academic institutions, and public and private research institutions. In addition, companies that are active in different but related fields represent substantial competition for us. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in a larger concentration of resources among a smaller number of our competitors. These organizations, as well as others in the broader industries, compete with us to recruit qualified personnel, attract partners for joint ventures or other collaborations and license competitive technologies to ours.

While major pharmaceutical companies are continuously investing in R&D and have significantly greater capital resources, larger R&D teams and facilities and more experience in drug development, regulation, manufacturing and marketing than we do; we believe our novel HIF-PH inhibitors have the potential to revolutionize the treatment landscape in multiple areas, including anemia due to CKD. To compete successfully in these industries, we must continue to identify novel and unique drugs or treatment methods and complete the development of those drugs as treatments before our competitors.

Vadadustat Competitors

Drugs that may compete with vadadustat, if approved, include Epogen® (epoetin alfa) and Aranesp® (darbepoetin alfa), both commercialized by Amgen, Procrit® (epoetin alfa) and Eprex® (epoetin alfa), commercialized by Johnson & Johnson in the U.S. and Europe, respectively, and Mircera® (methoxy PEG-epoetin beta), commercialized by CSL Vifor in the U.S. and Roche Holding Ltd. outside of the U.S. and Evrenzo(R) (roxadustat) in Europe commercialized by Astellas Pharma Inc.

In addition, in the U.S., the FDA approved Jesduvroq (daprodustat), an oral HIF-PH inhibitor from GSK, for the once-a-day treatment of anemia due to CKD in adults who have been receiving dialysis for at least four months. FibroGen Inc., or FibroGen, filed an NDA with the FDA for its product candidate, roxadustat, to which the FDA issued a complete response letter indicating the FDA will not approve the NDA in its present form.

We and our partners may also face competition from potential new anemia therapies. There are several other HIF-PH inhibitor product candidates in various stages of development for anemia indications that may be in direct competition with vadadustat, if and when approved and launched commercially. These candidates are being developed by companies such as JT and Bayer HealthCare AG, or Bayer.

Furthermore, certain companies are developing new therapies for renal-related diseases that potentially could reduce injectable ESA utilization and thus limit the market potential for vadadustat if approved and launched commercially. Other new therapies are in development for treating conditions, including renal anemia, that may impact the market for anemia-targeted treatment.

In Japan, vadadustat is sold under the name Vafseo, which is approved for patients with CKD, including both DD-CKD and NDD-CKD, and competes with roxadustat, daprodustat and enarodustat. Roxadustat is approved for the treatment of anemia due to CKD, including DD-CKD and NDD-CKD patients. In addition, daprodustat, GSK's product candidate, and enarodustat, JT's product candidate, are approved in Japan for the treatment of anemia due to CKD. In addition, Bayer HealthCare AG has submitted a new drug application for its product candidate for the treatment of renal anemia in Japan. In China, FibroGen launched roxadustat for the treatment of anemia due to CKD in DD-CKD patients and for the treatment of anemia due to CKD in NDD-CKD patients.

A biosimilar is a biologic product approved based on demonstrating that it is highly similar to an existing, FDA-approved branded biologic product. The patents for the existing, branded biologic product must expire in a given market before biosimilars may enter that market without the risk of being sued for patent infringement. In addition, an application for a biosimilar product can only be approved by the FDA 12 years after the existing, branded product was approved under a Biologics License Application, or BLA. The patents for epoetin alfa, an injectable ESA, expired in 2004 in the EU, and the remaining patents expired between 2012 and 2016 in the U.S. Because injectable ESAs are biologic products, introducing biosimilars into the injectable ESA market in the U.S. will constitute additional competition for vadadustat if we are able to obtain approval for and commercially launch vadadustat. In the U.S., Pfizer's biosimilar version of injectable ESAs, Retacrit® (epoetin alfa-epbx), was approved by the FDA in May 2018 and launched in November 2018 and several biosimilar versions of injectable ESAs are available for sale in the EU.

Furthermore, if approved, vadadustat's commercial opportunities, may be reduced or eliminated if our competitors develop and market products that are less expensive, more effective, safer or offer greater patient convenience than vadadustat.

Auryxia Competitors

Hyperphosphatemia Competition

Auryxia is competing in the hyperphosphatemia market in the U.S. with other FDA-approved phosphate binders such as Renagel® (sevelamer hydrochloride) and Renvela® (sevelamer carbonate), both marketed by Sanofi, PhosLo® and Phoslyra® (calcium acetate), marketed by Fresenius Medical Care North America, Fosrenol® (lanthanum carbonate), marketed by Shire Pharmaceuticals Group plc, and Velphoro® (sucroferric oxyhydroxide), marketed by Fresenius Medical Care North America, as well as over-the-counter calcium carbonate products such as TUMS® and metal-based options such as aluminum, lanthanum and magnesium. Most of the phosphate binders listed above are now also available in generic forms. In addition, other agents are in development, including OPKO Health Inc.'s Alpharen™ Tablets (fermagate tablets) and Unicycive's RENAZORB™ (lanthanum dioxycarbonate) or could otherwise enter the market that may impact the market for Auryxia. In October 2023, the FDA approved XPHOZAH® (tenapanor), a phosphate absorption inhibitor that is marketed by Ardelyx, Inc. and indicated to reduce serum phosphorus in adults with CKD on dialysis as add-on therapy in patients who have an inadequate response to phosphate binders or who are intolerant of any dose of phosphate binder therapy.

Iron Deficiency Anemia Competition

Auryxia is competing in the IDA market in the U.S. with over-the-counter oral iron, ferrous sulfate, other prescription oral iron formulations, including ferrous gluconate, ferrous fumerate, and polysaccharide iron complex, and intravenous iron formulations, including Feraheme® (ferumoxytol injection), Venofer® (iron sucrose injection), Ferrlicit® (sodium ferric gluconate complex in sucrose injection), Injectafer® (ferric carboxymaltose injection), and Triferic® (ferric pyrophosphate citrate). In addition, other new therapies for the treatment of IDA may impact the market for Auryxia, such as Shield Therapeutic' plc's Feraccru® (ferric maltol), which is available in Europe for the treatment of IDA, and Accrufer® (ferric maltol), which was launched in the U.S. for the treatment of IDA in July 2021.

Furthermore, Auryxia's commercial opportunities may be reduced or eliminated if our competitors develop and market products that are less expensive, more effective, safer or offer greater patient convenience than Auryxia. Other companies have product candidates in various stages of preclinical or clinical development to treat diseases and complications of the diseases for which we are marketing Auryxia. In addition, we entered into settlement agreements with each of our ANDA filers pursuant to which we granted licenses to market a generic version of Auryxia in the U.S. beginning in March 2025 (subject to FDA approval), or earlier under certain circumstances customary for settlement agreements of this nature, which may materially adversely impact our business and results of operations.

Government Regulation and Product Approvals

Government authorities in the U.S., at the federal, state and local level, and in other countries and jurisdictions, including the EU, extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, sales, pricing, reimbursement, post-approval monitoring and reporting, and import and export of pharmaceutical products. The processes for obtaining regulatory approvals in the U.S. and in foreign countries and jurisdictions, along with subsequent compliance with applicable statutes and regulations and other regulatory requirements, require the expenditure of substantial time and financial resources.

Review and Approval of Drug Products in the U.S.

In the U.S., the FDA approves and regulates drugs under the FDCA and applicable implementing regulations and guidance.

Our product candidates must be approved by the FDA for therapeutic indications before we or our partners are able to market them in the U.S. A company, institution, or organization which takes responsibility for the initiation and management of a clinical development program for such products is referred to as a sponsor. A sponsor seeking approval to market and distribute a new drug product in the U.S. must typically undertake the following:

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice, or GLP, regulations and consistent with International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use, or ICH, requirements;
- design of a clinical protocol and submission to the FDA of an IND for human clinical testing, which must be reviewed and active by the FDA before human clinical trials may begin;
- approval by an independent local or central institutional review board, or IRB, representing each clinical site before each clinical trial may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practices, or GCP, to establish the safety and efficacy of the proposed product candidate for each indication;
- preparation and submission to the FDA of an NDA requesting marketing for one or more proposed indications;
- review of the product candidate by an FDA advisory committee, where appropriate or if applicable;
- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities at which the product candidate, or components thereof, are produced to assess compliance with current Good Manufacturing Practices, or cGMP, requirements and to assure that the facilities, methods and controls are adequate to preserve the product candidate's identity, strength, quality and purity;
- satisfactory completion of FDA audits of clinical trial sites and records to assure compliance with GCPs and good practices, or GxPs, the integrity of the clinical data and that adequate controls and oversight are in place regarding manufacturing, clinical trials, pharmacovigilance, safety, data management, vendor oversight, collection and reporting of serious adverse events and other activities;
- payment of user fees and securing FDA approval of an NDA; and
- compliance with any post-approval requirements and/or commitments, including the potential requirement to implement a risk evaluation and mitigation strategy, or REMS, and potentially post-market requirement, or PMR, and post-market commitment, or PMC, studies.

Preclinical Tests

Before a sponsor begins testing a product candidate with potential therapeutic value in humans, the product candidate enters the preclinical testing stage. Preclinical tests include laboratory evaluations of product chemistry, formulation and stability, as well as other studies to evaluate, among other things, the toxicity of the product candidate. The conduct of the preclinical tests and formulation of the compounds for testing must comply with federal regulations and requirements, including GLP regulations and standards and the U.S. Department of Agriculture's Animal Welfare Act, if applicable. The results of the preclinical tests, together with manufacturing information and analytical data, are submitted to the FDA as part of an IND and are generally referred to as IND-enabling studies. Some long-term preclinical testing, such as animal tests of reproductive adverse events and carcinogenicity, and long-term toxicity studies, may continue after the IND is submitted.

The IND and IRB Processes

Clinical trials involve the administration of the investigational product to human patients under the supervision of qualified investigators in accordance with GCP requirements, which include, among other things, the requirement that all research patients provide their voluntary informed consent in writing before their participation in any clinical trial. Clinical trials are conducted under written study protocols detailing, among other things, the inclusion and exclusion criteria, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. In support of a request for an IND, sponsors must submit a protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND.

An IND is an exemption from the FDCA that allows an unapproved drug to be shipped through interstate commerce for use in an investigational clinical trial and a request for FDA authorization to administer an investigational drug to humans. Such authorization must be obtained prior to interstate shipment and administration of any new drug that is not the subject of an approved NDA. In addition to reviewing an IND to assure the safety and rights of patients, the FDA also focuses on the quality of the investigation and whether it will be adequate to permit an evaluation of the drug's safety and efficacy. The results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, are submitted to the FDA as part of an IND. The FDA requires a 30-day waiting period after the submission of each IND before clinical trials may begin. This waiting period is designed to allow the FDA to review the IND to determine whether human research patients will be exposed to unreasonable health risks. At any time during this 30-day period, or thereafter, the FDA may raise concerns or questions about the conduct of the trials as outlined in the IND and impose a clinical hold or partial clinical hold or require that the sponsor amend the clinical protocol to include additional safety measurements. In this case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can begin (or resume if the clinical trial had been ongoing at the time a clinical hold was imposed).

In addition to the foregoing requirements related to the IND submission, an IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct a continuing review and reapprove the trial at least annually. The IRB must review and approve, among other things, the trial protocol and informed consent information to be provided to study patients. An IRB must operate in compliance with FDA regulations. An IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product candidate has been associated with unexpected serious harm to patients.

A sponsor may choose, but is not required, to conduct a foreign clinical study under an IND. When a foreign clinical study is conducted under an IND, all IND requirements must be met unless waived by the FDA. When a foreign clinical study is not conducted under an IND, the sponsor must ensure that the study complies with certain regulatory requirements of the FDA in order to use the study as support for an IND or application for marketing approval. Specifically, the studies must be conducted in accordance with GCP, including undergoing review and receiving approval by an independent ethics committee and seeking and receiving informed consent from subjects. GCP requirements encompass both ethical and data integrity standards for clinical trials. The FDA's regulations are intended to help ensure the protection of human subjects enrolled in non-IND foreign clinical trials, as well as the quality and integrity of the resulting data. They further help ensure that non-IND foreign studies are conducted in a manner comparable to that required for IND studies.

Reporting Clinical Trial Results

Under the Public Health Service Act, or PHSA, sponsors of certain clinical trials of certain FDA-regulated products, including prescription drugs and biologics, are required to register and disclose certain clinical trial information on a public registry (clinicaltrials.gov) maintained by the U.S. National Institutes of Health, or NIH. In particular, information related to the product, patient population, phase of investigation, study sites and investigators and other aspects of the clinical trial is made public as part of the registration of the clinical trial. Although sponsors are also obligated to disclose the results of their clinical trials after completion, disclosure of the results can be delayed in some cases for up to two years after the date of completion of the trial. The NIH's Final Rule on registration and reporting requirements for clinical trials became effective in 2017, and both NIH and the FDA have signaled the government's willingness to begin enforcing those requirements against non-compliant clinical trial sponsors.

Specifically, the PHSA grants the Secretary of the U.S. Department of Health and Human Services, or HHS, the authority to issue a notice of noncompliance to a responsible party for failure to submit clinical trial information as required. The responsible party, however, is allowed 30 days to correct the noncompliance and submit the required information. With the issuance of pre-notices for voluntary corrective action and several notices of non-compliance during the past two years, the FDA has signaled the government's willingness to enforce these requirements against non-compliant clinical trial sponsors. While these notices of non-compliance did not result in civil monetary penalties, the failure to submit clinical trial information to clinicaltrials.gov, as required, is also a prohibited act under the FDCA with violations subject to potential civil monetary penalties of up to $10,000 for each day the violation continues. In addition to civil monetary penalties, violations may also result in other regulatory action, such as injunction and/or criminal prosecution or disqualification from federal grants. Although the FDA has historically not enforced these reporting requirements due to HHS's long delay in issuing final implementing regulations, those regulations have now been issued and the FDA has issued several Notices of Noncompliance to manufacturers during the past two years.

Expanded Access to an Investigational Drug for Treatment Use

Expanded access, sometimes called "compassionate use," is the use of investigational new drug products outside of clinical trials to treat patients with serious or immediately life-threatening diseases or conditions when there are no comparable or satisfactory alternative treatment options. The rules and regulations related to expanded access are intended to improve access to investigational drugs for patients who may benefit from investigational therapies. FDA regulations allow access to investigational drugs under an IND by the company or the treating physician for treatment purposes on a case-by-case basis for: individual patients (single-patient IND applications for treatment in emergency settings and non-emergency settings); intermediate-size patient populations; and larger populations for use of the drug under a treatment protocol or Treatment IND Application.

There is no obligation for a sponsor to make its investigational products available for expanded access; however, as required by amendments to the FDCA included in the 21st Century Cures Act passed in 2016, if a sponsor has a policy regarding how it responds to expanded access requests with respect to product candidates in development to treat serious diseases or conditions, it must make that policy publicly available. Sponsors are required to make such policies publicly available upon the earlier of initiation of a Phase 2 or Phase 3 trial for a covered investigational product; or 15 days after the investigational product receives designation from the FDA as a breakthrough therapy, fast track product, or regenerative medicine advanced therapy.

On May 30, 2018, the Right to Try Act was signed into law. The law, among other things, provides a federal framework for certain patients to access certain investigational new drug products that have completed a Phase I clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a drug manufacturer to make its product candidates available to eligible patients as a result of the Right to Try Act, but the manufacturer must develop an internal policy and respond to patient requests according to that policy.

Human Clinical Trials in Support of an NDA

Clinical trials involve the administration of the investigational product to human patients under the supervision of qualified investigators in accordance with GCP requirements, which include, among other things, the requirement that all research patients provide their informed consent in writing before their participation in any clinical trial. Clinical trials are conducted under written study protocols detailing, among other things, the inclusion and exclusion criteria, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated.

Human clinical trials are typically conducted in four sequential phases, which may overlap or be combined:

- **Phase 1.** The product candidate is initially introduced into a small number of healthy human patients or, in certain indications such as cancer, patients with the target disease or condition (e.g., cancer) and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness and to determine optimal dosage.
- **Phase 2.** The product candidate is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product candidate for specific targeted diseases and to determine dosage tolerance and optimal dosage.
- **Phase 3.** These clinical trials are commonly referred to as “pivotal” studies, which denote a study that presents the data that the FDA or other relevant regulatory agency will use to determine whether or not to approve a product candidate. The product candidate is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to statistically evaluate the efficacy and safety of the product candidate for approval, identify adverse effects, establish the overall risk-benefit profile of the product candidate and to provide adequate information for the labeling of the product candidate.
- **Phase 4.** Post-approval studies may be conducted after initial marketing approval. These studies are used to gain additional experience from the treatment of patients in the intended therapeutic indication.

A clinical trial may combine the elements of more than one phase and the FDA often requires more than one Phase 3 trial to support marketing approval of a product candidate. Moreover, as noted above, a pivotal trial is a clinical trial that is believed to satisfy FDA requirements for the evaluation of a product candidate’s safety and efficacy such that it can be used, alone or with other pivotal or non-pivotal trials, to support regulatory approval. Generally, pivotal trials are Phase 3 trials, but they may be Phase 2 trials if the design provides a well-controlled and reliable assessment of clinical benefit, particularly in an area of unmet medical need. A company’s designation of a clinical trial as being of a particular phase is not necessarily indicative that the study will be sufficient to satisfy the FDA requirements of that phase because this determination cannot be made until the protocol and data have been submitted to and reviewed by the FDA.

In December 2022, with the passage of the Food and Drug Omnibus Reform Act, or FDORA, Congress required sponsors to develop and submit a diversity action plan for each phase 3 clinical trial or any other “pivotal study” of a new drug or biological product. These plans are meant to encourage the enrollment of more diverse patient populations in late-stage clinical trials of FDA-regulated products. Specifically, actions plans must include the sponsor’s goals for enrollment, the underlying rationale for those goals, and an explanation of how the sponsor intends to meet them. In addition to these requirements, the legislation directs the FDA to issue new guidance on diversity action plans. Progress reports detailing the results of the clinical trials conducted under the IND must be submitted at least annually to the FDA and, more frequently, if serious adverse events occur. In addition, IND safety reports must be submitted to the FDA for any of the following: serious and unexpected suspected adverse reactions; findings from other studies or animal or in vitro testing that suggest a significant risk in humans exposed to the drug; and any clinically important increase in the case of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The FDA, IRB or the sponsor or the data monitoring committee may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research patients are being exposed to an unacceptable health risk. The FDA will typically inspect one or more clinical sites to assure compliance with GCP and the integrity of the clinical data submitted.

In June 2023, the FDA issued draft guidance with updated recommendations for GCPs aimed at modernizing the design and conduct of clinical trials. The updates are intended to help pave the way for more efficient clinical trials to facilitate the development of medical products. The draft guidance is adopted from the ICH’s recently updated E6(R3) draft guideline that was developed to enable the incorporation of rapidly developing technological and methodological innovations into the clinical trial enterprise. In addition, the FDA issued draft guidance outlining recommendations for the implementation of decentralized clinical trials.

Interactions with the FDA During the Clinical Development Program

Following the clearance of an IND and the commencement of clinical trials, a sponsor will continue to have interactions with the FDA and the sponsor may meet with the FDA at certain points in the clinical development program. Specifically, sponsors may meet with the FDA prior to the submission of an IND, or a pre-IND meeting, at the end of Phase 2 clinical trials and before an NDA is submitted, or a pre-NDA meeting. Meetings at other times may also be requested. These meetings provide an opportunity for the sponsor to share information about the data gathered to date with the FDA and for the FDA to provide advice on the next phase of development.

There are five types of meetings that occur between sponsors and the FDA. Type A meetings are those that are necessary for an otherwise stalled product development program to proceed or to address an important safety issue. Type B meetings include pre-IND and pre-NDA meetings as well as end of phase meetings such as end-of-phase 2 meetings. A Type C meeting is any meeting other than a Type A or Type B meeting regarding the development and review of a product, including for example meetings to facilitate early consultations on the use of a biomarker as a new surrogate endpoint that has never been previously used as the primary basis for product approval in the proposed context of use. A Type D meeting is focused on a narrow set of issues (typically limited to no more than two focused topics) and should not require input from more than three disciplines or divisions. Finally, INTERACT meetings are intended for novel products and development programs that present unique challenges in the early development of an investigational product.

Such meetings may be conducted in person, via teleconference/videoconference, or written response only with minutes reflecting the questions that the sponsor posed to the FDA and the agency's responses. The FDA has indicated that its responses, as conveyed in meeting minutes and advice letters, only constitute mere recommendations and/or advice made to a sponsor and, as such, sponsors are not bound by such recommendations and/or advice. Nonetheless, from a practical perspective, a sponsor's failure to follow the FDA's recommendations for design of a clinical program may put the program at significant risk of failure. In September 2023, the FDA issued draft guidance outlining the terms of such meetings in more detail.

Pediatric Studies

Under the Pediatric Research Equity Act, or PREA, applications and certain types of supplements to applications must contain data that are adequate to assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The sponsor must submit an initial Pediatric Study Plan, or PSP, within 60 days of an end-of-phase 2 meeting or as may be agreed between the sponsor and the FDA. Those plans must contain an outline of the proposed pediatric study or studies the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information. The sponsor and the FDA must reach agreement on a final plan. A sponsor can submit amendments to an agreed-upon initial PSP at any time if changes to the pediatric plan need to be considered based on data collected from nonclinical trials, early phase clinical trials, and/or other clinical development programs.

For investigational products intended to treat a serious or life-threatening disease or condition, the FDA must, upon the request of a sponsor, meet to discuss preparation of the initial pediatric study plan or to discuss deferral or waiver of pediatric assessments. In addition, the FDA will meet early in the development process to discuss pediatric study plans with sponsors, and the FDA must meet with sponsors by no later than the end-of-phase 1 meeting for serious or life-threatening diseases and by no later than ninety days after the FDA's receipt of the study plan.

The FDA may, on its own initiative or at the request of the sponsor, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements. A deferral may be granted for several reasons, including a finding that the product or therapeutic candidate is ready for approval for use in adults before pediatric trials are complete or that additional safety or effectiveness data needs to be collected before the pediatric trials begin. Pursuant to the Food and Drug Administration Safety and Innovation Act of 2012, or FDASIA, the FDA must send a PREA Non-Compliance letter to sponsors who have failed to submit their pediatric assessments required under PREA, have failed to seek or obtain a deferral or deferral extension or have failed to request approval for a required pediatric formulation. FDASIA further requires the FDA to publicly post the PREA Non-Compliance letter and sponsor's response. Unless otherwise required by regulation, the pediatric data requirements do not apply to products with orphan designation, although FDA has recently taken steps to limit what it considers abuse of this statutory exemption in PREA by announcing that it does not intend to grant any additional orphan drug designations for rare pediatric subpopulations of what is otherwise a common disease. The FDA also maintains a list of diseases that are exempt from PREA requirements due to low prevalence of disease in the pediatric population. In May 2023, the FDA issued new draft guidance that further describes the pediatric study requirements under PREA.

Acceptance and Review of an NDA

Assuming successful completion of required clinical testing and other requirements, the results of the preclinical studies and clinical trials, together with detailed information relating to the product's chemistry, manufacture, controls and proposed labeling, among other things are submitted to the FDA as part of an NDA requesting approval to market the product candidate for one or more indications. The fee required for the submission and review of an application under the PDUFA is substantial (for example, for fiscal year 2024 this application fee is a little more than $4.0 million), and the sponsor of an approved application is also subject to an annual program fee, currently approximately $0.4 million per eligible prescription product. These fees are typically adjusted annually, and exemptions and waivers may be available under certain circumstances, such as where a waiver is necessary to protect the public health, where the fee would present a significant barrier to innovation, or where the sponsor is a small business submitting its first human therapeutic application for review.

The FDA conducts a preliminary review of all applications within 60 days of receipt and must inform the sponsor at that time or before whether an application is sufficiently complete to permit substantive review. This is known as the filing decision. In the event that FDA determines that an application does not satisfy this standard, it will issue a Refuse to File determination to the sponsor. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA has agreed to certain performance goals in the review process of NDAs. Most such applications are meant to be reviewed within ten months from the date of filing, and most applications for "priority review" products are meant to be reviewed within six months of filing. A product that has been designated as a breakthrough therapy may also be eligible for review within six months if supported by clinical data at the time of submission of the NDA. The review process may be extended by the FDA for three additional months to consider new information or clarification provided by the sponsor to address an outstanding deficiency identified by the FDA following the original submission.

Before approving an NDA, the FDA typically will inspect the facility or facilities where the product is or will be manufactured. These pre-approval inspections may cover all facilities associated with an NDA submission, including drug component manufacturing such as active pharmaceutical ingredients, finished drug product manufacturing, control testing laboratories, as well as packaging and labeling facilities. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. The PREVENT Pandemics Act, which was enacted in December 2022, clarifies that foreign drug manufacturing establishments are subject to registration and listing requirements even if a drug or biologic undergoes further manufacture, preparation, propagation, compounding, or processing at a separate establishment outside the U.S. prior to being imported or offered for import into the U.S.

Additionally, before approving an NDA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP. The sponsor of the NDA may also have their records, processes, procedures, training, and other aspects reviewed during an inspection. The FDA must implement a protocol to expedite review of responses to inspection reports pertaining to certain drug applications, including applications for drugs in a shortage or drugs for which approval is dependent on remediation of conditions identified in the inspection report.

In addition, as a condition of approval, the FDA may require a sponsor to develop a REMS. REMS use risk minimization strategies beyond the professional labeling to ensure that the benefits of the product outweigh the potential risks.

Finally, the FDA may refer an application for a novel drug to an advisory committee or explain why such referral was not made. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Fast Track, Breakthrough Therapy, Priority Review

The FDA is authorized to designate certain products for expedited review if they are intended to address an unmet medical need in the treatment of a serious or life-threatening disease or condition. These programs are referred to as fast track designation, breakthrough therapy designation, priority review designation.

Specifically, the FDA may designate a product for fast track review if it is intended, whether alone or in combination with one or more other drugs, for the treatment of a serious or life-threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. The fast track designation may be withdrawn by the FDA if the FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

Second, in 2012, Congress enacted the Food and Drug Administration Safety and Improvement Act. This law established a new regulatory scheme allowing for expedited review of products designated as “breakthrough therapies.” A product may be designated as a breakthrough therapy if it is intended, either alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The FDA may take certain actions with respect to breakthrough therapies, including holding meetings with the sponsor throughout the development process; providing timely advice to the product sponsor regarding development and approval; involving more senior staff in the review process; assigning a cross-disciplinary project lead for the review team; and taking other steps to design the clinical trials in an efficient manner.

Third, the FDA may designate a product for priority review if it is a drug that treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness. The FDA determines, on a case-by-case basis, whether the proposed drug represents a significant improvement when compared with other available therapies. A priority designation is intended to direct overall attention and resources to the evaluation of such applications, and to shorten the FDA’s review clock goal for taking action on a marketing application from ten months to six months.

Priority Review Vouchers

A priority review voucher, or PRV, is a voucher that the FDA issues to a sponsor of a rare pediatric disease or tropical disease product application at the time of the marketing application approval. Vouchers are transferable to other sponsors that may apply it to their NDAs or biologics license application, or BLAs. A PRV entitles the holder to designate a single human drug application submitted under Section 505(b)(1) of the U.S. Federal Food, Drug, and Cosmetic Act or Section 351 of the Public Health Service Act as qualifying for a priority review. An FDA priority review may expedite the review process of a marketing application reducing the review time from ten months after formal acceptance of the file to six months after formal acceptance of the file. Applying the PRV to a marketing application does not ensure the FDA’s approval of the marketing application and all requirements supporting the safety and efficacy of the product must be met. Our NDA submission for vadadustat did not include a PRV.

Accelerated Approval Pathway

Drug or biologic products studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may receive accelerated approval. Accelerated approval means that a product candidate may be approved on the basis of adequate and well controlled clinical trials establishing that the product candidate has an effect on a surrogate endpoint that is reasonably likely to predict a clinical benefit, or on the basis of an effect on a clinical endpoint other than survival or irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity and prevalence of the condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require that a sponsor of a drug or biologic product candidate receiving accelerated approval perform adequate and well controlled post-marketing clinical trials. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials.

With the passage of FDORA in December 2022, Congress modified certain provisions governing accelerated approval of drug and biologic products. Specifically, the new legislation authorized the FDA to: require a sponsor to have its confirmatory clinical trial underway before accelerated approval is awarded, require a sponsor of a product granted accelerated approval to submit progress reports on its post-approval studies to the FDA every six months (until the study is completed); and use expedited procedures to withdraw accelerated approval of an NDA or BLA after the confirmatory trial fails to verify the product’s clinical benefit. Further, FDORA requires the FDA to publish on its website “the rationale for why a post-approval study is not appropriate or necessary” whenever it decides not to require such a study upon granting accelerated approval.

In March 2023, the FDA issued draft guidance that outlines its current thinking and approach to accelerated approval. The agency indicated that although single-arm trials have been commonly used to support accelerated approval, a randomized controlled trial is the preferred approach as it provides a more robust efficacy and safety assessment and allows for direct comparisons to an available therapy. To that end, the FDA outlined considerations for designing, conducting, and analyzing data for trials intended to support accelerated approvals of oncology therapeutics. While this guidance is currently only in draft form and generally applies to oncology products and will ultimately not be legally binding even when finalized, sponsors typically observe the FDA’s guidance closely to ensure that their investigational products qualify for accelerated approval.

The FDA’s Decision on an NDA

The FDA reviews an application to determine, among other things, whether the product is safe and whether it is effective for its intended use(s), with the latter determination being made on the basis of substantial evidence. The term “substantial evidence” is defined under the FDCA as “evidence consisting of adequate and well-controlled investigations, including clinical investigations, by experts qualified by scientific training and experience to evaluate the effectiveness of the product involved, on the basis of which it could fairly and responsibly be concluded by such experts that the product will have the effect it purports or is represented to have under the conditions of use prescribed, recommended, or suggested in the labeling or proposed labeling thereof."

The FDA has interpreted this evidentiary standard to require at least two adequate and well-controlled clinical investigations to establish effectiveness of a new product. Under certain circumstances, however, FDA has indicated that a single trial with certain characteristics and additional information may satisfy this standard. This approach was subsequently endorsed by Congress in 1998 with legislation providing, in pertinent part, that "If [FDA] determines, based on relevant science, that data from one adequate and well-controlled clinical investigation and confirmatory evidence (obtained prior to or after such investigation) are sufficient to establish effectiveness, FDA may consider such data and evidence to constitute substantial evidence." This modification to the law recognized the potential for FDA to find that one adequate and well controlled clinical investigation with confirmatory evidence, including supportive data outside of a controlled trial, is sufficient to establish effectiveness. In December 2019, FDA issued draft guidance further explaining the studies that are needed to establish substantial evidence of effectiveness. Although the FDA has not yet finalized that guidance, it did issue additional draft guidance in September 2023 that outlines considerations for relying on confirmatory evidence in lieu of a second clinical study.

After evaluating the application and all related information, including the advisory committee recommendations, if any, and inspection reports of manufacturing facilities and clinical trial sites, the FDA will issue either a CRL or an approval letter. To reach this determination, the FDA must determine that the drug is effective and that its expected benefits outweigh its potential risks to patients. This "benefit-risk" assessment is informed by the extensive body of evidence about the product's safety and efficacy in the NDA or BLA. This assessment is also informed by other factors, including: the severity of the underlying condition and how well patients' medical needs are addressed by currently available therapies; uncertainty about how the premarket clinical trial evidence will extrapolate to real-world use of the product in the post-market setting; and whether risk management tools are necessary to manage specific risks. In connection with this assessment, the FDA review team will assemble all individual reviews and other documents into an "action package," which becomes the record for FDA review. The review team then issues a recommendation, and a senior FDA official makes a decision.

A CRL indicates that the review cycle of the application is complete, and the application will not be approved in its present form. A CRL generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. The CRL may require additional clinical or other data, additional pivotal Phase 3 clinical trial(s) and/or other significant and time- consuming requirements related to clinical trials, preclinical studies or manufacturing. If a CRL is issued, the sponsor will have one year to respond to the deficiencies identified by the FDA, at which time the FDA can deem the application withdrawn or, in its discretion, grant the sponsor an additional six month extension to respond. The FDA has committed to reviewing resubmissions in response to an issued CRL in either two or six months depending on the type of information included. Even with the submission of this additional information, however, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. The FDA has taken the position that a CRL is not final agency action making the determination subject to judicial review. Rather, for those seeking to challenge FDA's CRL decision, the agency has indicated that sponsors may request a formal hearing on the CRL or they may file a request for reconsideration or a request for a formal dispute resolution.

An approval letter, on the other hand, authorizes commercial marketing of the product with specific prescribing information for specific indications. That is, the approval will be limited to the conditions of use (e.g., patient population, indication) described in the FDA-approved labeling. Further, depending on the specific risk(s) to be addressed, the FDA may require that contraindications, warnings or precautions be included in the product labeling, require that post-approval trials, including Phase 4 clinical trials, be conducted to further assess a product's safety after approval, require testing and surveillance programs to monitor the product after commercialization or impose other conditions, including distribution and use restrictions or other risk management mechanisms under a REMS which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-marketing trials or surveillance programs. After approval, some types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further testing requirements and FDA review and approval.

Under the Ensuring Innovation Act, which was signed into law in April 2021, the FDA must publish action packages summarizing its decisions to approve new drugs and biologics within 30 days of approval of such products. To date, CRLs are not publicly available documents.

Post-Approval Requirements and Commitments

If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. In addition, conditions of NDA approval may include sponsor agreement to PMR or PMC studies, which are designed to further assess drug safety and effectiveness and may require testing and surveillance programs to monitor the safety of approved products that have been commercialized. These may include additional studies, registries, data collection, analyses, and/or information.

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing, annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data.

In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, suspension of the approval, or complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates the marketing, labeling, advertising and promotion of prescription drug products placed on the market. This regulation includes, among other things, standards and regulations for direct-to-consumer advertising, communications regarding unapproved uses, industry-sponsored scientific and educational activities, and promotional activities involving the Internet and social media. Promotional claims about a product candidate's safety or effectiveness are prohibited before the product candidate is approved. After approval, a drug product generally may not be promoted for uses that are not approved by the FDA or in a manner that is inconsistent with the product's prescribing information. In September 2021, the FDA published final regulations which describe the types of evidence that the agency will consider in determining the intended use of a drug product. In addition, in October 2023, the FDA published draft guidance outlining the agency's non-binding policies governing the distribution of scientific information on unapproved uses to healthcare providers. This draft guidance calls for such communications to be truthful, non-misleading, factual, and unbiased and include all information necessary for healthcare providers to interpret the strengths and weaknesses and validity and utility of the information about the unapproved use.

In the U.S., healthcare professionals are generally permitted to prescribe drugs for such uses not described in the drug's labeling, known as off-label uses, because the FDA does not regulate the practice of medicine. However, FDA regulations impose rigorous restrictions on manufacturers' communications, prohibiting the promotion of off-label uses. It may be permissible, under very specific conditions, for a manufacturer to engage in nonpromotional, truthful and non-misleading communication regarding off-label information, such as distributing scientific or medical journal information. In addition, companies may also promote information that it consistent with the prescribing information and have the ability to proactively speak to formulary committee members of payors regarding data for an unapproved drug or unapproved uses of an approved drug under some relatively recent guidance from the FDA. Moreover, with the passage of the Pre-Approval Information Exchange Act, or PIE Act, in December 2022, sponsors of products that have not been approved may proactively communicate to payors certain information about products in development to help expedite patient access upon product approval. Previously, such communications were permitted under FDA guidance but the new legislation explicitly provides protection to sponsors who convey certain information about products in development to payors, including unapproved uses of approved products.

However, if a company is found to have promoted off-label uses, it may become subject to adverse public relations and administrative and judicial enforcement by the FDA, the Department of Justice, or the Office of the Inspector General of the Department of Health and Human Services, as well as state authorities. This could subject a company to a range of penalties that could have a significant commercial impact, including civil and criminal fines and agreements that materially restrict the manner in which a company promotes or distributes drug products. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed.

In addition, the distribution of prescription pharmaceutical products is subject to a variety of federal and state laws, the most recent of which is still in the process of being phased into the U.S. supply chain and regulatory framework. The Prescription Drug Marketing Act, or PDMA, was the first federal law to set minimum standards for the registration and regulation of drug distributors by the states and to regulate the distribution of drug samples. Today, both the PDMA and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution. Congress more recently enacted the Drug Supply Chain Security Act, or DSCSA, which made significant amendments to the FDCA, including by replacing certain provisions from the PDMA pertaining to wholesale distribution of prescription drugs with a more comprehensive statutory scheme. The DSCSA now requires uniform national standards for wholesale distribution and, for the first time, for third-party logistics providers; it also provides for preemption of certain state laws in the areas of licensure and prescription drug traceability.

Section 505(b)(2) NDAs

NDAs for most new drug products are based on two full clinical trials which must contain substantial evidence of the safety and efficacy of the proposed new product for the proposed use. These applications are submitted under Section 505(b)(1) of the FDCA. The FDA is, however, authorized to approve an alternative type of NDA under Section 505(b)(2) of the FDCA. This type of application allows the sponsor to rely, in part, on the FDA's previous findings of safety and efficacy for a similar product, or published literature. Specifically, Section 505(b)(2) applies to NDAs for a drug for which the investigations made to show whether or not the drug is safe for use and effective in use and relied upon by the sponsor for approval of the application "were not conducted by or for the sponsor and for which the sponsor has not obtained a right of reference or use from the person by or for whom the investigations were conducted."

Section 505(b)(2) authorizes the FDA to approve an NDA based on safety and effectiveness data that were not developed by the sponsor. NDAs filed under Section 505(b)(2) may provide an alternate and potentially more expeditious pathway to FDA approval for new or improved formulations or new uses of previously approved products. If the 505(b)(2) sponsor can establish that reliance on the FDA's previous approval is scientifically appropriate, the sponsor may eliminate the need to conduct certain preclinical studies or clinical trials of the new product. The FDA may also require companies to perform additional studies or measurements to support the change from the approved product. The FDA may then approve the new product candidate for all or some of the label indications for which the referenced product has been approved, as well as for any new indication sought by the Section 505(b)(2) sponsor. Products approved under Section 505(b)(2) are often referred to as follow-on products.

Abbreviated New Drug Applications for Generic Drugs

In 1984, with the passage of the Hatch-Waxman Amendments to the FDCA, Congress established an abbreviated regulatory scheme authorizing the FDA to approve generic drugs that are shown to contain the same active ingredients as, and to be bioequivalent to, drugs previously approved by the FDA pursuant to NDAs. To obtain approval of a generic drug, a sponsor must submit an ANDA to the agency. An ANDA is a comprehensive submission that contains, among other things, data and information pertaining to the active pharmaceutical ingredient, bioequivalence, drug product formulation, specifications and stability of the generic drug, as well as analytical methods, manufacturing process validation data and quality control procedures. ANDAs are "abbreviated" because they generally do not include preclinical and clinical data to demonstrate safety and effectiveness. Instead, in support of such applications, a generic manufacturer may rely on the preclinical and clinical testing previously conducted for a drug product previously approved under an NDA, known as the reference-listed drug, or RLD.

Under the Hatch-Waxman Act, the FDA may not approve an ANDA or 505(b)(2) application until any applicable period of non-patent exclusivity for the RLD has expired. The FDCA provides a period of five years of non-patent data exclusivity for a new drug containing a new chemical entity, or NCE. For the purposes of this provision, the FDA has consistently taken the position that an NCE is a drug that contains no active moiety that has previously been approved by the FDA in any other NDA. This interpretation was confirmed with enactment of the Ensuring Innovation Act in April 2021. An active moiety is the molecule or ion responsible for the physiological or pharmacological action of the drug substance. In cases where such NCE exclusivity has been granted, a generic or follow-on drug application may not be filed with the FDA until the expiration of five years unless the submission is accompanied by a Paragraph IV certification, in which case the sponsor may submit its application four years following the original product approval.

The FDCA also provides for a period of three years of exclusivity if the NDA includes reports of one or more new clinical investigations, other than bioavailability or bioequivalence studies, that were conducted by or for the sponsor and are essential to the approval of the application. This three-year exclusivity period often protects changes to a previously approved drug product, such as a new dosage form, route of administration, combination or indication. Three-year exclusivity would be available for a drug product that contains a previously approved active moiety, provided the statutory requirement for a new clinical investigation is satisfied. Unlike five-year NCE exclusivity, an award of three-year exclusivity does not block the FDA from accepting ANDAs or 505(b)(2) applications seeking approval for generic versions of the drug as of the date of approval of the original drug product. The FDA typically makes decisions about awards of data exclusivity shortly before a product is approved.

The FDA must establish a priority review track for certain generic drugs, requiring the FDA to review a drug application within eight months for a drug that has three or fewer approved drugs listed in the Orange Book and is no longer protected by any patent or regulatory exclusivities, or is on the FDA's drug shortage list. The new legislation also authorizes FDA to expedite review of ''competitor generic therapies'' or drugs with inadequate generic competition, including holding meetings with or providing advice to the drug sponsor prior to submission of the application.

Hatch-Waxman Patent Certification and the 30-Month Stay

As part of the submission of an NDA or certain supplemental applications, NDA sponsors are required to list with the FDA each patent with claims that cover the sponsor's product or an approved method of using the product. Upon approval of a new drug, each of the patents listed in the application for the drug is then published in the Orange Book. The FDA's regulations governing patent listings were largely codified into law with enactment of the Orange Book Modernization Act in January 2021. When an ANDA sponsor files its application with the FDA, the sponsor is required to certify to the FDA concerning any patents listed for the reference product in the Orange Book. Specifically, the ANDA sponsor must certify that: (i) the required patent information has not been filed; (ii) the listed patent has expired; (iii) the listed patent has not expired, but will expire on a particular date and approval is sought after patent expiration; or (iv) the listed patent is invalid or will not be infringed by the new product. Moreover, to the extent that the Section 505(b)(2) NDA sponsor is relying on studies conducted for an already approved product, the sponsor also is required to certify to the FDA concerning any patents listed for the NDA-approved product in the Orange Book to the same extent that an ANDA sponsor would.

If the generic drug or follow-on drug sponsor does not challenge the innovator's listed patents, FDA will not approve the ANDA or 505(b)(2) application until all the listed patents claiming the referenced product have expired. A certification that the new generic product will not infringe the already approved product's listed patents or that such patents are invalid or unenforceable is called a Paragraph IV certification. If the ANDA sponsor has provided a Paragraph IV certification to the FDA, the sponsor must also send notice of the Paragraph IV certification to the NDA owner and patent holders once the ANDA has been accepted for filing by the FDA. The NDA owner and patent holders may then initiate a patent infringement lawsuit in response to the notice of the Paragraph IV certification. The filing of a patent infringement lawsuit within 45 days after the receipt of a Paragraph IV certification automatically prevents the FDA from approving the ANDA or 505(b)(2) NDA until the earliest of 30 months after the receipt of the Paragraph IV notice, expiration of the patent or a decision in the infringement case that is favorable to the ANDA or 505(b)(2) NDA application.

Pediatric Studies and Exclusivity

Pediatric exclusivity is another type of non-patent marketing exclusivity in the U.S. and, if granted, for drug products, provides for the attachment of an additional six months of marketing protection to the term of any existing patent or regulatory exclusivity, including the non-patent and orphan exclusivity. This six-month exclusivity may be granted if an NDA sponsor submits pediatric data that fairly respond to a written request from the FDA for such data. The data do not need to show the product is effective in the pediatric population studied, rather, if the clinical trial is deemed to fairly respond to the FDA's request, the additional protection is granted. If reports of requested pediatric studies are submitted to and accepted by the FDA within the statutory time limits, whatever statutory or regulatory periods of exclusivity or patent protection cover the product are extended by six months. This is not a patent term extension, but it effectively extends the regulatory period during which the FDA cannot approve another application. With regard to patents, the six-month pediatric exclusivity period will not attach to any patents for which an ANDA or 505(b)(2) sponsor submitted a Paragraph IV patent certification, unless the NDA sponsor or patent owner first obtains a court determination that the patent is valid and infringed by the proposed product.

Patent Term Restoration and Extension

A patent claiming a new drug product may be eligible for a limited patent term extension under the Hatch-Waxman Act, which permits a patent restoration of up to five years for patent term lost during product development and the FDA regulatory review. The restoration period granted is typically one-half the time between the effective date of an IND and the submission date of an NDA, plus the time between the submission date of an NDA and the ultimate approval date. Patent term restoration cannot be used to extend the remaining term of a patent past a total of 14 years from the product's approval date. Only one patent applicable to an approved drug product is eligible for the extension, and the application for the extension must be submitted prior to the expiration of the patent in question. A patent that covers multiple drugs for which approval is sought can only be extended in connection with one of the approvals. The U.S. Patent and Trademark Office reviews and approves the application for any patent term extension or restoration in consultation with the FDA.

Federal and State Data Privacy Laws

There are multiple privacy and data security laws that may impact our business activities, in the U.S. and in other countries where we conduct trials or where we may do business in the future. These laws are evolving and may increase both our obligations and our regulatory risks in the future. In the health care industry generally, under the federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, or HIPAA, the HHS has issued regulations to protect the privacy and security of protected health information, or PHI, used or disclosed by covered entities including certain healthcare providers, health plans and healthcare clearinghouses. HIPAA also regulates standardization of data content, codes and formats used in healthcare transactions and standardization of identifiers for health plans and providers. HIPAA also imposes certain obligations on the business associates of covered entities that obtain protected health information in providing services to or on behalf of covered entities. While we are not a covered entity, as a business associate, we could be subject to penalties, including criminal penalties, and contractual damages if we knowingly obtain or further disclose PHI from a covered entity, such as a health care provider or clinical research site, and therefore we must ensure the proper authorizations are in place before we, or our vendors or business partners, obtain access to any PHI. In addition to federal privacy regulations, there are a number of state laws governing confidentiality and security of health information that may be applicable to our business. In addition to possible federal civil and criminal penalties for HIPAA violations, state attorneys general are authorized to file civil actions for damages or injunctions in federal courts to enforce HIPAA and seek attorney's fees and costs associated with pursuing federal civil actions. In addition, state attorneys general (along with private plaintiffs) have brought civil actions seeking injunctions and damages resulting from alleged violations of HIPAA's privacy and security rules. State attorneys general also have authority to enforce state privacy and security laws. New laws and regulations governing privacy and security may be adopted in the future as well.

In November 2020, California enacted legislation that has been dubbed the first “GDPR-like” law in the U.S. Known as the California Consumer Privacy Act, or CCPA, it creates new individual privacy rights for consumers (as that word is broadly defined in the law) and places increased privacy and security obligations on entities handling personal data of consumers or households. The CCPA went into effect on January 1, 2020 and requires covered companies to provide new disclosures to California consumers, provide such consumers rights as it relates to their personal information, and allow for a new cause of action for data breaches. Additionally, starting on January 1, 2023, the California Privacy Rights Act, or CPRA, significantly modified the CCPA, including by expanding consumers' rights, particularly with respect to certain sensitive personal information and creating new principles, such as data minimization, purpose limitation, and storage limitation. The CPRA also created a new state agency that will be vested with authority to implement and enforce the CCPA and the CPRA. The CCPA and CPRA could impact our business activities depending on how it is interpreted and exemplifies the vulnerability of our business to not only cyber threats but also the evolving regulatory environment related to personal data and individually identifiable health information. These provisions may apply to some of our business activities.

In addition to California, eleven other states have passed comprehensive privacy laws similar to the CCPA and CPRA. These laws are either in effect or will go into effect sometime before the end of 2026. Like the CCPA and CPRA, these laws create obligations related to the processing of personal information, as well as special obligations for the processing of “sensitive” data, which includes health data in some cases. Some of the provisions of these laws may apply to our business activities. There are also states that are strongly considering or have already passed comprehensive privacy laws during the 2024 legislative sessions that will go into effect in 2025 and beyond, including New Hampshire and New Jersey. Other states will be considering similar laws in the future, and Congress has also been debating passing a federal privacy law. There are also states that are specifically regulating health information that may affect our business. For example, Washington state passed a health privacy law in 2023 that will regulate the collection and sharing of health information, and the law also has a private right of action, which further increases the relevant compliance risk. Connecticut and Nevada have also passed similar laws regulating consumer health data, and more states (such as Vermont) are considering such legislation in 2024. Other states will be considering these laws in the future, and Congress has also been debating a proposed federal privacy law. These laws may impact our business activities, including our identification of research subjects, relationships with business partners and ultimately the marketing and distribution of our products, if and once approved.

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available under such laws, it is possible that some of our current or future business activities, including certain clinical research, sales and marketing practices and the provision of certain items and services to our customers, could be subject to challenge under one or more of such privacy and data security laws. The heightening compliance environment and the need to build and maintain robust and secure systems to comply with different privacy compliance and/or reporting requirements in multiple jurisdictions could increase the possibility that a healthcare company may fail to comply fully with one or more of these requirements. If our operations are found to be in violation of any of the privacy or data security laws or regulations described above that are applicable to us, or any other laws that apply to us, we may be subject to penalties, including potentially significant criminal, civil and administrative penalties, damages, fines, imprisonment, contractual damages, reputational harm, diminished profits and future earnings, additional reporting requirements and/or oversight if we become subject to a consent decree or similar agreement to resolve allegations of non-compliance with these laws, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. To the extent that any product candidates we may develop, once approved, are sold in a foreign country, we may be subject to similar foreign laws.

Review and Approval of Drug Products Outside the U.S.

In order to market any product outside of the U.S., a sponsor must also comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of drug products. Whether or not it obtains FDA approval for a product, the company would need to obtain the necessary approvals by the comparable foreign regulatory authorities before it can commence clinical trials or marketing of the product in those countries or jurisdictions. The approval process ultimately varies between countries and jurisdictions and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries and jurisdictions might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country or jurisdiction may negatively impact the regulatory process in others.

Non-clinical Studies

Non-clinical studies are performed to demonstrate the health or environmental safety of new chemical or biological substances. Non-clinical (pharmaco-toxicological) studies must be conducted in compliance with the principles of GLP as set forth in EU Directive 2004/10/EC (unless otherwise justified for certain particular medicinal products such as, for example, radio-pharmaceutical precursors for radio-labeling purposes). In particular, non-clinical studies, both in vitro and in vivo, must be planned, performed, monitored, recorded, reported and archived in accordance with the GLP principles, which define a set of rules and criteria for a quality system for the organizational process and the conditions for non-clinical studies. These GLP standards reflect the Organization for Economic Co-operation and Development requirements.

Clinical Trial Approval in the EU

On January 31, 2022, the Clinical Trials Regulation (EU) No 536/2014 became effective in the EU and replaced the prior Clinical Trials Directive 2001/20/EC. The Clinical Trials Regulation aims to simplify and streamline the authorization, conduct and transparency of clinical trials in the EU. Under the new coordinated procedure for the approval of clinical trials, the sponsor of a clinical trial to be conducted in more than one Member State of the EU, or an EU Member State, will only be required to submit a single application for approval. The submission will be made through the Clinical Trials Information System, a new clinical trials portal overseen by the EMA and available to clinical trial sponsors, competent authorities of the EU Member States and the public.

Beyond streamlining the process, the new regulation includes a single set of documents to be prepared and submitted for the application as well as simplified reporting procedures for clinical trial sponsors, and a harmonized procedure for the assessment of applications for clinical trials, which is divided in two parts. Part I is assessed by the competent authorities of all EU Member States in which an application for authorization of a clinical trial has been submitted, or EU Member States concerned. Part II is assessed separately by each EU Member State concerned. Strict deadlines have been established for the assessment of clinical trial applications. The role of the relevant ethics committees in the assessment procedure will continue to be governed by the national law of the EU Member State concerned. However, overall related timelines will be defined by the Clinical Trials Regulation.

The Clinical Trials Regulation did not change the preexisting requirement that a sponsor must obtain prior approval from the competent national authority of the EU Member State in which the clinical trial is to be conducted. If the clinical trial is conducted in different EU Member States, the competent authorities in each of these EU Member States must provide their approval for the conduct of the clinical trial. Furthermore, the sponsor may only start a clinical trial at a specific clinical site after the applicable ethics committee has issued a favorable opinion.

Parties conducting certain clinical trials must, as in the U.S., post clinical trial information in the EU at the EudraCT website: https://eudract.ema.europa.eu.

PRIME Designation in the European Union

In March 2016, the EMA launched an initiative, the PRIority MEdicines, or PRIME, scheme, to facilitate development of product candidates in indications, often rare, for which few or no therapies currently exist. The PRIME scheme is intended to encourage drug development in areas of unmet medical need and provides accelerated assessment of products representing substantial innovation reviewed under the centralized procedure. Products from small- and medium-sized enterprises, or SMEs, may qualify for earlier entry into the PRIME scheme than larger companies. Many benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and accelerated marketing authorization application, or MAA, assessment once a dossier has been submitted. Importantly, a dedicated agency contact and rapporteur from the Committee for Human Medicinal Products, or CHMP, or Committee for Advanced Therapies are appointed early in the PRIME scheme, facilitating increased understanding of the product at the EMA's committee level. A kick-off meeting initiates these relationships and includes a team of multidisciplinary experts at the EMA to provide guidance on the overall development and regulatory strategies.

Pediatric Studies

Prior to obtaining a marketing authorization in the EU, sponsors have to demonstrate compliance with all measures included in an EMA-approved Pediatric Investigation Plan, or PIP, covering all subsets of the pediatric population, unless the EMA has granted a product-specific waiver, a class waiver or a deferral for one or more of the measures included in the PIP. The respective requirements for all marketing authorization procedures are set forth in Regulation (EC) No 1901/2006, which is referred to as the Pediatric Regulation. This requirement also applies when a company wants to add a new indication, pharmaceutical form or route of administration for a medicine that is already authorized. The Pediatric Committee of the EMA, or PDCO, may grant deferrals for some medicines, allowing a company to delay development of the medicine in children until there is enough information to demonstrate its effectiveness and safety in adults. The PDCO may also grant waivers when development of a medicine in children is not needed or is not appropriate because (a) the product is likely to be ineffective or unsafe in part or all of the pediatric population; (b) the disease or condition occurs only in adult population; or (c) the product does not represent a significant therapeutic benefit over existing treatments for pediatric population. Before a marketing authorization application can be filed, or an existing marketing authorization can be amended, the EMA determines that companies actually comply with the agreed studies and measures listed in each relevant PIP.

Marketing Authorization

To obtain marketing approval of a product under EU regulatory systems, a sponsor must submit an MAA either under a centralized or decentralized procedure. The centralized procedure provides for the grant of a single marketing authorization by the European Commission that is valid for all EU member states. The centralized procedure is compulsory for specific products, including for medicines produced by certain biotechnological processes, products designated as orphan medicinal products, advanced therapy products and products with a new active substance indicated for the treatment of certain diseases. For products with a new active substance indicated for the treatment of other diseases and products that are highly innovative or for which a centralized process is in the interest of patients, the centralized procedure may be optional.

Under the centralized procedure, the CHMP established at the EMA is responsible for conducting the initial assessment of a product. The CHMP is also responsible for several post-authorization and maintenance activities, such as the assessment of modifications or extensions to an existing marketing authorization. Under the centralized procedure in the EU, the maximum timeframe for the evaluation of an MAA is 210 days, excluding clock stops, when additional information or written or oral explanation is to be provided by the sponsor in response to questions of the CHMP. Accelerated evaluation might be granted by the CHMP in exceptional cases, when a medicinal product is of major interest from the point of view of public health and in particular from the viewpoint of therapeutic innovation. In this circumstance, the EMA ensures that the opinion of the CHMP is given within 150 days.

The decentralized procedure is available to sponsors who wish to market a product in various EU Member States where such product has not received marketing approval in any EU Member State before. The decentralized procedure provides for approval by one or more other, or concerned, member states of an assessment of an application performed by one member state designated by the sponsor, known as the reference member state. Under this procedure, a sponsor submits an application based on identical dossiers and related materials, including a draft summary of product characteristics, and draft labeling and package leaflet, to the reference member state and concerned member states. The reference member state prepares a draft assessment report and drafts of the related materials within 210 days after receipt of a valid application. Within 90 days of receiving the reference member state's assessment report and related materials, each concerned member state must decide whether to approve the assessment report and related materials.

If a member state cannot approve the assessment report and related materials on the grounds of potential serious risk to public health, the disputed points are subject to a dispute resolution mechanism and may eventually be referred to the European Commission, whose decision is binding on all member states.

A marketing authorization may be granted only to a sponsor established in the EU. Once the marketing authorization is obtained in all member states of the EU and study results are included in the product information, even when negative, the product is eligible for six months' supplementary protection certificate extension. For orphan-designated medicinal products, the 10-year period of market exclusivity is extended to 12 years.

Periods of Authorization and Renewals in the EU

A marketing authorization is valid for five years, in principle, and it may be renewed after five years on the basis of a reevaluation of the risk-benefit balance by the EMA or by the competent authority of the relevant EU Member State. To that end, the marketing authorization holder must provide the EMA or the relevant competent authority of the EU Member State with a consolidated version of the file in respect of quality, safety and efficacy, including all variations introduced since the marketing authorization was granted, at least six months before the marketing authorization ceases to be valid. Once renewed, the marketing authorization is valid for an unlimited period, unless the EC or the relevant competent authority of the EU Member State decides, on justified grounds relating to pharmacovigilance, to proceed with one additional five-year renewal period. Any marketing authorization that is not followed by the marketing of the medicinal product on the EU market (in the case of the centralized procedure) or on the market of the EU Member State which delivered the marketing authorization within three years after authorization ceases to be valid.

Post-Approval Requirements

As in the U.S., both marketing authorization, or MA, holders and manufacturers of medicinal products are subject to comprehensive regulatory oversight by the EMA, the EC, and the competent authorities of EU Member States. The MA holder must, for example, comply with EU pharmacovigilance legislation and its related regulations and guidelines which entail many requirements for conducting pharmacovigilance, or the assessment and monitoring of the safety of medicinal products. In particular, the MA holder must establish and maintain a pharmacovigilance system and appoint an individual qualified person for pharmacovigilance who is responsible for the establishment and maintenance of that system, and oversees the safety profiles of medicinal products and any emerging safety concerns. Key obligations include expedited reporting of suspected serious adverse reactions and submission of periodic safety update reports, or PSURs.

All new MAAs must include a risk management plan, or RMP, describing the risk management system that the company will put in place and documenting measures to prevent or minimize the risks associated with the product. The regulatory authorities may also impose specific obligations as a condition of the MA. Such risk-minimization measures or post-authorization obligations may include additional safety monitoring, more frequent submission of PSURs, or the conduct of additional clinical trials or post-authorization safety studies.

The manufacturing process for medicinal products in the EU is also highly regulated and regulators may shut down manufacturing facilities that they believe do not comply with regulations. Manufacturing requires a manufacturing authorization, and the manufacturing authorization holder must comply with various requirements set out in the applicable EU laws, including compliance with EU GMP standards when manufacturing medicinal products and API.

In the EU, the advertising and promotion of approved products are subject to laws governing promotion of medicinal products, interactions with physicians, misleading and comparative advertising, and unfair commercial practices. These laws require that promotional materials and advertising in relation to medicinal products comply with the product's Summary of Product Characteristics, or SmPC, as approved by the competent authorities. Promotion of a medicinal product that does not comply with the SmPC is considered to constitute off-label promotion, which is prohibited in the EU. Direct-to-consumer advertising of prescription medicines is also prohibited in the EU. Although general requirements for advertising and promotion of medicinal products are established under EU directives, the details are governed by regulations in each EU Member State and can differ from one country to another.

The aforementioned EU rules are generally applicable in the EEA.

Failure to comply with EU and EU Member State laws that apply to the conduct of clinical trials, manufacturing approval, MA of medicinal products and marketing of such products, both before and after grant of the MA, manufacturing of pharmaceutical products, statutory health insurance, bribery and anti-corruption or with other applicable regulatory requirements may result in administrative, civil or criminal penalties. These penalties could include delays or refusal to authorize the conduct of clinical trials, or to grant MA, product withdrawals and recalls, product seizures, suspension, withdrawal or variation of the MA, total or partial suspension of production, distribution, manufacturing or clinical trials, operating restrictions, injunctions, suspension of licenses, fines and criminal penalties.

Regulatory Data Exclusivity in the EU

In the EU, innovative medicinal products authorized in the EU on the basis of a full marketing authorization application (as opposed to an application for marketing authorization that relies on data available in the marketing authorization dossier for another, previously approved, medicinal product) are entitled to eight years of data exclusivity. During this period, sponsors for authorization of generics of these innovative products cannot rely on data contained in the marketing authorization dossier submitted for the innovative medicinal product. Innovative medicinal products are also entitled to a total of ten years' market exclusivity. During this ten-year period no generic of this medicinal product can be placed on the EU market. The overall ten-year period will be extended to a maximum of eleven years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to authorization, is held to bring a significant clinical benefit in comparison with existing therapies. Even if a compound is considered to be a NCE so that the innovator gains the prescribed period of data exclusivity, another company may market another version of the product if such company obtained marketing authorization based on an MAA with a complete independent data package of pharmaceutical tests, preclinical tests and clinical trials.

Pediatric Exclusivity

If a sponsor obtains a marketing authorization in all EU Member States, or a marketing authorization granted in the centralized procedure by the EC, and the study results for the pediatric population are included in the product information, even when negative, the medicine is then eligible for an additional six-month period of qualifying patent protection through extension of the term of the Supplementary Protection Certificate, or SPC, or alternatively a one year extension of the regulatory market exclusivity from ten to eleven years, as selected by the marketing authorization holder.

Access Consortium

In October 2020, the Medicines and Healthcare products Regulatory Agency, or MHRA, joined the Access Consortium along with the Australian Therapeutic Goods Administration of Australia, Health Canada, Health Sciences Authority of Singapore and Swissmedic. The consortium is a coalition of these regulatory authorities that work together to promote greater regulatory collaboration and alignment of regulatory requirements. The consortium's goal is to maximize international co-operation between partners in the consortium, reduce duplication, and increase each agency's capacity to ensure patients have timely access to high quality, safe and effective therapeutic products. The MHRA commenced work-sharing applications with Access partners on January 1, 2021. Access Consortium working group members have regular meetings to exchange information on regulatory issues and challenges faced by the participating regulatory agencies, including issues on clinical trials, marketing authorizations, product manufacturing site inspections, post-marketing surveillance, joint development of technical guidelines or regulatory standards, and collaboration on information platforms. The Access consortium has developed three authorization procedures: the New Active Substance and Biosimilar Work Sharing Initiatives and the Generic Medicine Work Sharing Initiative.

General Data Protection Regulation

Many countries outside of the U.S. maintain rigorous laws governing the privacy and security of personal information. The collection, use, disclosure, transfer, or other processing of personal data, including personal health data, regarding individuals who are located in the EEA, and the processing of personal data that takes place in the EEA, is subject to the European Union General Data Protection Regulation, or GDPR, which became effective on May 25, 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, and it imposes heightened requirements on companies that process health and other sensitive data, such as requiring in many situations that a company obtain the consent of the individuals to whom the sensitive personal data relate before processing such data. Examples of obligations imposed by the GDPR on companies processing personal data that fall within the scope of the GDPR include providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, appointing a data protection officer, providing notification of data breaches and taking certain measures when engaging third-party processors.

The GDPR also imposes strict rules on the transfer of personal data to countries outside the EEA, including the U.S., and permits data protection authorities to impose large penalties for violations of the GDPR, including potential fines of up to €20 million or 4% of annual global revenues, whichever is greater. The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. Compliance with the GDPR is a rigorous and time-intensive process that may increase the cost of doing business or require companies to change their business practices to ensure full compliance.

There are ongoing concerns about the ability of companies to transfer personal data from the EU to other countries. In July 2020, the Court of Justice of the EU, or the CJEU, invalidated the EU-U.S. Privacy Shield framework, one of the mechanisms used to legitimize the transfer of personal data from the EEA to the U.S. The CJEU decision also drew into question the long-term viability of an alternative means of data transfer, the standard contractual clauses, for transfers of personal data from the EEA to the U.S. This CJEU decision may lead to increased scrutiny on data transfers from the EU to the U.S. generally and increase our costs of compliance with data privacy legislation as well as our costs of negotiating appropriate privacy and security agreements with our vendors and business partners.

Additionally, in October 2022, U.S. President Biden signed an executive order to implement a new EU-U.S. Data Privacy Framework, which would serve as a replacement to the EU-U.S. Privacy Shield. The EU initiated the process to adopt the EU-

U.S. Data Privacy Framework in December 2022. It is unclear if and when the framework will be finalized and whether it will be challenged in court. The uncertainty around this issue may further impact our business operations in the EU.

As with other issues related to Brexit, there are open questions about how personal data will be protected in the UK and whether personal information can transfer from the EU to the UK Following the withdrawal of the UK from the EU, the UK Data Protection Act 2018 applies to the processing of personal data that takes place in the UK and includes parallel obligations to those set forth by GDPR. While the Data Protection Act 2018 in the UK that "implements" and complements the GDPR has achieved Royal Assent on May 23, 2018 and is now effective in the UK, it is still unclear whether transfer of data from the EEA to the UK will remain lawful under GDPR. The UK government has already determined that it considers all EU and EEA member states to be adequate for the purposes of data protection, ensuring that data flows from the UK to the EU/EEA remain unaffected. In addition, a recent decision from the EC appears to deem the UK as being "essentially adequate" for purposes of data transfer from the EU to the UK, although this decision may be re-evaluated in the future.

Beyond GDPR, there are privacy and data security laws in a growing number of countries around the world. While many loosely follow GDPR as a model, other laws contain different or conflicting provisions. These laws will impact our ability to conduct our business activities, including both our clinical trials and any eventual sale and distribution of commercial products.

Brexit and the Regulatory Framework in the United Kingdom

The UK's withdrawal from the EU took place on January 31, 2020. The EU and the UK reached an agreement on their new partnership in the Trade and Cooperation Agreement, or the Agreement, which was applied provisionally beginning on January 1, 2021, and which entered into force on May 1, 2021. The Agreement focuses primarily on free trade by ensuring no tariffs or quotas on trade in goods, including healthcare products such as medicinal products. Thereafter, the EU and the UK will form two separate markets governed by two distinct regulatory and legal regimes, except that Northern Ireland will continue to broadly follow EU laws as further described below. As such, the Agreement seeks to minimize barriers to trade in goods while accepting that border checks will become inevitable as a consequence that the UK is no longer part of the single market. As of January 1, 2021, the MHRA became responsible for supervising medicines and medical devices in Great Britain, comprising England, Scotland, and Wales under domestic law whereas Northern Ireland continues to be subject to EU rules under the Northern Ireland Protocol.

On February 27, 2023, the UK government and the EC announced a political agreement in principle to replace the Northern Ireland Protocol with a new set of arrangements, known as the "Windsor Framework". This new framework fundamentally changes the existing system under the Northern Ireland Protocol, including with respect to the regulation of medicinal products in the UK In particular, the MHRA will be responsible for approving all medicinal products destined for the UK market (i.e., Great Britain and Northern Ireland), and the EMA will no longer have any role in approving medicinal products destined for Northern Ireland. A single UK-wide MA will be granted by the MHRA for all medicinal products to be sold in the UK, enabling products to be sold in a single pack and under a single authorization throughout the UK. The Windsor Framework was approved by the EU-UK Joint Committee on March 24, 2023, so the UK government and the EU will enact legislative measures to bring it into law. On June 9, 2023, the MHRA announced that the medicines aspects of the Windsor Framework will apply beginning on January 1, 2025. The Human Medicines Regulations 2012 (SI 2012/1916) (as amended), or HMR, is the primary legal instrument for the regulation of medicines in the UK. The HMR has incorporated into the domestic law the body of EU law instruments governing medicinal products that pre-existed prior to the UK's withdrawal from the EU.

EU laws which have been transposed into UK law through secondary legislation continue to be applicable as "retained EU law." However, new legislation such as the (EU) Clinical Trials Regulation will not be applicable in Great Britain. Since a significant proportion of the regulatory framework for pharmaceutical products in the UK covering the quality, safety, and efficacy of pharmaceutical products, clinical trials, MAs, commercial sales, and distribution of pharmaceutical products is derived from EU directives and regulations, Brexit may have a material impact upon the regulatory regime with respect to the development, manufacture, importation, approval, and commercialization of our product candidates in the UK. For example, the UK is no longer covered by the centralized procedures for obtaining EU-wide MAs from the EMA, and a separate MA will be required to market our product candidates in the UK. A new international recognition framework has been in place since January 1, 2024, whereby the MHRA will have regard to decisions on the approval of MAs made by the EMA and certain other regulators when determining an application for a new Great Britain MA.

Pharmaceutical Coverage, Pricing and Reimbursement

In the U.S. and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Significant uncertainty exists as to the coverage and reimbursement status of products approved by the FDA and other government authorities. Thus, even if a product candidate is approved, sales of the product will depend, in part, on the extent to which third-party payors, including government health programs in the U.S. such as Medicare and Medicaid, commercial health insurers and managed care organizations, provide coverage, and establish adequate reimbursement levels for, the product. The process for determining whether a payor will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payor will pay for the product once coverage is approved. Third-party payors are increasingly challenging the prices charged, examining the medical necessity, and reviewing the cost-effectiveness of medical products and services and imposing controls to manage costs. Third-party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the approved products for a particular indication. In addition, third-party payors may impose prior authorization or step edit requirements requiring patients to have tried other therapies prior to our products for coverage. Payors may also decline to include our products or product candidates on their formulary, which means that unless healthcare providers seek a medical exception for coverage, the payors will not pay for the product.

In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of the product, in addition to the costs required to obtain FDA or other comparable marketing approvals. Nonetheless, product candidates may not be considered medically necessary or cost effective. A decision by a third-party payor not to cover a product candidate could reduce physician utilization once the product is approved and have a material adverse effect on sales, results of operations and financial condition. Additionally, a payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a drug product does not assure that other payors will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payor to payor.

Dialysis-related drugs are included in the ESRD prospective payment system, or PPS, bundled payment and are grouped into functional categories such as anemia management and bone and mineral metabolism, except that oral-only drugs are exempted from inclusion until 2025. In a final ESRD PPS rule published in October 2019, CMS confirmed that it will expand the TDAPA to most new dialysis drugs approved by the FDA after January 1, 2020. The TDAPA provides separate payment for eligible new drugs for two years based on the drug's Average Sales Price, or ASP, that will be in addition to the base rate in order to facilitate the adoption of innovative therapies. Although there are several details that need further clarification, including precise timing related to receiving codes to allow for reimbursement under TDAPA, which are assigned on a quarterly basis, the rule provides support for our assumption that new anemia treatments, including those in the HIF-PH inhibitor class, will be included in the ESRD PPS bundle and will be eligible for separate payment initially under TDAPA, and we expect to receive TDAPA designation for vadadustat six months post-filing acceptance if approved by the FDA.

As an oral drug, Auryxia is covered by Medicare under Part D. Under the ESRD PPS, CMS generally makes a single bundled payment to the dialysis facility for each dialysis treatment that covers all items and services routinely required for dialysis treatments furnished to Medicare beneficiaries in Medicare-certified ESRD facilities or at their home. The inclusion of oral medications without injectable or intravenous equivalents such as Auryxia in the bundled payment was initially delayed by CMS until January 1, 2014, and through several subsequent legislative actions has been delayed until January 1, 2025. Absent further legislation or regulation on this matter, beginning in January 2025, oral ESRD-related drugs without injectable or intravenous equivalents, including Auryxia and all other phosphate lowering medications, will be included in the ESRD bundle and separate Medicare payment for these drugs will no longer be available, as is the case today under Medicare Part D. ESRD facilities may nonetheless receive a TDAPA for new renal dialysis drugs and biological products that meet certain criteria for a period of two years. The TDAPA will provide separate payment based on the drug's ASP that will be in addition to the base rate in order to facilitate the adoption of innovative therapies. There can be no assurances that CMS will not again delay the inclusion of these oral ESRD-related drugs in the bundled payment. Even if Auryxia is deemed eligible by CMS, revenue for sales of Auryxia could be significantly less in the TDAPA period than it would be if Auryxia is not bundled into the ESRD PPS. Moreover, in the post-TDAPA period, CMS currently expects to increase the single bundled payment base rate paid to the dialysis facility for each dialysis treatment to reflect that oral only phosphate lowering drugs will be reimbursed as part of the single bundled payment for Medicare patients. There can be no assurances that any increase in the single bundled payment base rate will be sufficient to adequately reimburse the dialysis facilities for Auryxia at a price that is profitable for us.

The containment of healthcare costs also has become a priority of federal, state and foreign governments and the prices of drugs have been a focus in this effort. Governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit a company's revenue generated from the sale of any approved products. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which a company or its collaborators receive marketing approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Outside the U.S., ensuring adequate coverage and payment for a product also involves challenges. Pricing of prescription pharmaceuticals is subject to governmental control in many countries. Pricing negotiations with governmental authorities can extend well beyond the receipt of regulatory marketing approval for a product and may require a clinical trial that compares the cost effectiveness of a product to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in commercialization.

In the EU, pricing and reimbursement schemes vary widely from country to country. Some countries provide that products may be marketed only after a reimbursement price has been agreed. Some countries may require the completion of additional studies that compare the cost-effectiveness of a particular product candidate to currently available therapies or so-called health technology assessments, in order to obtain reimbursement or pricing approval. For example, the EU provides options for its EU Member States to restrict the range of products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. EU Member States may approve a specific price for a product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the product on the market. Other EU Member States allow companies to fix their own prices for products but monitor and control prescription volumes and issue guidance to physicians to limit prescriptions.

Recently, many countries in the EU have increased the amount of discounts required on pharmaceuticals and these efforts could continue as countries attempt to manage healthcare expenditures, especially in light of the severe fiscal and debt crises experienced by many countries in the EU. The downward pressure on health care costs in general, particularly prescription drugs, has become intense. As a result, increasingly high barriers are being erected to the entry of new products. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various EU Member States, and parallel trade, i.e., arbitrage between low-priced and high-priced EU Member States, can further reduce prices. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any products, if approved in those countries.

Dialysis Organizations Protocols

Dialysis organizations have their own formularies that list primary or preferred therapeutic options based on contracting status with drug manufacturers. While a prescriber may make their own independent decision to prescribe what they determine most appropriate for a given patient, any non-formulary therapeutic options are only available through an exception process based on clinical need. Similar to how payor coverage may affect the sales of a product, formulary status within dialysis organizations may affect what products are prescribed within that specific organization. Therefore, if a product is not on a formulary, the prescribers within that organization may be less likely to prescribe that product or may have a difficult time prescribing that product, resulting in less sales. Further, one dialysis organization's determination to add a product to their formulary does not assure that other dialysis organizations will also add the product to theirs. There is always a risk a dialysis organization will not contract with a drug manufacturer for a specific product, resulting in that product not being on that organization's formulary. Additionally, dialysis organizations typically assess a product's efficacy before adding it to their formulary. Their process for assessing a product may differ among organizations and the timing of such assessment could delay adding such treatment to formulary, further affecting product sales.

Healthcare Law and Regulation

Healthcare providers and third-party payors play a primary role in the recommendation and prescription of drug products that are granted marketing approval. Arrangements with providers, consultants, third-party payors and customers are subject to broadly applicable fraud and abuse, anti-kickback, false claims laws, reporting of payments to physicians, teaching hospitals and other healthcare providers, patient privacy laws and regulations, and other healthcare laws and regulations that may constrain business and/or financial arrangements. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, paying, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made, in whole or in part, under a federal healthcare program such as Medicare and Medicaid;
- the federal civil and criminal false claims laws, including the civil False Claims Act, and civil monetary penalties laws, which prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false, fictitious or fraudulent or knowingly making, using or causing to be made or used a false record or statement to avoid, decrease or conceal an obligation to pay money to the federal government
- HIPAA, which created additional federal criminal laws that prohibit, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, and their respective implementing regulations, including the Final Omnibus Rule published in January 2013, which impose obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal false statements statute, which prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services;
- the U.S. Foreign Corrupt Practices Act, or FCPA, which prohibits companies and their intermediaries from making, or offering or promising to make improper payments to non-U.S. officials for the purpose of obtaining or retaining business or otherwise seeking favorable treatment;
- the federal transparency requirements, known as the federal Physician Payments Sunshine Act (renamed the Open Payments Act), under the Patient Protection and Affordable Care Act, as amended by the Health Care Education Reconciliation Act, or ACA, which requires certain manufacturers of drugs, devices, biologics and medical supplies to report annually to the CMS within the U.S. Department of Health and Human Services, information related to payments and other transfers of value made by that entity to physicians, other healthcare providers and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members;
- the PDMA and its implementation regulations, as well as the DSCSA, which regulate the distribution and tracing of prescription drugs and prescription drug samples at the federal level, and set minimum standards for the regulation of drug distributors by the states; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to healthcare items or services that are reimbursed by third-party payors, including private insurers, and state gift ban and disclosure law requirements that differ from the federal Physician Payments Sunshine Act in terms of the nature and type of transfers of value that are reportable and the types of covered recipients.

Violations of these laws are punishable by criminal and/or civil sanctions, including, in some instances, exclusion from participation in federal and state health care programs, such as Medicare and Medicaid. Ensuring compliance is time consuming and costly. Similar healthcare laws and regulations exist in the EU and other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers and laws governing the privacy and security of personal information.

Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines, such as the Pharmaceutical Research and Manufacturers of America Code on Interactions with Health Care Professionals, known as the PhRMA Code. State and foreign laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Healthcare Reform in the U.S.

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. There have been a number of federal and state proposals during the last few years regarding the pricing of pharmaceutical and biopharmaceutical products, limiting coverage and reimbursement for drugs and other medical products, government control and other changes to the healthcare system in the U.S.

By way of example, the U.S. and state governments continue to propose and pass legislation designed to reduce the cost of healthcare.

In March 2010, the U.S. Congress enacted the ACA, which, among other things, includes changes to the coverage and payment for products under government health care programs. Other legislative changes have been proposed and adopted since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of up to 2% per fiscal year, which will remain in effect through 2031 pursuant to the Coronavirus Aid, Relief and Economic Security Act, or CARES Act. Under current legislation, the actual reductions in Medicare payments may vary up to 4%.

The Consolidated Appropriations Act, which was signed into law by President Biden in December 2022, made several changes to sequestration of the Medicare program. Section 1001 of the Consolidated Appropriations Act delays the 4% Statutory Pay-As-You-Go Act of 2010 sequester for two years, through the end of calendar year 2024. Triggered by enactment of the

American Rescue Plan Act of 2021, the 4% cut to the Medicare program would have taken effect in January 2023. The Consolidated Appropriations Act's health care offset title includes Section 4163, which extends the 2% Budget Control Act of 2011 Medicare sequester for six months into fiscal year 2032 and lowers the payment reduction percentages in fiscal years 2030 and 2031.

Since enactment of the ACA, there have been, and continue to be, numerous legal challenges and Congressional actions to repeal and replace provisions of the law. For example, with enactment of the Tax Cuts and Jobs Act of 2017, or the Tax Act, which was signed by the prior administration on December 22, 2017, Congress repealed the "individual mandate." The repeal of this provision, which requires most Americans to carry a minimal level of health insurance, became effective in 2019. On November 10, 2020, the U.S. Supreme Court heard oral arguments as to whether the individual mandate portion of the ACA is an essential and inseverable feature of the ACA, and therefore because the mandate was repealed as part of the Tax Act, the remaining provisions of the ACA are invalid as well. On February 10, 2021, the Biden Administration withdrew the federal government's support for overturning the ACA. On June 17, 2021, the Supreme Court struck down the lower court rulings finding that the plaintiffs did not have standing to challenge the constitutionality of the ACA. Litigation and legislation over the ACA are likely to continue, with unpredictable and uncertain results.

The prior administration also took executive actions to undermine or delay implementation of the ACA, including directing federal agencies with authorities and responsibilities under the ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. On January 28, 2021, however, President Biden rescinded those orders and issued a new executive order that directs federal agencies to reconsider rules and other policies that limit access to healthcare, and consider actions that will protect and strengthen that access. Under this order, federal agencies are directed to re-examine: policies that undermine protections for people with pre-existing conditions, including complications related to COVID-19; demonstrations and waivers under Medicaid and the ACA that may reduce coverage or undermine the programs, including work requirements; policies that undermine the Health Insurance Marketplace or other markets for health insurance; policies that make it more difficult to enroll in Medicaid and under the ACA; and policies that reduce affordability of coverage or financial assistance, including for dependents.

Pharmaceutical Prices in the U.S.

The prices of prescription pharmaceuticals have also been the subject of considerable discussion in the U.S. There have been several recent U.S. congressional inquiries, as well as proposed and enacted state and federal legislation designed to, among other things, bring more transparency to pharmaceutical pricing, review the relationship between pricing and manufacturer patient programs, and reduce the costs of pharmaceuticals under Medicare and Medicaid. In 2020, the prior administration issued several executive orders intended to lower the costs of prescription products and certain provisions in these orders have been incorporated into regulations. These regulations include an interim final rule implementing a most favored nation model for prices that would tie Medicare Part B payments for certain physician-administered pharmaceuticals to the lowest price paid in other economically advanced countries, effective January 1, 2021. That rule, however, has been subject to a nationwide preliminary injunction and, on December 29, 2021, CMS issued a final rule to rescind it. With issuance of this rule, CMS stated that it will explore all options to incorporate value into payments for Medicare Part B pharmaceuticals and improve beneficiaries' access to evidence-based care.

In addition, in October 2020, HHS and the FDA published a final rule allowing states and other entities to develop a Section 804 Importation Program, or SIP, to import certain prescription drugs from Canada into the U.S. That regulation was challenged in a lawsuit by the Pharmaceutical Research and Manufacturers of America, or PhRMA, but the case was dismissed by a federal district court in February 2023 after the court found that PhRMA did not have standing to sue HHS. Nine states (Vermont, Colorado, Florida, Maine, New Mexico, New Hampshire, North Dakota, Texas and Wisconsin) have passed laws allowing for the importation of drugs from Canada. Certain of these states have submitted Section 804 Importation Program proposals and are awaiting FDA approval. On January 5, 2023, the FDA approved Florida's plan for Canadian drug importation.

Further, the HHS finalized a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The final rule would also eliminate the current safe harbor for Medicare drug rebates and create new safe harbors for beneficiary point-of-sale discounts and pharmacy benefit manager service fees. It originally was set to go into effect on January 1, 2022, but with passage of the Inflation Reduction Act of 2022, or IRA, has been delayed by Congress to January 1, 2032.

On July 9, 2021, President Biden signed Executive Order 14063, which focuses on, among other things, the price of pharmaceuticals. The Order directs HHS to create a plan within 45 days to combat "excessive pricing of prescription pharmaceuticals and enhance domestic pharmaceutical supply chains, to reduce the prices paid by the federal government for such pharmaceuticals, and to address the recurrent problem of price gouging." On September 9, 2021, HHS released its plan to reduce pharmaceutical prices. The key features of that plan are to: (a) make pharmaceutical prices more affordable and equitable for all consumers and throughout the health care system by supporting pharmaceutical price negotiations with manufacturers; (b) improve and promote competition throughout the prescription pharmaceutical industry by supporting market changes that strengthen supply chains, promote biosimilars and generic drugs, and increase transparency; and (c) foster scientific innovation to promote better healthcare and improve health by supporting public and private research and making sure that market incentives promote discovery of valuable and accessible new treatments.

The IRA has implications for Medicare Part D, which is a program available to individuals who are entitled to Medicare Part A or enrolled in Medicare Part B to give them the option of paying a monthly premium for outpatient prescription drug coverage. Among other things, the IRA requires manufacturers of certain drugs to engage in price negotiations with Medicare (beginning in 2026), with prices that can be negotiated subject to a cap; imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation (first due in 2023); and replaces the Part D coverage gap discount program with a new discounting program (beginning in 2025). The IRA permits the Secretary of HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years.

Specifically, with respect to price negotiations, Congress authorized Medicare to negotiate lower prices for certain costly single-source drug and biologic products that do not have competing generics or biosimilars and are reimbursed under Medicare Part B and Part D. CMS may negotiate prices for ten high-cost drugs paid for by Medicare Part D starting in 2026, followed by 15 Part D drugs in 2027, 15 Part B or Part D drugs in 2028, and 20 Part B or Part D drugs in 2029 and beyond. This provision applies to drug products that have been approved for at least 9 years and biologics that have been licensed for 13 years, but it does not apply to drugs and biologics that have been approved for a single rare disease or condition. Further, the legislation subjects drug manufacturers to civil monetary penalties and a potential excise tax for failing to comply with the legislation by offering a price that is not equal to or less than the negotiated “maximum fair price” under the law or for taking price increases that exceed inflation. The legislation also requires manufacturers to pay rebates for drugs in Medicare Part D whose price increases exceed inflation. The new law also caps Medicare out-of-pocket drug costs at an estimated $4,000 a year in 2024 and, thereafter beginning in 2025, at $2,000 a year.

On June 6, 2023, Merck filed a lawsuit against HHS and CMS asserting that, among other things, the IRA’s Drug Price Negotiation Program for Medicare constitutes an uncompensated taking in violation of the Fifth Amendment of the Constitution. Subsequently, a number of other parties, including the U.S. Chamber of Commerce, Bristol Myers Squibb Company, the Pharmaceutical Research and Manufacturers of America, Astellas, Novo Nordisk, Janssen Pharmaceuticals, Novartis, AstraZeneca and Boehringer Ingelheim, also filed lawsuits in various courts with similar constitutional claims against HHS and CMS. Litigation involving these and other provisions of the IRA will continue with unpredictable and uncertain results.

At the state level, individual states are increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. A number of states, for example, require drug manufacturers and other entities in the drug supply chain, including health carriers, pharmacy benefit managers, wholesale distributors, to disclose information about pricing of pharmaceuticals. In addition, regional healthcare organizations and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription pharmaceutical and other healthcare programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

Healthcare Reform and Pharmaceutical Prices in the EU

In the EU, similar political, economic, and regulatory developments to those in the U.S. may affect our ability to profitably commercialize our product candidates, if approved. In many countries, including those of the EU, the pricing of prescription pharmaceuticals is subject to governmental control and access. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of an MA. To obtain reimbursement or pricing approval in some countries, pharmaceutical firms may be required to conduct a clinical trial that compares the cost-effectiveness of the product to other available therapies. In addition to continuing pressure on prices and cost containment measures, legislative developments at the EU or EU Member State level may result in significant additional requirements or obstacles. The delivery of healthcare in the EU, including the establishment and operation of health services and the pricing and reimbursement of medicines, is almost exclusively a matter for national, rather than EU, law and policy. National governments and health service providers have different priorities and approaches to the delivery of health care and the pricing and reimbursement of products in that context. In general, however, the healthcare budgetary constraints in most EU Member States have resulted in restrictions on the pricing and reimbursement of medicines by relevant health service providers. Coupled with ever-increasing EU and national regulatory burdens on those wishing to develop and market products, this could restrict or regulate post-approval activities and affect the ability of pharmaceutical companies to commercialize their products. In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies.

In the EU, potential reductions in prices and changes in reimbursement levels could be the result of different factors, including reference pricing used by various EU Member States, parallel distribution and parallel trade can further reduce prices. It could also result from the application of external reference pricing mechanisms, which consist of arbitrage between low-priced and high-priced EU Member States. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any product candidates, if approved in those countries.

Health technology assessment, or HTA, of medicinal products in the EU is an essential element of the pricing and reimbursement decision-making process in a number of EU Member States. The outcome of HTA has a direct impact on the pricing and reimbursement status granted to the medicinal product. A negative HTA by a leading and recognized HTA body concerning a medicinal product could undermine the prospects to obtain reimbursement for such product not only in the EU Member State in which the negative assessment was issued, but also in other EU Member States.

In 2011, Directive 2011/24/EU was adopted at the EU level. This directive establishes a voluntary network of national authorities or bodies responsible for HTA in the individual EU Member States. The network facilitates and supports the exchange of scientific information concerning HTAs. Further to this, on December 13, 2021, Regulation No 2021/2282 on HTA, amending Directive 2011/24/EU, was adopted. While the regulation entered into force in January 2022, it will only begin to apply from January 2025 onwards, with preparatory and implementation-related steps to take place in the interim. Once applicable, it will have a phased implementation depending on the concerned products. The regulation intends to boost cooperation among EU Member States in assessing health technologies, including new medicinal products as well as certain high-risk medical devices, and provide the basis for cooperation at the EU level for joint clinical assessments in these areas. It will permit EU Member States to use common HTA tools, methodologies, and procedures across the EU, working together in four main areas, including joint clinical assessment of the innovative health technologies with the highest potential impact for patients, joint scientific consultations whereby developers can seek advice from HTA authorities, identification of emerging health technologies to identify promising technologies early, and continuing voluntary cooperation in other areas. Individual EU Member States will continue to be responsible for assessing non-clinical (e.g., economic, social, ethical) aspects of health technology, and making decisions on pricing and reimbursement.

Laws Relating to Foreign Trade

We are subject to various federal and foreign laws that govern our international business practices. These laws include the FCPA, which prohibits U.S. companies and their representatives from paying, offering to pay, promising, or authorizing the payment of anything of value to any foreign government official, government staff member, political party, or political candidate for the purposes of obtaining or retaining business, or to otherwise obtain favorable treatment or influence a person working in an official capacity. In many countries, the health care professionals we regularly interact with may meet the FCPA's definition of a foreign government official. Additionally, interactions with or on the part of our partners, collaborators, contract research organizations, vendors or other agents may also implicate the FCPA. The FCPA also requires public companies to make and keep books and records that accurately and fairly reflect their transactions and to devise and maintain an adequate system of internal accounting controls. Compliance with the FCPA is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents unique challenges in the pharmaceutical industry because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments made by pharmaceutical companies to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

Our international operations could also be subject to compliance with national laws of other countries, such as the United Kingdom Bribery Act. of 2010, or UK Bribery Act. The UK Bribery Act applies to any company "carrying on business" in the UK, irrespective of where the offending conduct occurs. The UK Bribery Act applies to bribery activities both in the public and private sector and prohibits the provision of an "advantage" intended to induce or reward "improper performance" of the recipient's function. The failure by a company to prevent third parties from providing a bribe on its behalf could also constitute an offense. Penalties under the UK Bribery Act include potentially unlimited fines for companies and criminal sanctions for corporate officers under certain circumstances.

There are local antibribery and anticorruption laws in countries where we are conducting clinical trials, such as Brazil and Russia, and many of these also carry the risk of significant financial or criminal penalties. Our clinical trial operations could also result in enforcement actions by U.S., UK, or other governmental authorities. There are also trade laws within the U.S. and in other regions that regulate the sale, purchase, import, export, reexport, transfer and shipment of goods, currency, products, materials, services and technology. Violations of these laws can lead to serious consequences, including substantial fines.

Other Regulations

We are also subject to numerous federal, state and local laws relating to such matters as safe working conditions, manufacturing practices, environmental protection, fire hazard control, and disposal of hazardous or potentially hazardous substances. We may incur significant costs to comply with such laws and regulations now or in the future.

Seasonality

Fluctuations in wholesaler inventory levels impact our product sales. In recent years, product revenues during the fourth quarter tend to be stronger than other quarters as our distributors increase their inventory levels, resulting in inventory draw-down by wholesalers in the subsequent first quarter. In addition, in December 2022 and December 2023, we changed our contracting strategy which can further impact first quarter sales.

In general, our first quarter usually has lower revenues than the preceding fourth quarter, the second and third quarters have higher revenues than the first quarter, and the fourth quarter revenues are the highest in the year. While seasonality may affect quarterly comparisons within a fiscal year, it generally is not material to our annual consolidated results. However, we expect Auryxia to be included in the ESRD bundle starting in January 2025, and coupled with Auryxia loss exclusivity in March 2025, may impact our customer buying patterns and therefore their buying patterns may be different during 2024 than historical practices.

Employees and Human Capital Resources

As of December 31, 2023, we had 167 employees. None of our employees are represented by any collective bargaining unit. We believe that we maintain good relations with our employees.

We face competition for our personnel from our competitors and other companies throughout our industry. Over the last several years, the challenges in recruiting and retaining employees across the pharmaceutical and biotechnology industries have increased substantially due to current industry job market dynamics.

Retention, growth, training and development of our employees are integral to our success. We offer competitive compensation, including base salary and incentive bonuses. We conduct bi-annual internal and external pay reviews to ensure fair and equitable pay for our employees, which includes an internal pay equity analysis, as well as a review of our employees' pay against external market data. To foster a stronger sense of ownership and align the interests of employees with shareholders, we grant restricted stock units and common stock options to eligible employees under our broad-based stock incentive program, and employees may purchase stock pursuant to our employee stock purchase plan. Further, our benefits packages are designed to attract, motivate and reward talented individuals who possess the skills necessary to support our business objectives, assist in the achievement of our strategic goals and create value for our stockholders. Our compensation program is designed to differentiate us from our competition, incentivize achievement of corporate goals and individual performance and demonstrate our corporate values. In addition, we are committed to developing our team members and provide development and leadership opportunities to our employees to cultivate talent throughout the Company.

We are committed to our employees' health, safety and well-being. Our work paradigm is flexible and designed to accommodate a range of work profiles. Our workforce is primarily hybrid and fully remote, including field-based, with certain employees being office based. We offer a wide variety of competitive benefits to support our employees' physical, mental and financial well-being. Our benefits package is comprehensive in coverage and offers options to support all employees in staying healthy, planning for their future and developing their careers. Our management continues to assess and respond to the evolving needs of our workforce.

Environmental, Social and Governance

Our commitment to diversity, equality and inclusion starts with our executive leadership. Two members of our Board of Directors are women, and women comprise approximately 50% of our senior management team. In addition, approximately 25% of our employees are ethnically diverse and one member of our Board of Directors is African American.

With the goal of ensuring every employee is included, supported and treated equitably, we developed a team (IDEA – Inclusion, Diversity & Equity Alliance) to support and guide Akebia as a diverse, inclusive and culturally intelligent workplace. Over the past three years this team has worked with executive leadership to identify areas for growth and education and move forward several initiatives that will enable us to continue to build an inclusive workplace and a diverse workforce. Our other initiatives include learning, coaching, cultural awareness activities and development opportunities for all of our employees.

Our Cambridge office has a Fitwel Certification, a healthy building certification system, and is level two certified. Additionally, we consolidated our office footprint to reduce our use of energy and other resources and have initiated recycling programs, including single stream recycling and recycling cans at every desk. Furthermore, we offer a commuter benefit to all of our hybrid and office-based employees to encourage employees to use public transportation and offer bicycle parking free of charge in the onsite garage.

In addition, we support kidney patient communities where we live and work. In the U.S., we have a patient services program, Akebia Cares, designed to provide one-on-one support to help communicate individual benefits and available resources for patients today facing financial obstacles that keep them from accessing important medications. In 2023, we provided over $7.0 million worth of Auryxia for free to approximately 15,000 patients needing assistance. We also have a cross-functional Sponsorship Review Committee that reviews and approves sponsorships and donations based on the relevance of each projects to our purpose, business objectives and the communities we serve. We support and work closely with multiple kidney patient advocacy organizations. We believe our involvement with and support of patient advocacy programs demonstrates our commitment to our purpose of bettering the life of each person impacted by kidney disease.

Available Information

Our website address is www.akebia.com. The information on our website or that may be accessed by links on our website is not incorporated by reference into this Form 10-K. We make available, free of charge and through our website, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any amendments to any such reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after they are electronically filed with or furnished to the U.S. Securities and Exchange Commission, or SEC.

Corporate Information

Akebia was incorporated in Delaware in 2007 and became a public company in 2014. Our mailing address and principal executive offices and our laboratory are located at 245 First Street, Cambridge, Massachusetts 02142. Our telephone number is (617) 871-2098.

We are required to file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website at www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, proxy statements, and other information, including amendments and exhibits to such reports, filed or furnished pursuant to the Securities Exchange Act of 1934 are also available free of charge in the "SEC Filings" section of our website located at http://www.akebia.com, as soon as reasonably practicable after the reports are electronically filed with or furnished to the SEC. The information on our website is not part of this Annual Report on Form 10-K.

Item 1A. Risk Factors.

We face a variety of risks and uncertainties in our business. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also become important factors that affect our business, reputation, results of operations, financial condition and stock price which can be materially and adversely affected. If any of the following risks occurs, our business, financial condition, financial statements, results of operations and future growth prospects could be materially and adversely affected.

Risks Related to our Financial Position, Need for Additional Capital and Growth Strategy

We have incurred significant losses since our inception and anticipate that we will continue to incur losses and cannot guarantee when, if ever, we will become profitable or attain positive cash flows.

Investment in pharmaceutical product development and commercialization is highly speculative because it may require upfront capital expenditures and significant R&D expenses. Despite the investment in assets and R&D, there is significant risk that a product candidate will fail to gain marketing approval or that an approved product will not be commercially viable. Since our inception, we have devoted most of our resources to research and development, or R&D, including our preclinical and clinical development activities, commercializing Auryxia and providing general and administrative support for these operations. We have funded our operations principally through product sales, payments received from our collaboration and licensing partners, borrowings under term loans, sales of our common stock, including through our employee stock purchase plan, a working capital payment from Vifor (International) Ltd. (now a part of CSL Limited), or CSL Vifor, and a royalty transaction. Prior to our 2018 merger, or the Merger, with Keryx Biopharmaceuticals, Inc., or Keryx, whereby Keryx became our wholly owned subsidiary, we had no products approved for commercial sale and had not generated any revenue from the sale of products. We are not currently profitable and we have incurred net losses each year since our inception, including a net loss of $51.9 million for the year ended December 31, 2023. As of December 31, 2023, we had an accumulated deficit of $1.6 billion. We cannot guarantee when, if ever, we will become profitable.

In March 2022, we received a complete response letter, or CRL, from the United States, or U.S., Food and Drug Administration, or FDA, regarding our new drug application, or NDA, for vadadustat, our lead investigational product candidate, for the treatment of anemia associated with CKD. The FDA concluded that the data in the NDA did not support a favorable benefit-risk assessment of vadadustat for dialysis and non-dialysis patients. In October 2022, we submitted a Formal Dispute Resolution Request, or FDRR, to the FDA and focused on the favorable balance between the benefits and risks of vadadustat for the treatment of anemia due to CKD in adult patients on dialysis in light of safety concerns expressed by the FDA in the CRL for dialysis patients related to the rate of adjudicated thromboembolic events driven by vascular access thrombosis for vadadustat compared to the active comparator and the risk of drug-induced liver injury. In May 2023, the Office of New Drugs, or OND, denied our appeal but provided a path forward for us to resubmit the NDA for vadadustat for the treatment of anemia due to CKD for dialysis dependent patients without the need for us to generate additional clinical data. In September 2023, we filed our resubmission to our NDA, and in October 2023, the FDA acknowledged that the resubmission was complete and set a user fee goal date, or PDUFA date, of March 27, 2024. There can be no assurances that we will obtain approval for vadadustat in a timely manner, on favorable terms, or at all. As a result, the regulatory approval process for vadadustat in the U.S. is highly uncertain. If we do not obtain approval of vadadustat in the U.S., or if the approval is delayed, it would have a material adverse impact on our business. Even if we are able to obtain approval, the expense and time to do so could adversely impact our ability to successfully commercialize vadadustat or conduct our other business operations and our financial condition could be materially harmed.

Our ability to generate product revenue and achieve profitability depends on our ability to manage expenses and the overall success of Auryxia, vadadustat, if approved, and any current or future product candidates, including those that may be in-licensed or acquired, which depends on several factors, including:

- our ability to obtain approval for vadadustat in the U.S. in a timely manner or at all;
- obtaining adequate or favorable pricing and reimbursement from private and governmental payors for Auryxia, vadadustat, if approved, and any other product or product candidate, including those that may be in-licensed or acquired;
- obtaining and maintaining market acceptance of Auryxia, vadadustat, if approved, and any other product candidate, including those that may be in-licensed or acquired;
- the size of any market in which Auryxia, vadadustat and any other product or product candidate, including those that may be in-licensed or acquired, receives approval and obtaining adequate market share in those markets;
- the timing and scope of marketing approvals for vadadustat, if approved, and any other product candidate, if approved, including those that may be in-licensed or acquired;
- maintaining marketing approvals for Auryxia, vadadustat, if approved, and any other product, including those that may be in-licensed or acquired;

- actual or perceived advantages or disadvantages of our products or product candidates as compared to alternative treatments, including their respective safety, tolerability and efficacy profiles, the potential convenience and ease of administration and cost;
- maintaining an acceptable safety and tolerability profile of our approved products, including the frequency and severity of any side effects;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies, based, in part, on their perception of our clinical trial data and/or the actual or perceived safety, tolerability and efficacy profile;
- establishing and maintaining supply and manufacturing relationships with third parties that can provide adequate supplies of products that are compliant with good manufacturing practices, or GMPs, to support the clinical development and the market demand for Auryxia, vadadustat, if approved, and any other product and product candidate, including those that may be in-licensed or acquired;
- current and future restrictions or limitations on our approved or future indications and patient populations or other adverse regulatory actions or in the event that the FDA requires Risk Evaluation and Mitigation Strategies, or REMS, or risk management plans that use restrictive risk minimization strategies;
- the effectiveness of our collaborators' and our sales, marketing, manufacturing and distribution strategies and operations;
- competing effectively with any products for the same or similar indications as our products;
- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents and trade secrets; and
- the adverse impact of the recent COVID-19 pandemic on CKD patients and the phosphate binder market in which we compete.

Our collaboration, license and other revenue also depends on our partners' ability to successfully market and sell vadadustat and Auryxia in the territories in which they have licensed our products. For example, in May 2023, we entered into a license agreement with MEDICE Arzneimittel Pütter GmbH & Co. KG, or Medice, pursuant to which we granted Medice an exclusive license to develop and commercialize vadadustat for the treatment of anemia in patients with chronic kidney disease in the European Economic Area, or the EEA, the United Kingdom, Switzerland and Australia, or Medice Territory. If Medice's launch of vadadustat in the Medice Territory is delayed or their sales are lower than anticipated, we may not receive the revenue that we expect from Medice on the timing anticipated, or at all. In addition, under the Second Amended and Restated License Agreement that we entered into with CSL Vifor, in February 2022, or the Vifor Agreement, we granted CSL Vifor an exclusive license to sell vadadustat to Fresenius Medical Care North America and its affiliates, including Fresenius Kidney Care Group LLC, to certain third-party dialysis organizations approved by us, to independent dialysis organizations that are members of group purchase organizations, and to certain non-retail specialty pharmacies in the U.S., which represents a significant portion of the potential market for vadadustat. If vadadustat is approved, but CSL Vifor is not successful in commercializing vadadustat in a timely manner, or at all, our expected revenue related to vadadustat would be adversely impacted.

In addition, pursuant to the Vifor Agreement, CSL Vifor contributed $40.0 million to a working capital facility, or Working Capital Fund, established to partially fund our costs of purchasing pre-launch vadadustat inventory from our contract manufacturers. The amount available under the Working Capital Fund is reviewed at specified intervals and is adjusted based on a number of factors including outstanding supply commitments for vadadustat for the U.S. and agreed upon vadadustat inventory levels held by us for the U.S. Additionally, upon termination or expiration of the Vifor Agreement for any reason other than convenience by CSL Vifor (including following receipt of the CRL for vadadustat), we will be required to refund the outstanding balance of the Working Capital Fund on the date of termination or expiration. If we are required to repay all or part of the Working Capital Fund sooner than anticipated, it could have a material adverse impact on our consolidated financial statements.

Our ability to achieve profitability also depends on our ability to manage our expenses. We expect to continue to incur additional operating expenses, including additional R&D expenses related to our pipeline, additional costs related to vadadustat, and R&D and selling, general and administrative expenses for ongoing development and commercialization of Auryxia, which could lead to operating losses for the foreseeable future. We will continue to incur substantial expenditures relating to continued commercialization and post-marketing requirements for Auryxia and vadadustat, if we are able to obtain marketing approval for vadadustat, and any other products, including those that may be in-licensed or acquired, as well as costs relating to the R&D of any other product candidate, including those that may be in-licensed or acquired. Our prior losses have had, and expected future losses will continue to have, an adverse effect on our stockholders' (deficit) equity and working capital.

In addition to any further costs not currently contemplated in our operating plan, our ability to achieve profitability and our financial position will depend, in part, on the rate of our future expenditures, our ability to obtain approval for vadadustat in the U.S., the timing of our product revenue, collaboration, license and other revenue, the timing and amount of any repayment of the Working Capital Fund from CSL Vifor, our continued compliance with the terms of the BlackRock Credit Agreement and our ability to obtain additional funding, should it be needed. In addition, we expect to continue to incur significant expenses if and as we:

- continue our commercialization activities for Auryxia and vadadustat, if we are able to obtain marketing approval for vadadustat following our resubmission to our NDA, and any other product or product candidate, including those that may be in-licensed or acquired;
- conduct and enroll patients in any clinical trials, including post-marketing studies or any other clinical trials for Auryxia, vadadustat or any other product or product candidate, including those that may be in-licensed or acquired;
- seek marketing approvals for vadadustat and any other product candidate, including those that may be in-licensed or acquired;
- maintain marketing approvals for Auryxia and vadadustat, if we are able to obtain marketing approval for vadadustat, and any other product, including those that may be in-licensed or acquired;
- manufacture Auryxia, vadadustat and any other product or product candidate, including those that may be in-licensed or acquired, for commercial sale and clinical trials;
- conduct discovery and development activities for additional product candidates or platforms that may lead to the discovery of additional product candidates;
- engage in transactions, including strategic, merger, collaboration, acquisition and licensing transactions, pursuant to which we would market and develop commercial products, or develop and commercialize other product candidates and technologies;
- repay, and pay any associated pre-payment penalties, if applicable, the term loans in an aggregate principal amount of up to $55.0 million, or the Term Loans, as of January 29, 2024, that were made available to us pursuant to an Agreement for the Provision of a Loan Facility, or the BlackRock Credit Agreement, with Kreos Capital VII (UK) Limited, which are funds and accounts managed by BlackRock Inc., collectively, BlackRock;
- make royalty, milestone or other payments under our current and any future in-licensing agreements;
- maintain, protect and expand our intellectual property portfolio;
- make decisions with respect to our personnel, including the retention of key employees;
- make decisions with respect to our infrastructure, including to support our operations as a fully integrated, publicly traded biopharmaceutical company; and
- experience any additional delays or encounter issues with any of the above.

We have and will continue to expend significant resources on our legal proceedings, as described below under Part I, Item 3. Legal Proceedings, or any other legal proceedings brought by or against us in the future.

Our expenses could increase beyond expectations if we are required by the FDA, the European Medicines Agency, or the EMA, or other regulatory authorities, or if we otherwise believe it is necessary, to change our manufacturing processes or assays, to amend or replace our study protocols, to perform studies different from or larger than those currently planned, to conduct any additional clinical trials, whether in order to obtain approval or as a post-approval study, including any additional clinical trial that we decide to conduct for vadadustat, if there are any delays in completing our clinical trials or if there are further delays in or issues with obtaining marketing approval for vadadustat in the U.S. beyond our PDUFA date.

Because of the numerous risks and uncertainties associated with pharmaceutical product development and commercialization, we are unable to accurately predict the timing or amount of increased expenses or the associated revenue. The net losses we incur may fluctuate significantly from quarter to quarter and year to year, such that a period-to-period comparison of our results of operations may not be a good indication of our future performance. In any particular quarter, our product revenue, the progress of our clinical development and our operating results could be below the expectations of securities analysts or investors, which could cause our stock price to decline.

In addition, our ability to generate revenue would be negatively affected if the size of our addressable patient population is not as significant as we estimate, the indication approved by regulatory authorities is narrower than we sought or the patient population for treatment is narrowed by competition, physician choice, coverage or reimbursement, or payor or treatment guidelines. Even though we generate product revenue from Auryxia and royalties from Riona and Vafseo in Japan, may generate royalties from Vafseo in Europe and other territories where it is approved, and may generate revenue and royalties from the sale of any products that may be approved in the future, including those that may be in-licensed or acquired, we may never generate revenue and royalties that are significant enough for us to become and remain profitable, and we may need to obtain additional financing to continue to fund our operating plan.

We may require substantial additional financing to fund our business. A failure to obtain this necessary capital when needed, or on acceptable terms, could force us to delay, limit, reduce or terminate our product development or commercialization efforts.

As of December 31, 2023, our cash and cash equivalents were $42.9 million. We expect to continue to expend substantial amounts of cash for the foreseeable future as we continue to commercialize Auryxia; pursue approval for vadadustat in the U.S. with the FDA and develop and commercialize vadadustat in the U.S., if approved; and develop and commercialize any other product or product candidate, including those that may be in-licensed or acquired. These expenditures will include costs associated with R&D, manufacturing, potentially obtaining marketing approvals and marketing products approved for sale. In addition, other unanticipated costs may arise. Because the outcomes of our current and anticipated clinical trials are highly uncertain, we cannot reasonably estimate the actual amount of funding necessary to successfully complete clinical development for any current or future product candidates, including the outcome of our NDA resubmission, or to complete post-marketing studies for Auryxia and vadadustat, if approved. Our future capital requirements depend on many factors, including:

- the scope, progress, results and costs of conducting clinical trials or any post-marketing requirements or any other clinical trials for Auryxia, vadadustat and any other product or product candidate, including those that may be in-licensed or acquired;
- the cost and timing of commercialization activities, including product manufacturing, marketing, sales and distribution costs, for Auryxia, vadadustat, if approved, and any other product or product candidate, including those that may be in-licensed or acquired;
- the results of our meetings with the FDA, the EMA and other regulatory authorities and any consequential effects, including on timing of and ability to obtain and maintain marketing approval, study design, study size and resulting operating costs;
- any difficulties or delays in conducting our clinical trials, or enrolling patients in our clinical trials, for Auryxia, vadadustat or any other product candidates;
- the outcome of our efforts to obtain marketing approval for vadadustat in the U.S. and in other jurisdictions and any other product candidates, including those that may be in-licensed or acquired, including any additional clinical trials or post-approval commitments imposed by regulatory authorities;
- the timing of, and the costs involved in obtaining, marketing approvals for vadadustat, including in the U.S. and certain other markets, and any other product candidate, including those that may be in-licensed or acquired, including to fund the preparation, filing and prosecution of regulatory submissions;
- the costs of maintaining marketing approvals for Auryxia or any other product, including those that may be in-licensed or acquired;
- the number of generic versions of Auryxia that enter the market following loss of exclusivity, or LoE, for Auryxia in March 2025, and the timing of, and the magnitude of, the impact on the product revenue from Auryxia, including the impact on the price of Auryxia;
- the cost of securing and validating commercial manufacturing for any of our product candidates, including those that may be in-licensed or acquired, and maintaining our manufacturing arrangements for Auryxia and vadadustat or any other product, including those that may be in-licensed or acquired, or securing and validating additional arrangements;
- the costs involved in preparing, filing and prosecuting patent applications and maintaining, defending and enforcing our intellectual property rights, including litigation costs and the outcome of such litigation;
- the costs involved in any legal proceedings to which we are a party;
- our status as a publicly traded company on the Nasdaq Capital Market;
- our decisions with respect to personnel;
- our decisions with respect to infrastructure; and
- the extent to which we engage in transactions, including strategic, merger, collaboration, acquisition and licensing transactions, pursuant to which we could develop and market commercial products, or develop other product candidates and technologies.

We may need to obtain substantial additional financing to fund our business. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our R&D programs or any future commercialization efforts. We failed to timely file our Quarterly Report on Form 10-Q for the three months ended June 30, 2023, or the Second Quarter 10-Q. Because of that failure to file, we are not currently eligible to file or use a Registration Statement on Form S-3. This may make it more difficult for us to conduct a public offering of our securities.

We believe our existing cash resources and the cash we expect to generate from product, royalty, supply and license revenues as well as the borrowings and potential future borrowings that are available under the BlackRock Credit Agreement and the working capital liability are sufficient to fund our current operating plan for at least twenty-four months if vadadustat is approved in the U.S and for at least twelve months from filing the Form 10-K, if vadadustat is not approved in the U.S. However, if our operating performance deteriorates significantly from the levels expected in our operating plan, or if vadadustat is not approved in the U.S., it would have an adverse effect on our liquidity and capital resources and could affect our ability to continue as a going concern in the future. Our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement and involves numerous risks and uncertainties, and actual results could vary as a result of a number of factors, many of which are outside our control. We have based this estimate on assumptions that may be substantially different than actual results, and we could utilize our available capital resources sooner than we currently expect. In addition, if we fail to satisfy any of the covenants under the BlackRock Credit Agreement, and the loan is accelerated, or if certain pre-specified events occur and we are required to make principal payments to BlackRock sooner than we currently anticipate, such event could have a material adverse effect on our business. There can be no assurance that the current operating plan will be achieved in the time frame anticipated by us, or that our cash resources and cash we expect to generate will fund our operating plan for the period anticipated by us, or that additional funding will be available on terms acceptable to us, or at all.

Any additional fundraising efforts may divert our management's attention away from their day-to-day activities, which may adversely affect our ability to develop and commercialize Auryxia and any other products or product candidates, including vadadustat and those that may be in-licensed or acquired, or to continue to seek regulatory approval for vadadustat. Also, additional funds may not be available to us in sufficient amounts or on acceptable terms or at all. In addition, raising funds in the current economic environment may present additional challenges. For example, any sustained disruption in the capital markets from adverse macroeconomic conditions and an uncertain geopolitical environment, such as rising inflation, increasing interest rates, slower economic growth or recession, global supply chain disruptions, the ongoing Russia-Ukraine war, the war in the Middle East and tensions between China and Taiwan, could negatively impact our ability to raise capital, and we cannot predict the extent or duration of such macroeconomic disruptions. If we are unable to raise additional capital in sufficient amounts when needed or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development and/or commercialization of Auryxia and any other products or product candidates, including vadadustat and those that may be in-licensed or acquired, or to take any actions with respect to vadadustat depending on future decisions with respect to vadadustat in the U.S. Any of these events could significantly harm our business, financial condition and prospects.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our product and product candidates on unfavorable terms to us.

We expect to finance future cash needs through product revenue and royalty and license revenue, and we may seek to sell public or private equity, enter into new debt transactions, explore potential strategic transactions or a combination of these approaches or other strategic alternatives. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our common stockholders will be diluted, our fixed payment obligations may increase, any such securities may have rights senior to those of our common stock, and the terms may include liquidation or other preferences and anti-dilution protections that adversely affect the rights of our common stockholders. Additional debt financing, if available, may involve agreements that would restrict our operations and potentially impair our competitiveness, such as limitations on our ability to incur additional debt, make capital expenditures, declare dividends, acquire, sell or license intellectual property rights, and other operating restrictions that could adversely impact our ability to conduct our business. If we raise additional funds through strategic transactions, we may have to relinquish valuable rights to our portfolio and future revenue streams, and enter into agreements that would restrict our operations and strategic flexibility. If we raise additional funds through strategic transactions with third parties, we may have to do so at an earlier stage than otherwise would be desirable. In connection with any such strategic transactions, we may be required to relinquish valuable rights to our product and product candidates, future revenue streams or research programs or grant licenses on terms that are not favorable to us. If we are unable to raise additional funds when needed, we may not be able to pursue planned development and commercialization activities and we may need to grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

If we fail to comply with the continued listing requirements of Nasdaq, our common stock may be delisted and the price of our common stock and our ability to access the capital markets could be negatively impacted.

We must satisfy Nasdaq's continued listing requirements, including, among other things, a minimum closing bid price of $1.00 per share and timely filing of all periodic financial reports, or risk delisting, which would have a material adverse effect on our business. If we fail to maintain compliance with Nasdaq's continued listing requirements, it could affect our ability to raise capital on acceptable terms, or at all. In the event we are delisted from Nasdaq, the only established trading market for our common stock would be eliminated, and we would be forced to list our shares on the OTC Markets or another quotation medium, depending on our ability to meet the specific listing requirements of those quotation systems. As a result, an investor would likely find it more difficult to trade or obtain accurate price quotations for our shares. Delisting would likely also reduce the visibility, liquidity, and value of our common stock, reduce institutional investor interest in our Company, and may increase the volatility of our common stock. Delisting could also cause a loss of confidence of potential industry partners, lenders, and employees, which could further harm our business and our future prospects.

On May 9, 2023, we received a letter from Nasdaq stating that we had not regained compliance with the minimum bid price rule during the compliance period and was subject to delisting. On May 22, 2023, we received a letter from the Office of General Counsel of Nasdaq informing us that Nasdaq confirmed that we had regained compliance with the $1.00 per share minimum bid price requirement.

On August 11, 2023, we received a notification letter from Nasdaq informing us that since we had not yet filed our Second Quarter 10-Q, we are not in compliance with Nasdaq's listing rule requiring timely filing of all required periodic financial reports with the U.S. Securities and Exchange Commission, or the SEC. On August 30, 2023, we received a letter from the Office of General Counsel of Nasdaq informing us that Nasdaq confirmed that we had regained compliance with Nasdaq's listing rule requiring timely filing of all required periodic financial reports with the SEC.

Although the minimum bid price deficiency and Nasdaq periodic reporting requirement matters are now closed, there can be no assurance that we will be able to continue to comply with the Nasdaq continued listing requirements.

We may not be successful in our efforts to identify, acquire, in-license, discover, develop and commercialize additional products or product candidates or our decisions to prioritize the development of certain product candidates over others may not be successful, which could impair our ability to grow.

Although we continue to focus a substantial amount of our efforts on the commercialization of Auryxia and the pursuit of approval for vadadustat in the U.S. with the FDA, a key element of our long-term growth strategy is to develop additional product candidates and acquire, in-license, develop and/or market additional products and product candidates.

Research programs to identify product candidates require substantial technical, financial and human resources, regardless of whether product candidates are ultimately identified. Our R&D programs may initially show promise, yet fail to yield product candidates for clinical development or commercialization for many reasons, including the following:

- the research methodology used may not be successful in identifying potential indications and/or product candidates;
- we may not be able or willing to assemble sufficient resources to acquire or discover additional product candidates;
- a product candidate may be shown to have harmful side effects, a lack of efficacy or other characteristics that indicate that they are unlikely to be drugs that will receive marketing approval and/or achieve market acceptance;
- a product candidate we develop and seek regulatory approval for, including vadadustat, may not be approved by the FDA on a timely basis, or at all;
- product candidates we develop may nevertheless be covered by third party patents or other exclusive rights;
- the market for a product candidate may change during our program so that the continued development of that product candidate is no longer commercially reasonable;
- a product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; or
- a product candidate may not be accepted as safe and effective by patients, the medical community, or third party payors, if applicable.

If any of these events occur, we may be forced to abandon our R&D efforts for one or more of our programs, or we may not be able to identify, discover, develop or commercialize additional product candidates, including those that may be in-licensed or acquired, which may have a material adverse effect on our business.

Because we have limited financial and managerial resources, especially as a result of the CRL for vadadustat that we received in March 2022 and the reductions in workforce that we implemented in 2022, we have focused on products, research programs and product candidates for specific indications. As a result, we have had to, and in the future may need to, forgo or delay pursuit of opportunities with other product candidates or for other indications, or may out license rights to product candidates, that later prove to have greater commercial potential. For example, as a result of receipt of the CRL and implementation of the reductions in workforce, we delayed certain research activities. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities on a timely basis, or at all. Our spending on current and future R&D programs and product candidates for specific indications may not yield any commercially viable products.

Because our internal research capabilities are limited, we may be dependent upon other pharmaceutical and biotechnology companies, academic scientists and institutions, and other researchers to sell or license product candidates, products or technology to us. As a result, our rights to these product candidates may be limited or we may be required to make future payments to such third parties if we are successful in developing such product candidates. The success of this strategy depends partly upon our ability to identify, select, and acquire promising product candidates and products. The process of identifying, selecting, negotiating and implementing a license or acquisition of a product candidate or an approved product is lengthy and complex. Other companies, including some with substantially greater financial, marketing and sales resources, may compete with us for the license or acquisition of a product candidate or an approved product. We have limited resources to identify and execute the acquisition or in-licensing of third party products, businesses, and technologies and integrate them into our current infrastructure.

Moreover, we may devote resources to potential acquisitions or in-licensing opportunities that are never completed, or we may fail to realize the anticipated benefits of such efforts. Any product candidate that we acquire may require additional development efforts prior to commercial sale, including extensive clinical testing and approval by the FDA, the EMA, the Japanese Pharmaceuticals and Medical Devices Agency, or PMDA, or other regulatory authorities, or post-approval testing or other requirements if approved. All product candidates are prone to risks of failure typical of pharmaceutical product development, including the possibility that a product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities. In addition, we cannot provide assurance that any of our products will be manufactured in a cost effective manner, achieve market acceptance or not require substantial post-marketing clinical trials.

Accordingly, there can be no assurance that we will ever be able to identify, acquire, in-license or develop suitable additional products or product candidates, which could materially adversely affect our future growth and prospects. We may focus our efforts and resources on potential products, product candidates or other programs that ultimately prove to be unsuccessful.

We may engage in strategic transactions to acquire assets, businesses, or rights to products, product candidates or technologies or form collaborations or make investments in other companies or technologies that could harm our operating results, dilute our stockholders' ownership, increase our debt, or cause us to incur significant expense.

As part of our business strategy, we may engage in additional strategic transactions to expand and diversify our portfolio, including through the merger, acquisition or in-license of assets, businesses, or rights to products, product candidates or technologies or through strategic alliances or collaborations, similar to the Merger and our existing and prior collaboration and license arrangements. We may not identify suitable strategic transactions, or complete such transactions in a timely manner, on favorable terms, on a cost-effective basis, or at all. Moreover, we may devote resources to potential opportunities that are never completed or we may incorrectly judge the value or worth of such opportunities. Even if we successfully execute a strategic transaction, we may not be able to realize the anticipated benefits of such transaction and may experience losses related to our investments in such transactions. Integration of an acquired company or assets into our existing business may not be successful and may disrupt ongoing operations, require the hiring of additional personnel and the implementation and integration of additional internal systems and infrastructure, and require management resources that would otherwise focus on developing our existing business. Even if we are able to achieve the long-term benefits of a strategic transaction, our expenses and short-term costs may increase materially and adversely affect our liquidity. Any of the foregoing could have a detrimental effect on our business, results of operations and financial condition. For example, on June 4, 2021, we entered into a license agreement, the Cyclerion Agreement, with Cyclerion Therapeutics Inc., or Cyclerion, pursuant to which Cyclerion granted us an exclusive global license under certain intellectual property rights to research, develop and commercialize praliciguat, an investigational oral soluble guanylate cyclase, or sGC, stimulator. Although we have progressed preclinical studies for praliciguat, we need to do additional work to manufacture product for clinical trials than originally anticipated before we can initiate the trials, and when the clinical trials are started, we may be unsuccessful in developing praliciguat. If any of the assumptions that we made in valuing the transaction, including the costs or timing of development of praliciguat as a result of the additional manufacturing work or otherwise, or the potential benefits of praliciguat, were incorrect, we may not recognize the anticipated benefits of the transaction and our business could be harmed.

In addition, future transactions may entail numerous operational, financial and legal risks, including:

- incurring substantial debt, dilutive issuances of securities or depletion of cash to pay for acquisitions;
- exposure to known and unknown liabilities, including contingent liabilities, possible intellectual property infringement claims, violations of laws, tax liabilities and commercial disputes;
- higher than expected acquisition and integration costs;
- difficulty in integrating operations, processes, systems and personnel of any acquired business;
- increased amortization expenses or, in the case of a write-down of the value of acquired assets, impairment losses, such as the Auryxia intangible asset impairment in the second quarter of 2020 and corresponding adjustments to the estimated useful life of the developed product rights for Auryxia;
- impairment of relationships with key suppliers or customers of any acquired business due to changes in management and ownership;

- inability to retain personnel, customers, distributors, vendors and other business partners integral to an in-licensed or acquired product, product candidate or technology;
- potential failure of the due diligence processes to identify significant problems, liabilities or other shortcomings or challenges;
- entry into indications or markets in which we have no or limited development or commercial experience and where competitors in such markets have stronger market positions; and
- other challenges associated with managing an increasingly diversified business.

If we are unable to successfully manage any transaction in which we may engage, our ability to develop new products and continue to expand and diversify our portfolio may be limited.

Risks Related to our Financial Arrangements

Our obligations in connection with the BlackRock Credit Agreement and requirements and restrictions in the BlackRock Credit Agreement could adversely affect our financial condition and restrict our operations.

We entered into the BlackRock Credit Agreement, which provides for a senior secured term loan facility, in the aggregate principal amount of up to $55.0 million, or the Term Loan Facility. The initial tranche of $37.0 million, or the Tranche A Loan, closed on January 29, 2024, or the Closing Date. In addition to the Tranche A Loan, the Term Loan Facility includes additional tranches available as follows: $8.0 million available in a single draw through December 31, 2024, or the Tranche B Loan, and $10.0 million available in a single draw through December 31, 2024, or the Tranche C Loan and, together with the Tranche A Loan and the Tranche B Loan, the Term Loans. See Note 7, *Indebtedness*, to our audited consolidated financial statements in Part II, Item 8. Financial Statements of this Form 10-K for additional information regarding our obligations under the BlackRock Credit Agreement.

Each Term Loan draw is subject to various conditions precedent, including (x) the absence of any defaults or events of default and our continued compliance with the terms and provisions of the BlackRock Credit Agreement, (y) in the case of the Tranche B Loan and Tranche C Loan, receipt of marketing approval for vadadustat from the FDA, and (z) in the case of Tranche C, receipt of a certain amount of cumulative gross cash proceeds after the Closing Date in the form of equity or equity linked securities in one or more series of transactions. The Term Loan Facility has an initial maturity date of March 31, 2025, which will be automatically extended to January 29, 2028 if we receive FDA approval on or prior to June 30, 2024, or the Maturity Date. If vadadustat is not approved by the FDA by June 30, 2024, we will be required to repay the Term Loan Facility sooner than anticipated.

The BlackRock Credit Agreement contains certain representations and warranties, affirmative covenants, negative covenants, financial covenants, events of default and other provisions and conditions that are customarily required for similar financings. The financial covenants under the BlackRock Credit Agreement require us to either (i) maintain cash and cash equivalents, measured as of the last day of each fiscal month, greater than or equal to $15.0 million or (ii) earn consolidated revenue, measured as of the last day of each fiscal month for the trailing twelve-month period, of $150.0 million. Failure to maintain compliance with these or other covenants would result in an event of default under the BlackRock Credit Agreement, which could result in enforcement action, including acceleration of amounts due under the BlackRock Credit Agreement.

The Term Loan Facility will accrue interest at a floating annual rate equal to the sum of (x) term Secured Overnight Financing Rate for a tenor of one month (subject to a floor of 4.25% per annum) plus (y) a margin of 6.75% per annum (subject to an overall cap of 15.00% per annum on the all-in interest rate). During the continuance of any payment event of default under the BlackRock Credit Agreement, the interest rate on such overdue sum will automatically increase by an additional 3.0% per annum, and may be subject to an additional late fee of 2.0% of such overdue sum. The Term Loan Facility does not amortize during the period commencing on the Closing Date and ending on December 31, 2025 (which was extended to December 31, 2026 at our option), or the Interest Only Period. We are required to pay interest and, after the Interest Only Period, principal on the first calendar day of each month. In the event of certain prespecified events, the repayment schedule will be accelerated. For example, if FDA approval is not obtained on or prior to June 30, 2024, the Interest Only Period will automatically terminate on October 1, 2024, and we will be required to repay the Term Loans in seven equal monthly payments (comprised of principal and interest), commencing on October 1, 2024 and ending on the Maturity Date. If any of these events occur, and we are required to repay principal sooner than anticipate, it would have an adverse effect on our business.

In the event there is an acceleration of our and certain of our subsidiaries' liabilities under the BlackRock Credit Agreement as a result of an event of default or otherwise, we may not have sufficient funds or may be unable to arrange for additional financing to repay the liabilities or to make any accelerated payments, and BlackRock could seek to enforce security interests in the collateral securing the BlackRock Credit Agreement, which would have a material adverse effect on our business, financial condition and results of operations.

In addition, our obligations in connection with the BlackRock Credit Agreement could have additional significant adverse consequences, including, among other things:

- restricting our activities, including limitations on transferring certain of our assets, engaging in certain transactions, terminating certain agreements, incurring certain additional indebtedness, creating certain liens, paying cash dividends or making certain other distributions and investments;
- limiting our flexibility in planning for, or reacting to, changes in our business and our industry;
- placing us at a possible competitive disadvantage compared to our competitors who have a smaller amount of debt or competitors with comparable debt at more favorable interest rates; and
- limiting our ability to borrow additional amounts for working capital, capital expenditures, R&D efforts, acquisitions, debt service requirements, execution of our business strategy and other purposes.

Any of these factors could materially and adversely affect our business, financial condition and results of operations.

Our Royalty Interest Acquisition Agreement with HealthCare Royalty Partners IV, L.P. contains various covenants and other provisions, which, if violated, could materially adversely affect our financial condition.

In February 2021, we entered into a royalty interest acquisition agreement, or the Royalty Agreement, with HealthCare Royalty Partners IV, L.P., or HCR, pursuant to which we sold to HCR our right to receive royalties and sales milestones for vadadustat, collectively the Royalty Interest Payments, in each case, payable to us under our Collaboration Agreement dated December 11, 2015, or the MTPC Agreement, with Mitsubishi Tanabe Pharma Corporation, or MTPC, subject to an annual maximum "cap" of $13.0 million, or the Annual Cap, and an aggregate maximum "cap" of $150.0 million, or the Aggregate Cap. Under the Royalty Agreement, we are required to comply with various covenants, including obligations to take certain actions, such as actions with respect to the Royalty Interest Payments, the MTPC Agreement, our agreement with MTPC for the commercial supply of vadadustat drug product, and our intellectual property. In addition, the Royalty Agreement includes customary events of default upon the occurrence of enumerated events, including failure to perform certain covenants and the occurrence of insolvency events. Upon the occurrence of an event of default, HCR would have the ability to exercise all available remedies in law and equity, which could have a material adverse effect on our financial condition.

Risks Related to Commercialization

Our business is substantially dependent on the commercial success of Auryxia and vadadustat, if approved. If we are unable to continue to successfully commercialize Auryxia or vadadustat, if approved and commercialized, our results of operations and financial condition will be materially harmed.

Our business and our ability to generate product revenue largely depend on our, and our collaborators', ability to successfully commercialize Auryxia and vadadustat. Our ability to generate revenue depends on our ability to execute on our commercialization plans, and the size of the market for, and the level of market acceptance of, Auryxia, and vadadustat, if approved, and any other product or product candidate, including those that may be in-licensed or acquired. If the size of any market for which a product or product candidate is approved decreases or is smaller than we anticipate, our revenue and results of operations could be materially adversely affected.

Given the concentration of dialysis clinics in large networks, with DaVita, Inc., or DaVita, and Fresenius Kidney Care Group LLC, accounting for a vast majority of the dialysis population in the U.S., treatment is usually driven by medical protocols that are implemented across the entire network of clinics. Dialysis organizations require large data sets to adopt medical protocols. If dialysis organizations do not add vadadustat, if approved, to their medical protocols in a timely manner, or at all, our operations could be materially adversely affected.

If oral phosphate binders, including Auryxia, are included in the end-stage renal disease, or ESRD, Prospective Payment System, or PPS, bundle payment, it will take time for dialysis organizations to implement internal mechanisms to dispense phosphate binders which could divert their attention from focusing on other therapeutic areas such as anemia management, which in turn could negatively impact the market for phosphate binders, including Auryxia. In addition, dialysis organizations may choose lower cost binders over Auryxia, or binders that may have features or benefits more aligned with the dialysis organization's operational activities, which could negatively impact Auryxia revenue.

In addition, we currently have exclusive rights under a series of patents and patent applications to commercialize Auryxia in the U.S. that protect us from generic drug competition until March 2025. Following LoE in March 2025, the number of generic versions of Auryxia that enter the market will affect our revenue from Auryxia. We believe CMS's decision to include phosphate binders in the dialysis bundle could potentially lead to higher sales of Auryxia after the LoE date than in other LoE scenarios, and plan to work with payors and providers to continue the use of Auryxia beyond LoE. However, our ability to continue to generate revenue from sales of Auryxia following LoE will depend on many factors, including our ability to successfully contract with dialysis organizations, the timing and number of generics that enter the market and other products on the market that we compete with. If we are unable to maintain sales of Auryxia following LoE, our results of operations and financial condition will be materially harmed.

We believe our revenue growth was negatively impacted by the recent COVID-19 pandemic in 2021, 2022 and 2023 primarily as the CKD patient populations that we serve experienced both high hospitalization and mortality rates due to COVID-19, and the pandemic had an adverse impact on the phosphate binder market in which Auryxia competes. Labor shortages and costs have also adversely impacted dialysis providers. These impacts have refocused clinical efforts in addressing bone and mineral disorders like hyperphosphatemia to more acute operational issues to ensure patients receive dialysis treatments and still some patients have been rescheduled or missed treatments due to labor shortages. We believe, this and potentially other factors, led to the reduction in the phosphate binder market, which has not experienced growth since early 2020. While we are unable to quantify the impact of the recent COVID-19 pandemic on future revenues and revenue growth, the recent COVID-19 pandemic and the ongoing impacts from the recent COVID-19 pandemic continue to adversely and disproportionately impact CKD patients and the phosphate binder market. Therefore, we expect the impacts from the pandemic to continue to have a negative impact on our revenue growth for the foreseeable future.

Market acceptance is also critical to our ability to generate significant product revenue. Any product may achieve only limited market acceptance or none at all. If Auryxia, or any of our future products, including vadadustat, if approved, is not accepted by the market to the extent that we expect or market acceptance decreases, we may not be able to generate significant product revenue and our business would be materially harmed. Market acceptance of Auryxia, vadadustat, if approved, or any other approved product depends on a number of factors, including:

- the availability of adequate coverage and reimbursement by, and the availability of discounts, rebates and price concessions to third party payors, pharmacy benefit managers, or PBMs, and governmental authorities;
- the safety and efficacy of the product, as demonstrated in clinical trials and in the post-marketing setting;
- the prevalence and complications of the disease treated by the product;
- the clinical indications for which the product is approved and the product label approved by regulatory authorities, including any warnings or limitations that may be required on the label as a consequence of potential safety risks associated with the product;
- the countries in which marketing approvals are obtained;
- the claims we and our partners are able to make regarding the safety and efficacy of the product;
- the success of our physician and patient communications and education programs;
- acceptance by physicians and patients of the product as a safe and effective treatment and the willingness of the target patient population to try new therapies and of physicians to prescribe new therapies;
- for vadadustat, if approved, use at dialysis organizations and their willingness to include vadadustat in their protocols;
- the cost, safety and efficacy of the product in relation to alternative treatments;
- the timing of receipt of marketing approvals and product launch relative to competing products and potential generic entrants;
- relative convenience and ease of administration;
- the frequency and severity of adverse side effects;
- favorable or adverse publicity about our products or favorable or adverse publicity about competing products;
- the effectiveness of our and our partners' sales, marketing, manufacturing and distribution strategies and operations; and
- the restrictions on the use of the product together with other medications, if any.

In addition, our ability to generate net product revenue depends on our ability to control the expenses associated with commercializing a product, including internal expenses, manufacturing costs, rebates, product returns and other adjustments. We do not have control over many of the expenses required to commercialize our products, and if we experience increased costs or expenses, we may not be able to afford the commercial activities required to successfully commercialize our products, which could have an adverse effect on our business. In addition, our net product revenue requires judgement and includes estimates for rebates and product returns, which can fluctuate from quarter-to-quarter and year-over-year. If our net product revenue is lower than anticipated, including as a result of higher expenses, our business could be harmed.

Several healthcare facilities, including DaVita, have previously restricted access for non-patients as a result of the recent COVID-19 pandemic, resulting in restricted access for certain members of our sales force. As a result, we continue to engage with some healthcare providers and other customers virtually where possible. The restrictions on our customer-facing employees' in-person interactions with healthcare providers have, and could continue to, negatively impact our access to healthcare providers and ultimately our sales, including with respect to vadadustat, if approved. Such precautionary measures have since been relaxed at certain healthcare facilities and, as a result, members of our sales force have resumed in person interactions with those customers. Nevertheless, some restrictions remain, and more restrictions may be put in place again due to a resurgence in COVID-19 cases, including those involving new variants of COVID-19, which may be more contagious and more severe than prior strains of the virus. Given this uncertain environment and the disproportionate impact of the recent COVID-19 pandemic on CKD patients, we are actively monitoring the demand in the U.S. for Auryxia and will be for vadadustat, if approved, including the potential for further declines or changes in prescription trends and customer orders, which could have a material adverse effect on our business, results of operations, and financial condition.

If we are unable to maintain or expand, or, if vadadustat is approved, initiate, sales and marketing capabilities or enter into additional agreements with third parties, we may not be successful in commercializing Auryxia, vadadustat, if approved, or any other product candidates that may be approved.

In order to market Auryxia and any other approved product, we intend to continue to invest in sales and marketing, which will require substantial effort and significant management and financial resources. We have built a commercial infrastructure and sales force in the U.S. for Auryxia, our only commercial product. However, following receipt of the CRL, we implemented a reduction of our workforce in April and May 2022 by approximately 42% across all areas of the Company (47% inclusive of the closing of the majority of open positions), including several members of our sales and marketing team and management. In November 2022, we also implemented a reduction of our workforce, by approximately 14% consisting of individuals within our commercial organization, and we shifted to a strategic account management focused model for our commercial efforts. If the remaining sales and marketing team cannot successfully commercialize Auryxia, or if additional sales and marketing employees decide to leave, it could have a material adverse effect on Auryxia revenue and our financial condition.

If we obtain regulatory approval to market vadadustat in the U.S., we believe that we can leverage the current commercial foundation for vadadustat in the U.S., with incremental additional hires in our sales force and medical affairs department, but if we are unable to do so successfully it would materially harm our business. Additionally, training a sales force to successfully sell and market a new commercial product is expensive and time-consuming and could delay any commercial launch of such product candidate or distract the sales force from promoting Auryxia. We may underestimate the size of the sales force required for a successful product launch and we may need to expand our sales force to a greater extent or earlier than we currently plan and at a higher cost than we anticipated. In 2021 and early 2022, we incurred commercialization expenses for vadadustat that were premature or unnecessary as a result of the receipt of the CRL for vadadustat, and may in the future incur additional commercialization expenses prematurely or unnecessarily if we do not receive marketing approval for vadadustat in the timeframe we expect, or at all.

We devote significant effort to recruiting individuals with experience in the sales and marketing of pharmaceutical products. Competition for personnel with these skills is significant and retaining qualified personnel with experience in our industry is difficult. Further, our reductions in workforce may further exacerbate these conditions and interfere with our ability to find and retain qualified personnel. As a result, we may not be able to retain our existing employees or hire new employees quickly enough to meet our needs. At the same time, we may face high turnover, requiring us to expend time and resources to source, train and integrate new employees.

There are risks involved with maintaining our own sales and marketing capabilities, including the following:

- potential inability to recruit, train and retain adequate numbers of effective sales and marketing personnel;
- potential lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines, especially as a result of the receipt of the CRL for vadadustat; and
- costs and expenses associated with maintaining our own sales and marketing organization.

If we are unable to maintain our own sales and marketing capabilities, we will not be successful in commercializing Auryxia, vadadustat, if approved, and any other product candidate that may be approved.

Furthermore, if we are unable to maintain our arrangements with third parties with respect to sales and marketing, if we are unsuccessful in entering into additional arrangements with third parties to sell and market our products or we are unable to do so on terms that are favorable to us, or if such third parties are unable to carry out their obligations under such arrangements, it will be difficult to successfully commercialize our product and product candidates, including vadadustat, if approved. For example, if, in connection with the Vifor Agreement, we experience difficulties with CSL Vifor, or if CSL Vifor is not successful in commercializing vadadustat, if approved, in the dialysis organizations for which they are responsible in a timely manner, or at all, our revenue related to vadadustat will be adversely impacted.

Our, or our partners', failure to obtain or maintain adequate coverage, pricing and reimbursement for Auryxia, vadadustat, if approved, or any other future approved products, could have a material adverse effect on our or our collaboration partners' ability to sell such approved products profitably and otherwise have a material adverse impact on our business.

Market acceptance and sales of any approved products, including Auryxia and, if approved, vadadustat, depends significantly on the availability of adequate coverage and reimbursement from third party payors and may be affected by existing and future healthcare reform measures. Governmental authorities, third party payors, and PBMs decide which drugs they will cover, as well as establish formularies or implement other mechanisms to manage utilization of products and determine reimbursement levels. We cannot be sure that coverage or adequate reimbursement will be available for Auryxia, vadadustat, if approved, or any of our potential future products. Even if we obtain coverage for an approved product, third party payors may not establish adequate reimbursement amounts, which may reduce the demand for our product and prompt us to have to reduce pricing for the product. If reimbursement is not available or is limited, we may not be able to successfully commercialize certain of our products. Coverage and reimbursement by a governmental authority, third-party payor or PBMs may depend upon a number of factors, including the determination that use of a product is:

- a covered benefit under the health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient; and
- cost effective.

Obtaining coverage and reimbursement approval for a product from a governmental authority, PBM or a third-party payor is a time consuming and costly process that could require us to provide supporting scientific, clinical and cost-effectiveness data for the use of our products to the payor. In the U.S., there are multiple governmental authorities, PBMs and third-party payors with varying coverage and reimbursement levels for pharmaceutical products, and the timing of commencement of reimbursement by a governmental payor can be dependent on the assignment of codes via the Healthcare Common Procedural Coding System, which codes are assigned on a quarterly basis. Within Medicare, for oral drugs dispensed by pharmacies and also administered in facilities, coverage and reimbursement may vary depending on the setting. CMS, local Medicare administrative contractors, Medicare Part D plans and/or PBMs operating on behalf of Medicare Part D plans, may have some responsibility for determining the medical necessity of such drugs, and therefore coverage, for different patients. Different reimbursement methodologies may apply, and CMS may have some discretion in interpreting their application in certain settings.

As an oral drug, Auryxia is covered by Medicare under Part D for the treatment of patients with hyperphosphatemia. In January 2011, CMS implemented the ESRD PPS, a prospective payment system for dialysis treatment. Under the ESRD PPS, CMS generally makes a single bundled payment to the dialysis facility for each dialysis treatment that covers all items and services routinely required for dialysis treatments furnished to Medicare beneficiaries in Medicare-certified ESRD facilities or at their home. The inclusion of oral medications without injectable or intravenous equivalents such as Auryxia in the bundled payment was initially delayed by CMS until January 1, 2014, and through several subsequent legislative actions has been delayed until January 1, 2025.

Absent further legislation or regulation on this matter, beginning in January 2025, oral ESRD-related drugs without injectable or intravenous equivalents, including Auryxia and all other phosphate lowering medications, will be included in the ESRD bundle and separate Medicare payment for these drugs will no longer be available, as is the case today under Medicare Part D. ESRD facilities may nonetheless receive a TDAPA for new renal dialysis drugs and biological products that meet certain criteria for a period of two years. The TDAPA will provide separate payment based on the drug's Average Sales Price, or ASP, that will be in addition to the base rate in order to facilitate the adoption of innovative therapies. There can be no assurances that CMS will not again delay the inclusion of these oral ESRD-related drugs in the bundled payment. Even if Auryxia is deemed eligible by CMS, revenue for sales of Auryxia could be significantly less in the TDAPA period than it would be if Auryxia is not bundled into the ESRD PPS. Moreover, in the post-TDAPA period, CMS currently expects to increase the single bundled payment base rate paid to the dialysis facility for each dialysis treatment to reflect that oral only phosphate lowering drugs will be reimbursed as part of the single bundled payment for Medicare patients. There can be no assurances that any increase in the single bundled payment base rate will be sufficient to adequately reimburse the dialysis facilities for Auryxia at a price that is profitable for us.

In addition, in September 2018, CMS decided that Auryxia would no longer be covered by Medicare for the treatment of iron deficiency anemia, or IDA, in adult patients with NDD-CKD, or the CMS Decision. While this decision does not impact CMS coverage for the control of serum phosphorus levels in adult patients with DD-CKD, or the Hyperphosphatemia Indication, it requires Part D Plan sponsors to impose prior authorization or other steps to ensure that Auryxia is reimbursed only for the Hyperphosphatemia Indication. We decided beginning in 2022 to terminate certain Part D contracts, as patients no longer had the access benefit given the prior authorization, or PA, requirement. Now patients must go through a medical exemption process, which is very similar to a prior authorization review. While we believe this had, and may continue to have, a negative impact on our overall sales volume, we believe it had a significant positive impact on our net selling price. However, if we experience additional negative impacts on our sales volume as a result of this change, it could have a negative impact on our product revenue.

Medicaid reimbursement of drugs varies by state. Private third-party payor reimbursement policies also vary and may or may not be consistent with Medicare reimbursement methodologies. Manufacturers of outpatient prescription drugs may be required to provide discounts or rebates under government healthcare programs or to certain third-party payors in order to obtain coverage of such products.

Additionally, we may be required to enter into contracts with third party payors and/or PBMs offering rebates or discounts on our products in order to obtain favorable formulary status and we may not be able to agree upon commercially reasonable terms with such third party payors or PBMs, or provide data sufficient to obtain favorable coverage and reimbursement for many reasons, including that we may be at a competitive disadvantage relative to companies with more extensive product lines. In addition, third party payors, PBMs and other entities that purchase our products may impose restrictions on our ability to raise prices for our products over time without incurring additional costs. Four distributors, Fresenius Medical Care Rx, McKesson Corporation, Cardinal Health, Inc. and Cencora, Inc., formerly known as AmerisourceBergen Drug Corporation, in the aggregate, accounted for a significant percentage of our gross revenue during the year ended December 31, 2023. If we are not able to maintain our arrangements with these key distributors on favorable terms, on a timely basis or at all, or if there is any adverse change in one or more of these distributors' business practices or financial condition, it would adversely impact the market opportunity for Auryxia, our product revenues and operating results.

In addition, vadadustat was approved in Japan for the treatment of adult patients with anemia due to CKD and is being marketed by MTPC in Japan under the trade name Vafseo. Pricing and reimbursement strategy is a key component of MTPC's commercialization plans for Vafseo in Japan. If coverage and reimbursement terms change, MTPC may not be able to, or may decide not to, continue commercialization of Vafseo in Japan. Furthermore, vadadustat was approved in Europe and Australia for the treatment of anemia due to CKD in DD-CKD patients. In Europe, reimbursement is obtained on a country-by-country basis and it is a time consuming process. Medice is working on securing pricing and reimbursement in key markets in Europe, but there is no guarantee of the timing or extent of reimbursement that they will receive, if at all.

We currently believe it is likely that vadadustat, if approved, will be reimbursed using the Transitional Drug Add-on Payment Adjustment, or TDAPA, followed by inclusion in the bundled reimbursement model for Medicare beneficiaries, but reimbursement under TDAPA it is subject to review and approval by CMS. For those that obtain dialysis through commercial insurance during the 30-month coordination period or through Medicaid prior to Medicare becoming primary payor after 90 days, patients may access vadadustat through contracts we negotiate with third party payors for reimbursement of vadadustat, which would be subject to the risks and uncertainties described above. Additionally, applying for and obtaining reimbursement under the TDAPA is expected to take six months following filing acceptance, which will affect adoption, uptake and product revenue for vadadustat during that time, and if there are updates to the TDAPA rule that decrease the basis for reimbursement or eligibility criteria during the transition period or if the TDAPA is eliminated, then our profitability may be adversely affected. For example, the Medicare Payment Advisory Commission, or MedPAC, an independent legislative branch advisory body to Congress on issues related to the Medicare program, has recommended that TDAPA not be provided to newly approved drug products considered to fall within "functional categories" for which costs are already accounted for in the bundled reimbursement model, such as for anemia management drugs.

Further, if vadadustat is approved in the U.S., we expect it to be included in the fixed reimbursement model for a bundle of dialysis services, or the bundle, which will require us to enter into contracts to supply vadadustat to specific dialysis providers, instead of through distributors, which we believe could be challenging. The dialysis market is unique and is dominated by two providers: DaVita and Fresenius Medical Care, which account for a vast majority of the dialysis population in the U.S. Under the Vifor Agreement, we granted CSL Vifor an exclusive license to sell vadadustat to Fresenius Medical Care North America and its affiliates, including Fresenius Kidney Care Group LLC, to certain third-party dialysis organizations approved by us, to independent dialysis organizations that are members of group purchase organizations, and to certain non-retail specialty pharmacies in the U.S. We refer to Fresenius Medical Care North America and its affiliates, these organizations and specialty pharmacies collectively as the "Supply Group." See Note 8, *Deferred Revenue, Refund Liability and Liability Related to Sale of Future Royalties*, to our consolidated financial statements in Part II, Item 8. Financial Statements of this Form 10-K for additional information regarding the Vifor Agreement. If vadadustat is approved, and we are not able to maintain the Vifor Agreement or enter into a supply agreement with DaVita or other dialysis clinics, or if Vifor is not able to successfully contract with the Supply Group, our business may be materially harmed.

Similar to how payor coverage may affect the sales of a product, formulary status within dialysis organizations may affect what products are prescribed within that specific organization. Therefore, if a product is not on a formulary, the prescribers within that organization may be less likely to prescribe that product or may have a difficult time prescribing that product, resulting in less sales. Further, one dialysis organization's determination to add a product to their formulary does not assure that other dialysis organizations will also add the product to theirs. There is always a risk a dialysis organization will not contract with a drug manufacturer for a specific product, resulting in that product not being on that organization's formulary. If any dialysis organization does not add vadadustat, if approved, to the formulary, our business may be materially harmed.

In addition, we may be unable to sell Auryxia or vadadustat, if approved, to dialysis providers on a profitable basis if CMS significantly reduces the level of reimbursement for dialysis services and providers choose to use alternative therapies or look to re-negotiate their contracts with us. Our profitability may also be affected if our costs of production increase faster than increases in reimbursement levels. Adequate coverage and reimbursement of our products by government and private insurance plans are central to patient and provider acceptance of any products for which we receive marketing approval. Existing competitive products may enter into sole source agreements with dialysis providers that impact the ability for new product innovations and new competitors may face price pressure based on existing contracts with dialysis providers.

Further, in many countries outside the U.S., a drug must be approved for reimbursement before it can be marketed or sold in that country. In some cases, the prices that we intend to charge for our products are also subject to approval. Approval by the EMA or another regulatory authority does not ensure approval by reimbursement authorities in that jurisdiction, and approval by one reimbursement authority outside the U.S. does not ensure approval by any other reimbursement authorities. However, the failure to obtain reimbursement in one jurisdiction may negatively impact our ability to obtain reimbursement in another jurisdiction. In addition, we plan to rely on a partner to obtain approval by reimbursement authorities outside the U.S. Our partners may not be able to obtain such reimbursement approvals on a timely basis, if at all, and favorable pricing in certain countries depends on a number of factors, some of which are outside of our partners' control. In May 2023, we entered into the license agreement with Medice, pursuant to which we granted Medice an exclusive license to develop and commercialize vadadustat for the treatment of anemia in patients with chronic kidney disease in the Medice Territory. If Medice is not able to obtain favorable pricing in the Medice Territory, or if such approvals are delayed, it will affect Medice's sales of vadadustat in the Medice Territory, which could have an adverse effect on our results of operations.

We face substantial competition, which may result in others discovering, developing or commercializing products before, or more successfully than, we do.

The development and commercialization of new drugs is highly competitive and subject to rapid and significant technological change. Our future success depends on our ability to demonstrate and maintain a competitive advantage with respect to the development and commercialization of Auryxia, vadadustat, if approved, and any other product or product candidate, including those that may be in-licensed or acquired. Our objective is to continue to commercialize Auryxia and develop and commercialize new products with clinically proven efficacy, convenience, tolerability and/or safety. In many cases, any approved products that we commercialize will compete with existing, market-leading products. If existing or new competitors of Auryxia take market share from us, it could have an adverse impact on Auryxia revenue and our business.

Auryxia is competing in the hyperphosphatemia market in the U.S. with other FDA-approved phosphate binders such as Renagel® (sevelamer hydrochloride) and Renvela® (sevelamer carbonate), both marketed by Sanofi, PhosLo® and Phoslyra® (calcium acetate), marketed by Fresenius Medical Care North America, Fosrenol® (lanthanum carbonate), marketed by Shire Pharmaceuticals Group plc, and Velphoro® (sucroferric oxyhydroxide), marketed by Fresenius Medical Care North America, as well as over-the-counter calcium carbonate products such as TUMS® and metal-based options such as aluminum, lanthanum and magnesium. Most of the phosphate binders listed above are now also available in generic forms. In addition, other agents are in development, including OPKO Health Inc.'s Alpharen™ Tablets (fermagate tablets) and Unicycive's RENAZORB™ (lanthanum dioxycarbonate), or could otherwise enter the market that may impact the market for Auryxia. In October 2023, the FDA approved XPHOZAH® (tenapanor), a phosphate absorption inhibitor that is marketed by Ardelyx, Inc. and indicated to reduce serum phosphorus in adults with CKD on dialysis as add-on therapy in patients who have an inadequate response to phosphate binders or who are intolerant of any dose of phosphate binder therapy, which may impact the market for Auryxia.

Auryxia is competing in the IDA market in the U.S. with over-the-counter oral iron, ferrous sulfate, other prescription oral iron formulations, including ferrous gluconate, ferrous fumerate, and polysaccharide iron complex, and intravenous iron formulations, including Feraheme® (ferumoxytol injection), Venofer® (iron sucrose injection), Ferrlicit® (sodium ferric gluconate complex in sucrose injection), Injectafer® (ferric carboxymaltose injection), and Triferic® (ferric pyrophosphate citrate). In addition, other new therapies for the treatment of IDA may impact the market for Auryxia, such as Shield Therapeutics plc's Feraccru® (ferric maltol), which is available in Europe for the treatment of IDA and Accrufer® (ferric maltol), which was launched in the U.S. for the treatment of IDA in July 2021.

Furthermore, Auryxia's commercial opportunities may be reduced or eliminated if our competitors develop and market products that are less expensive, more effective, safer or offer greater patient convenience than Auryxia. Other companies have product candidates in various stages of preclinical or clinical development to treat diseases and complications of the diseases for which we are marketing Auryxia. In addition, we and our licensors, Panion & BF Biotech, Inc., or Panion, and, as applicable, Dr. Hsu, entered into settlement agreements with all but one of the third parties who submitted Paragraph IV certification notice letters regarding Abbreviated New Drug Applications, or ANDAs, submitted to the FDA, pursuant to which we granted licenses to market a generic version of Auryxia in the U.S. beginning in March 2025 (subject to FDA approval), or earlier under certain circumstances customary for settlement agreements of this nature. While we expect that the availability of generic versions of Auryxia will negatively impact our net product revenue for Auryxia and our results of operations, it is difficult to estimate the impact of generics on Auryxia net product revenue, and if the impact is greater than we currently anticipate, it may materially adversely impact our business and results of operations.

Drugs that may compete with vadadustat, if approved, include Epogen® (epoetin alfa) and Aranesp® (darbepoetin alfa), both commercialized by Amgen, Procrit® (epoetin alfa) and Eprex® (epoetin alfa), commercialized by Johnson & Johnson in the U.S. and Europe, respectively, and Mircera® (methoxy PEG-epoetin beta), commercialized by CSL Vifor in the U.S. and Roche Holding Ltd. outside of the U.S. and Evrenzo® (roxadustat) in Europe commercialized by Astellas Pharma Inc. Further, in February 2023 the FDA approved daprodustat, an oral hypoxia-inducible factor prolyl hydroxylase, or HIF-PH, inhibitor marketed as Jesduvroq by GlaxoSmithKline plc, or GSK, in the U.S., as a once-a-day treatment of anemia due to CKD in adult patients who have been receiving dialysis for at least four months.

We and our partners may also face competition from potential new anemia therapies. There are several other HIF-PH inhibitor product candidates in various stages of development for anemia indications that may be in direct competition with vadadustat if and when they are approved and launched commercially. These candidates are being developed by companies such as Japan Tobacco International, or JT, and Bayer HealthCare AG, or Bayer. For example, FibroGen filed an NDA for its product candidate, roxadustat, with the FDA, to which the FDA issued a complete response letter indicating the FDA will not approve the NDA in its present form and requested that an additional clinical trial for roxadustat be conducted prior to resubmission of the NDA or additional response to the FDA's complete response letter. In Europe however, roxadustat is approved for the treatment of anemia in patients with CKD. If we obtain approval for vadadustat in the U.S., and roxadustat is also approved by the FDA, then roxadustat will compete with vadadustat.

Furthermore, certain companies are developing potential new therapies for renal-related diseases that could potentially reduce injectable erythropoiesis stimulating agent, or ESA, utilization and thus limit the market potential for vadadustat if they are approved and launched commercially. Other new therapies are in development for the treatment of conditions inclusive of renal anemia that may impact the market for anemia-targeted treatment.

In Japan, vadadustat is sold under the name Vafseo, which is approved for patients with CKD, including both DD-CKD and NDD-CKD, and competes with roxadustat, daprodustat and enarodustat. Roxadustat is approved for the treatment of anemia due to CKD in patients on dialysis, or DD-CKD, and patients not on dialysis, or NDD-CKD. In addition, daprodustat, GSK's product candidate, and enarodustat, JT's product candidate, are approved in Japan for the treatment of anemia due to CKD, and molidustat, Bayer HealthCare AG's product, is approved in Japan for the treatment of renal anemia. In China, roxadustat is commercialized for the treatment of anemia due to CKD in DD-CKD patients and for the treatment of anemia due to CKD in NDD-CKD patients.

A biosimilar is a biologic product that is approved based on demonstrating that it is highly similar to an existing, FDA-approved branded biologic product. The patents for the existing, branded biologic product must expire in a given market before biosimilars may enter that market without the risk of being sued for patent infringement. In addition, an application for a biosimilar product can only be approved by the FDA 12 years after the existing, branded product was approved under a Biologics License Application, or BLA. The patents for epoetin alfa, an injectable ESA, expired in 2004 in the EU, and the remaining patents expired between 2012 and 2016 in the U.S. The introduction of biosimilars into the injectable ESA market in the U.S. will constitute additional competition for vadadustat if we are able to obtain approval for and commercially launch vadadustat. In the U.S., Pfizer's biosimilar version of injectable ESAs, Retacrit® (epoetin alfa-epbx), was approved by the FDA in May 2018 and launched in November 2018 and several biosimilar versions of injectable ESAs are available for sale in the EU.

Many of our potential competitors have significantly greater financial, manufacturing, marketing, drug development, technical and human resources than we do. Large pharmaceutical companies, in particular, have extensive experience in clinical testing, obtaining marketing approvals, recruiting patients and manufacturing pharmaceutical products. Large and established companies such as Amgen, Roche and GSK, among others, compete in the market for drug products to treat kidney disease. In particular, these companies have greater experience and expertise in conducting preclinical testing and clinical trials, obtaining marketing approvals, manufacturing such products on a broad scale and marketing approved products. These companies also have significantly greater research and marketing capabilities than we do and may also have products that have been approved or are in late stages of development and have collaborative arrangements in our target markets with leading companies and research institutions. Established pharmaceutical companies may also invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make the product candidates that we are developing obsolete. Smaller and other early-stage companies may also prove to be significant competitors. As a result of all of these factors, our competitors may succeed in obtaining patent protection and/or marketing approval, or discovering, developing and commercializing competitive products, before, or more effectively than, we do. If we are not able to compete effectively against potential competitors, our business will not grow and our financial condition and operations will suffer.

The commercialization of Riona and Vafseo in Japan, Vafseo in Europe and other territories where it is approved, and our current and potential future efforts with respect to the development and commercialization of our products and product candidates outside of the U.S. subject us to a variety of risks associated with international operations, which could materially adversely affect our business.

Our Japanese sublicensee, JT, and its subsidiary, Torii Pharmaceutical Co., Ltd., or Torii, commercialize Riona, the trade name for ferric citrate hydrate in Japan, as an oral treatment for the improvement of hyperphosphatemia in patients with CKD, including DD-CKD and NDD-CKD, and for the treatment of adult patients with IDA in Japan. In Japan and certain other countries in Asia, we granted MTPC exclusive rights to commercialize vadadustat, which has been approved and is being marketed by MTPC in Japan under the trade name Vafseo. We also granted Averoa SAS, or Averoa, an exclusive license to develop and commercialize ferric citrate in the EEA, Turkey, Switzerland and the UK.

In 2023, the marketing authorization for vadadustat was granted by the EMA, the United Kingdom Medicines and Healthcare Products Regulatory Agency, or the MHRA, the Swiss Agency for Therapeutic Products, or Swissmedic, and the Australian Therapeutic Goods Administration, or TGA. In May 2023, we entered into the license agreement with Medice, pursuant to which we granted Medice an exclusive license to develop and commercialize vadadustat for the treatment of anemia in patients with chronic kidney disease in the Medice Territory, and we transferred the marketing authorization issued by the EMA and Swissmedic to Medice. We will transfer the other marketing authorizations for the Medice Territory to Medice, if approved. In addition, we have conducted and in the future plan to conduct clinical trials outside of the U.S. for Auryxia, vadadustat and any other product or product candidate that may be in-licensed or acquired. As a result of these and other activities, we are or may become subject to additional risks in developing and commercializing Auryxia and vadadustat outside the U.S., including, among others:

- political, regulatory, compliance and economic developments, weakness or instability that could restrict our ability to manufacture, market and sell our products;
- changes in international medical reimbursement policies and programs;
- changes in healthcare policies of foreign jurisdictions;
- trade protection measures, including import or export licensing requirements and tariffs and our compliance therewith;
- our ability to develop or manage relationships with qualified local distributors and trading companies;
- diminished protection of intellectual property in some countries outside of the U.S.;
- differing labor regulations and business practices;
- compliance with laws, including the U.S. Foreign Corrupt Practices Act, or FCPA, the UK Bribery Act or similar local regulation, the EU General Data Protection Regulation, or GDPR, and similar data protection laws, and tax, employment, immigration and labor laws;
- economic weakness, including inflation, increasing interest rates, or political instability in particular foreign economies and markets;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism, global pandemics, or natural disasters including earthquakes, typhoons, floods and fires.

In addition, we receive revenues from royalty payments converted to U.S. dollars based on net sales of Riona and Vafseo in Japanese yen. The exchange rates between the Japanese yen on the one hand, and the U.S. dollar, on the other hand, have changed substantially in recent years and may fluctuate substantially in the future. Our results of operations could be adversely affected over time by certain movements in exchange rates, particularly if the Japanese yen depreciates against the U.S. dollar.

Any of these factors may, individually or as a group, have a material adverse effect on our business and results of operations. As and if we continue to expand our commercialization efforts, we may encounter new risks.

Risks Related to Product Development

Clinical drug development involves a lengthy and expensive process with an uncertain outcome, and we will incur additional costs in connection with, and may experience delays in completing, or ultimately be unable to complete, the development of vadadustat and any other product candidates.

The risk of failure in drug development is high. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete preclinical development and conduct extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Preclinical studies and clinical trials are expensive, difficult to design and implement, can take several years to complete, and their outcomes are inherently uncertain. Failure can occur at any time during the process.

We may be unable to successfully complete clinical trials of Auryxia, vadadustat and other product candidates or to successfully obtain approval of vadadustat or other product candidates, if the results of those trials and studies are not positive or are only modestly positive, or if there are concerns with the profile due to efficacy or safety. Further, the results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials, interim results of a clinical trial do not necessarily predict final results, and results of Phase 3 clinical trials for one indication may not be predictive of results of Phase 3 clinical trials for another indication. For example, we announced positive top-line results from INNO$_2$VATE and vadadustat achieved the primary and key secondary efficacy endpoint in each of the two PRO$_2$TECT studies, but the PRO$_2$TECT program did not meet the primary major adverse cardiovascular event, or MACE, safety endpoint. Many companies in the biopharmaceutical industry have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development, and we may face similar setbacks. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their product candidates. In addition, in March 2022, we received the CRL for vadadustat indicating that the FDA had determined that it could not approve the NDA in its present form, thus delaying any potential approval of vadadustat. In October 2022, we submitted the FDRR to the FDA. In May 2023, the OND denied our appeal but provided a path forward for us to resubmit the NDA for vadadustat for the treatment of anemia due to CKD for dialysis dependent patients without the need for us to generate additional clinical data. In September 2023, we filed our resubmission to our NDA, and in October 2023, the FDA acknowledged that the resubmission was complete and set a PDUFA date of March 27, 2024. However, it is impossible to predict when or if vadadustat or any of our other product candidates will prove effective or safe in humans or will receive marketing approval or on what terms. If we are unsuccessful in obtaining approval for vadadustat in the U.S., it would have an adverse effect on our results of operations.

Beyond seeking U.S. approval, we have several lifecycle management and indication expansion opportunities currently under evaluation for vadadustat, including the potential for alternative dosing and label expansion for the treatment of anemia due to CKD in adult patients not on dialysis. However, we may be required to complete additional clinical trials before seeking approval for these indications, which are time consuming and expensive, and even if vadadustat is approved as a treatment for anemia due to CKD for dialysis dependent patients, we may not be successfully in any of these areas in the timeframe anticipated by us, or at all.

We may experience numerous unforeseen events during, or as a result of, preclinical development or clinical trials that could delay, prevent or make more challenging our ability to receive or maintain marketing approval or commercialize our product candidates. We may be required to complete additional clinical trials for Auryxia, vadadustat and any other product or product candidate, including those that may be in-licensed or acquired, in order to obtain or maintain required regulatory approvals. Our preclinical studies and clinical trials may take longer to complete than currently anticipated, or may be delayed, suspended, required to be repeated, prematurely terminated or may not successfully demonstrate safety and/or efficacy needed to obtain or maintain regulatory approval for a variety of other reasons, such as:

- the costs may be greater than we anticipate;
- the number of patients required for clinical trials may be larger than we anticipate;
- enrollment in our clinical trials may be slower than we anticipate, or participants may drop out of these clinical trials at a higher rate than we anticipate;
- our third party contractors, such as our CROs, may fail to comply with regulatory requirements, perform effectively, or meet their contractual obligations to us in a timely manner, or at all, or we may fail to communicate effectively or provide the appropriate level of oversight of such third party contractors;
- the supply or quality of our starting materials, drug substance and drug product necessary to conduct clinical trials of our product candidates may be insufficient or inadequate;
- regulators, independent data monitoring committees, or IDMCs, institutional review boards, or IRBs, safety committees, or ethics committees, may require that we suspend or terminate our clinical trials for various reasons, including noncompliance with regulatory requirements, unforeseen safety issues or adverse side effects, failure to

demonstrate a benefit from using our product candidate, or a finding that the participants are being exposed to unacceptable health risks;

- clinical trials of our product candidates may produce negative or inconclusive results or results that may be interpreted in a manner different than we interpret them, and we may decide, or regulators may require us, to conduct additional clinical trials, repeat a clinical trial or abandon product development programs;
- lack of adequate funding to continue a clinical trial, including unforeseen costs due to enrollment delays, requirements to conduct additional clinical trials or repeat a clinical trial and increased expenses associated with the services of our CROs and other third parties;
- we may fail to initiate, delay of or failure to complete a clinical trial as a result of an Investigational New Drug application, or IND, being placed on clinical hold by the FDA, the EMA, the PMDA, or other regulatory authorities, or for other reasons, such as failure to recruit or enroll suitable patients or patients' failure to return for post-treatment follow up;
- we may determine to change or expand a clinical trial, including after it has begun;
- clinical trial sites and investigators deviating from the clinical protocol, failing to conduct the trial in accordance with regulatory requirements, or dropping out of a trial, or failure by us or our CROs to communicate effectively or provide the appropriate level of oversight of such clinical sites and investigators;
- there may be an inability, delay, or failure in identifying and maintaining a sufficient number of clinical trial sites, many of which may already be engaged in other clinical programs;
- there may be a delay or failure in reaching agreement with the FDA, the EMA, the PMDA or other regulatory authorities on a clinical trial design upon which we are able to execute;
- there may be a delay or failure in obtaining authorization to commence a clinical trial or inability to comply with conditions imposed by a regulatory authority regarding the scope or design of a clinical trial;
- there may be delays in reaching, or failure to reach, agreement on acceptable terms with prospective clinical trial sites and prospective CROs, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;
- the FDA, the EMA, the PMDA or other regulatory authorities may require us to submit additional data or impose further requirements before permitting us to initiate a clinical trial or during an ongoing clinical trial;
- the FDA, the EMA, the PMDA or other regulatory authorities may disagree with our clinical trial design and our interpretation of data from clinical trials, or may change the requirements for approval even after it has reviewed and commented on the design for our clinical trials;
- third parties with which we work may fail to comply with good practice quality guidelines and regulations, or GxP, including good laboratory practice, good clinical practice, or GCP, and current good manufacturing practice, or cGMP; or
- there may be changes in governmental regulations or administrative actions.

If any of the foregoing occurs, the following may occur:

- regulators may require that we conduct additional clinical trials, repeat clinical trials or conduct other studies beyond those that we currently contemplate;
- we may be delayed in obtaining marketing approval for vadadustat or other product candidates;
- we may not obtain marketing approval for vadadustat or other product candidates at all;
- we may obtain approval for indications or patient populations that are not as broad as intended or desired;
- we may obtain approval with labeling that includes significant use or distribution restrictions or safety warnings that would reduce the potential market for any approved product or inhibit our ability to successfully commercialize any approved product;
- a REMS or FDA-imposed risk management plan that use risk minimization strategies to ensure that the benefits of certain prescription drugs outweigh their risks, may be required;
- we may be subject to additional post-marketing restrictions and/or requirements; or
- the product may be removed from the market after obtaining marketing approval.

Our product development costs may also increase if we experience development delays or delays in receiving the requisite marketing approvals. Our preclinical studies or clinical trials may need to be restructured or may not be completed on schedule, or at all. Significant preclinical or clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize vadadustat, if approved, or any other product candidate, including those that may be in-licensed or acquired, or allow our competitors to bring products to market before we do. This could impair our ability to successfully commercialize our product candidates and may harm our business and results of operations.

We may find it difficult to enroll patients in our clinical trials, which could delay or prevent clinical trials of Auryxia, vadadustat or any other product or product candidate, including those that may be in-licensed or acquired.

Identifying and qualifying patients to participate in clinical trials is critical to our success. The timing of our clinical trials depends, in part, on the speed at which we can recruit patients to participate in our clinical trials. Patients may be unwilling to participate in our clinical trials because of concerns about investigational research studies, the time and commitment needed to participate in a study, adverse events observed with the product candidate under study, the current standard of care, competitor products and/or other investigational agents, in each case for the same indications and/or similar patient populations. In addition, in the case of clinical trials of any product candidate, patients currently receiving treatment with the current standard of care or a competitor product may be reluctant to participate in a clinical trial with an investigational drug. Additionally, it is often more difficult to enroll special or particular subpopulations of patients, such as pediatric or elderly patients, due to a number of factors including parental or other caregiver considerations, concerns and burdens. For example, we enrolled sites in a post-approval pediatric study for the Hypophosphatemia Indication of Auryxia in the second quarter of 2022, which began patient recruitment in the third quarter of 2022, but enrollment of eligible pediatric patients in study sites continues to be very slow despite efforts to do so.

Finally, competition for clinical trial sites may limit our access to patients appropriate for our clinical trials. As a result, the timeline for recruiting patients and conducting studies may be delayed. These delays could result in increased costs, delays in advancing our development of any product or product candidate, or termination of the clinical trial altogether.

We may not be able to identify, recruit and enroll a sufficient number of patients, or those with required or desired characteristics, to complete our clinical trials in a timely manner. Patient enrollment is affected by many factors, including:

- severity of the disease under investigation;
- design of the study protocol;
- size and nature of the patient population;
- eligibility criteria for, and design of, the study in question, including study complexity;
- perceived risks and benefits of the product or product candidate under study, including as a result of adverse effects observed in similar or competing therapies;
- proximity and availability of clinical trial sites for prospective patients;
- availability of competing therapies and clinical trials and clinicians’ and patients’ perceptions as to the potential advantages of the product or product candidate being studied in relation to available therapies or other product candidates in development;
- efforts to facilitate timely enrollment in clinical trials;
- participation length and demands on patients and caregivers;
- site staffing shortages and turnover;
- clinical trial sites and investigators failing to perform effectively; and
- patient referral practices of physicians.

We may not be able to initiate or complete clinical trials in a timely manner, or at all, if we cannot enroll a sufficient number of eligible patients to participate in the clinical trials required by regulatory agencies. If we have difficulty enrolling a sufficient number of patients to conduct our clinical trials as planned, we may need to delay, limit or terminate ongoing or planned clinical trials, any of which may delay approval, or result in failure to maintain or obtain approval, of our products or product candidates, which would have a material adverse effect on our business.

Further, if we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies governing clinical trials, our development plans may be impacted. For example, in December 2022, with the passage of Food and Drug Omnibus Reform Act, Congress required sponsors to develop and submit a diversity action plan for each phase 3 clinical trial or any other “pivotal study” of a new drug or biological product. These plans are meant to encourage the enrollment of more diverse patient populations in late-stage clinical trials of FDA-regulated products.

Conducting clinical trials outside of the U.S., as we have done historically and as we may decide to do in the future, presents additional risks and complexities and, if we decide to conduct a clinical trial outside of the U.S. in the future, we may not complete such trials successfully, in a timely manner, or at all, which could affect our ability to obtain regulatory approvals.

Our ability to successfully initiate, enroll and complete a clinical trial in any country outside of the U.S. is subject to numerous additional risks unique to conducting business in jurisdictions outside the U.S., including:

- difficulty in establishing or managing relationships with qualified CROs, physicians and clinical trial sites;
- difficulty in complying with different local standards for the conduct of clinical trials;
- difficulty in complying with various and complex import laws and regulations when shipping drug to certain countries; and
- the potential burden of complying with a variety of laws, medical standards and regulatory requirements, including the regulation of pharmaceutical and biotechnology products and treatments.

Data obtained from studies conducted in the U.S. may not be accepted by the EMA, the PMDA and other regulatory authorities outside of the U.S. Also, certain jurisdictions require data from studies conducted in their country in order to obtain approval in that country. Further, when a foreign clinical trial is not conducted under an IND, the sponsor must ensure that the study complies with certain regulatory requirements of the FDA in order to use the study as support for an IND or application for marketing approval. Specifically, the studies must be conducted in accordance with GCP, including undergoing review and receiving approval by an independent ethics committee, and seeking and receiving informed consent from subjects. Thus, to the extent that we rely on data from foreign clinical trials that are not the subject of an IND but are used to support of an NDA, there is a risk that FDA may not review such data in connection with its review of the NDA.

If we or our collaboration partners have difficulty conducting future clinical trials in jurisdictions outside the U.S. as planned, we may need to delay, limit or terminate such clinical trials, any of which could have an adverse effect on our business.

Auryxia, vadadustat or any other product or product candidate, including those that may be in-licensed or acquired, may cause undesirable side effects or have other properties that may delay or prevent marketing approval or limit their commercial potential.

Undesirable effects caused by, or other undesirable properties of, Auryxia, vadadustat or any other product or product candidate, including those that may be in-licensed or acquired, or competing commercial products or product candidates in development that utilize a common mechanism of action could cause us or regulatory authorities to interrupt, delay or halt clinical trials, could result in a more restrictive label or the delay, denial or withdrawal of marketing approval by the FDA or other regulatory authorities, and could lead to potential product liability claims. In addition, results of our clinical trials could reveal a high frequency of undesirable effects or unexpected characteristics. For example, in March 2022, we received the CRL from the FDA for our NDA for vadadustat in which the FDA concluded that the data in the NDA did not support a favorable benefit-risk assessment of vadadustat for dialysis and non-dialysis patients. The FDA expressed safety concerns noting failure to meet non-inferiority in MACE in the non-dialysis patient population, the increased risk of thromboembolic events, driven by vascular access thrombosis in dialysis patients, and the risk of drug-induced liver injury. In October 2022, we submitted the FDRR to the FDA and focused on the favorable balance between the benefits and risks of vadadustat for the treatment of anemia due to CKD in adult patients on dialysis in light of safety concerns expressed by the FDA in the CRL for dialysis patients related to the rate of adjudicated thromboembolic events driven by vascular access thrombosis for vadadustat compared to the active comparator and the risk of drug-induced liver injury. In May 2023, the OND denied our appeal but provided a path forward for us to resubmit the NDA for vadadustat for the treatment of anemia due to CKD for dialysis dependent patients without the need for us to generate additional clinical data. In September 2023, we filed our resubmission to our NDA, and in October 2023, the FDA acknowledged that the resubmission was complete and set a PDUFA date of March 27, 2024. There can be no assurances that we will be successful in our NDA resubmission. If we are unable to overcome these concerns, vadadustat may not be approved by the FDA on favorable terms, or at all, and our financial condition could be materially harmed.

If we or others identify undesirable effects caused by, or other undesirable properties of, Auryxia, vadadustat, or any other product or product candidate, including those that may be in-licensed or acquired, or if known undesirable effects are more frequent or severe than in the past, or if any of the foregoing are perceived to have occurred, either before or after receipt of marketing approval, a number of potentially significant negative consequences could result, including:

- our product candidates may not be approved by regulatory authorities;
- our clinical trials may be put on hold;
- patient recruitment could be slowed, and enrolled patients may not want to complete the clinical trial;
- regulatory authorities may require warnings on the label, such as the warning on Auryxia's label regarding iron overload;
- REMS or FDA-imposed risk management plans that use restrictive risk minimization strategies may be required;
- we may decide to, or be required to, send drug warnings or safety alerts to physicians, pharmacists and hospitals (or the FDA or other regulatory authorities may choose to issue such alerts), or we may decide to conduct a product recall or be requested to do so by the FDA or other regulatory authority;

- reformulation of the product, additional non-clinical or clinical trials, restrictive changes in labeling or changes to or re-approvals of manufacturing facilities may be required;
- we may be precluded from pursuing additional development opportunities to enhance the clinical profile of a product within its indicated populations, or studying the product or product candidate in additional indications and populations or in new formulations; and
- we could be investigated by the government or sued and held liable for harm caused to patients, including in class action lawsuits; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining, whether on a restricted basis or at all, marketing approval and, ultimately, market acceptance or penetration of Auryxia, vadadustat or any other product or product candidate, including those that may be in-licensed or acquired. In addition, any of these events could substantially increase our costs, and could significantly impact our ability to successfully commercialize Auryxia, vadadustat or any other product and product candidate, including those that may be in-licensed or acquired, and generate product revenue.

The patient populations treated with Auryxia and potential patient populations for vadadustat, if approved, have CKD, a serious disease that increases the risk of cardiovascular disease including heart attacks and stroke and, in its most severe form, results in, kidney failure and the need for dialysis or kidney transplant. Many patients with CKD are elderly with comorbidities making them susceptible to significant health risks. Therefore, the likelihood of these patients having adverse events, including serious adverse events is high.

With respect to the global INNO$_2$VATE Phase 3 program, the incidence of treatment emergent adverse events, or TEAEs, during the *Correction and Conversion* study in vadadustat treated patients was 83.8% and 85.5% in darbepoetin alfa treated patients. During the study, the most common TEAEs reported in vadadustat/darbepoetin alfa treated patients were hypertension (16.2%/ 12.9%) and diarrhea (10.1%/ 9.7%). Serious TEAEs were lower in vadadustat treated patients at 49.7% compared to 56.5% for darbepoetin alfa treated patients. The incidence of TEAEs during the prevalent dialysis patient study (*Conversion*) in the vadadustat treated patients was 88.3%, and 89.3% in darbepoetin alfa treated patients. During the study, the most common TEAEs reported in vadadustat/darbepoetin alfa treated patients were diarrhea (13.0%/ 10.1%), pneumonia (11.0%/ 9.7%), hypertension (10.6%/ 13.8%), and hyperkalemia (9.0%/ 10.8%). Serious TEAEs were slightly lower for vadadustat treated patients at 55.0% and 58.3% for darbepoetin alfa-treated patients. Patients with DD-CKD experienced an increased risk of thromboembolic events compared to darbepoetin alfa with a time to first event HR of 1.20 (95% CI 0.96 - 1.50) driven by thrombosis of vascular access.

With respect to the global PRO$_2$TECT Phase 3 program, the incidence of TEAEs during the erythropoiesis stimulating agent, or ESA, untreated patients study (Correction) in the vadadustat-treated patients was 90.9%, and 91.6% in darbepoetin alfa-treated patients. During the study, the most common TEAEs reported in vadadustat/darbepoetin alfa-treated patients were end-stage renal disease (34.7%/ 35.2%), hypertension (17.7%/ 22.1.%), hyperkalemia (12.3.%/ 15.6%), urinary tract infection (12.9%/ 12.0%), diarrhea (13.9%/ 10.0%), peripheral oedema (12.5%/ 10.5%), fall (9.6%/ 10%) and nausea (10%/ 8.2%). Serious TEAEs were 65.3% for vadadustat-treated patients and 64.5% for darbepoetin alfa-treated patients. The incidence of TEAEs during the ESA-treated patients study (Conversion) in vadadustat treated patients was 89.1% and 87.7% in darbepoetin alfa-treated patients. During the study, the most common TEAEs reported in vadadustat/darbepoetin alfa-treated patients were end-stage renal disease (27.5%/ 28.4%), hypertension (14.4%/ 14.8%), urinary tract infection (12.2%/ 14.5%), diarrhea (13.8.%/ 8.8.%), peripheral oedema (9.9%/ 10.1%) and pneumonia (10.0%/ 9.7%). Serious TEAEs were 58.5% for vadadustat-treated patients and 56.6% for darbepoetin alfa-treated patients.

For example, during the conduct of our Phase 3 program our team and hepatic experts analyzed hepatic cases (unblinded to treatment) and, following the completion of our global Phase 3 clinical program for vadadustat, there was a review of hepatic safety across the vadadustat clinical program, which included eight completed Phase 2 and 3 studies in NDD-CKD patients, 10 completed Phase 1, 2, and 3 studies, and two then-ongoing Phase 3b studies in DD-CKD patients, and 18 completed studies in healthy subjects (17 Phase 1 and one Phase 3). This review consisted of a blinded re-assessment of hepatic events conducted by a separate panel of hepatic experts. While hepatocellular injury attributed to vadadustat was reported in less than 1% of patients, there was one case of severe hepatocellular injury with jaundice, and we cannot guarantee that similar events will not happen in the future. Additionally, the FDA expressed safety concerns related to the risk of drug-induced liver injury in the CRL that it issued in March 2022.

Serious adverse events considered related to vadadustat, including those noted in the CRL, and any other product candidates could have material adverse consequences on the development and potential approval of vadadustat or our other product candidates and our business as a whole. Our understanding of adverse events in prior clinical trials of our product candidates may change as we gather more information, the FDA may not agree with our assessment of adverse events and additional unexpected adverse events may be observed in future clinical trials or in the market.

Any of the above safety data or other occurrences could delay or prevent us from achieving or maintaining marketing approval, harm or prevent sales of Auryxia or, if approved, vadadustat or any other product or product candidate, including those that may be in-licensed or acquired, increase our expenses and impair or prevent our ability to successfully commercialize Auryxia, vadadustat or any other products or product candidates.

In addition, any post-marketing clinical trials conducted, if successful, may expand the patient populations treated with Auryxia, vadadustat or any other product we acquire or for which we receive marketing approval, within or outside of their current indications or patient populations, which could result in the identification of previously unknown undesirable effects, increased frequency or severity of known undesirable effects, or result in the identification of unexpected safety signals. In addition, as vadadustat, if approved, and any other products are commercialized, they will be used in significantly larger patient populations, in less rigorously controlled environments and, in some cases, by less experienced and less expert treating practitioners, than in clinical trials, which could result in increased or more serious adverse effects being reported. As a result, regulatory authorities, healthcare practitioners, third party payors or patients may perceive or conclude that the use of Auryxia, vadadustat, if approved, or any other products are associated with serious adverse effects, undermining our commercialization efforts.

Risks Related to Regulatory Approval

We may not be able to obtain marketing approval for vadadustat or any other product candidate, or we may experience significant delays in doing so, any of which would materially harm our business.

Clinical trials, manufacturing and marketing of any product or product candidate are subject to extensive and rigorous review and regulation by numerous governmental authorities in the U.S. and other jurisdictions. Before obtaining marketing approval for the commercial sale of any product candidate, we must demonstrate through extensive preclinical testing and clinical trials that the product candidate is safe and effective for use in each target indication. This process can take many years and marketing approval may never be achieved. Of the large number of drugs in development in the U.S. and in other jurisdictions, only a small percentage successfully complete the FDA's and other jurisdictions' marketing approval processes and are commercialized. Accordingly, even if we are able to obtain the requisite capital to continue to fund our development efforts, we may be unable to successfully obtain regulatory approval for vadadustat or any other product or product candidate, including those that may be in-licensed or acquired.

We are not permitted to market vadadustat in the U.S. unless and until we receive approval from the FDA or in any other jurisdiction until the requisite approval from regulatory authorities in such jurisdiction is received. As a condition to receiving marketing approval for vadadustat, we may be required by the FDA or other regulatory authorities to conduct additional preclinical studies or clinical trials.

In March 2022, we received the CRL from the FDA regarding our NDA for vadadustat for the treatment of anemia due to CKD. The FDA concluded that the data in the NDA did not support a favorable benefit-risk assessment of vadadustat for dialysis and non-dialysis patients. In October 2022, we submitted the FDRR to the FDA and focused on the favorable balance between the benefits and risks of vadadustat for the treatment of anemia due to CKD in adult patients on dialysis in light of safety concerns expressed by the FDA in the CRL for dialysis patients related to the rate of adjudicated thromboembolic events driven by vascular access thrombosis for vadadustat compared to the active comparator and the risk of drug-induced liver injury. In May 2023, the OND denied our appeal but provided a path forward for us to resubmit the NDA for vadadustat for the treatment of anemia due to CKD for dialysis dependent patients without the need for us to generate additional clinical data. In September 2023, we filed our resubmission to our NDA, and in October 2023, the FDA acknowledged that the resubmission was complete and set a PDUFA date of March 27, 2024. There can be no assurances that we will obtain approval for vadadustat in a timely manner, on favorable terms, or at all. As a result, the regulatory approval process for vadadustat in the U.S. is highly uncertain. Even if we are able to obtain approval, it will only be for patients with DD-CKD and, in any event, the expense and time to do so could adversely impact our ability to successfully commercialize vadadustat, and our financial condition could be materially harmed.

Further, vadadustat and any other product candidate may not receive marketing approval in the U.S. even if it is approved in other countries. For example, although vadadustat is approved in Japan for the treatment of anemia due to CKD in DD-CKD and NDD-CKD adult patients and in Europe for the treatment of anemia due to CKD in DD-CKD patients, such approval does not guarantee approval in the U.S. by the FDA for these indications or at all. In addition, while each regulatory authority makes their own assessment as to the safety and efficacy of a drug, FDA's concern about the safety or efficacy of vadadustat or any other product candidate could impact the regulatory authority's decision in another country.

Obtaining marketing approval in the U.S. and other jurisdictions for any product candidate depends upon numerous factors, many of which are subject to the substantial discretion of the regulatory authorities, including that regulatory agencies may not complete their review processes in a timely manner and, following completion of the review process, may not grant marketing approval or such marketing approval may be limited. Furthermore, approval of a drug does not ensure successful commercialization. For example, on September 23, 2015, the European Commission, or EC, approved Fexeric for the control of hyperphosphatemia in adult patients with CKD. Pursuant to the sunset clause under EU law, the EC's approval of Fexeric in the EU was contingent on, among other things, our commencing marketing of Fexeric within three years; although we successfully negotiated an extension to December 23, 2019, we did not commence marketing Fexeric by such date and therefore the Fexeric approval in the EU has ceased to be valid.

In addition, the safety concerns associated with the current standard of care for the indications for which we are seeking marketing approval for vadadustat may affect the FDA's or other regulatory authorities' review of the safety results of vadadustat. Additionally, these regulatory authorities may not agree with our assessment of adverse events. Further, the policies or regulations, or the type and amount of clinical data necessary to gain approval, may change during the course of a product candidate's clinical development and may vary among jurisdictions. It is possible that vadadustat will never obtain marketing approval in the U.S. or certain other jurisdictions or for some or all of the indications for which we seek approval.

For example, changes in or the enactment of additional statutes, promulgation of regulations or issuance of guidance during preclinical or clinical development, or comparable changes in the regulatory review process for each submitted product application, may cause delays in the approval or rejection of an application. For example, in December 2022, with the passage of Food and Drug Omnibus Reform Act, Congress required sponsors to develop and submit a diversity action plan for each Phase 3 clinical trial or any other "pivotal study" of a new drug or biological product. Further, on January 31, 2022, the new Clinical Trials Regulation (EU) No 536/2014 became applicable in the EU and replaced the prior Clinical Trials Directive 2001/20/EC. The new regulation aims at simplifying and streamlining the authorization, conduct and transparency of clinical trials in the EU. Under the new coordinated procedure for the approval of clinical trials, the sponsor of a clinical trial to be conducted in more than one EU Member State will only be required to submit a single application for approval. The submission will be made through the Clinical Trials Information System, a new clinical trials portal overseen by the EMA and available to clinical trial sponsors, competent authorities of the EU Member States and the public. We have not previously secured authorization to conduct clinical studies in the EU pursuant to this new regulation and, accordingly, there is a risk that we may be delayed in commencing such studies.

The FDA or other regulatory authorities may delay, limit or deny approval of vadadustat for many reasons including, among others:

- we may not be able to demonstrate that vadadustat is safe and effective in treating adult patients with anemia due to CKD to the satisfaction of the relevant regulatory authority;
- the results of our clinical trials may only be modestly positive, or there may be concerns with the profile due to efficacy or safety;
- the results of our clinical trials may not meet the level of statistical or clinical significance required by the relevant regulatory authority for review and/or marketing approval;
- the relevant regulatory authority may disagree with our interpretation of data from our preclinical studies and clinical trials;
- the relevant regulatory authority may disagree with the number, design, size, conduct or implementation of our clinical trials;
- the relevant regulatory authority may not approve the formulation, labeling or specifications we request for vadadustat;
- the relevant regulatory authority may approve vadadustat or any other product candidate for use only in a small patient population or for fewer or more limited indications than we request;
- the relevant regulatory authority may require that we conduct additional clinical trials or repeat one or more clinical trials;
- the FDA or other relevant regulatory authority may require development of a REMS as a condition of approval or post-approval;
- the relevant regulatory authority may grant approval contingent on the performance of costly post-marketing clinical trials;
- the relevant regulatory authority's onsite inspections may be delayed due to the recent COVID-19 pandemic or otherwise;
- we, or our CROs or other vendors, may fail to comply with GxP or fail to pass any regulatory inspections or audits;
- we or our third party manufacturers may fail to perform in accordance with the FDA's or other relevant regulatory authority's cGMP requirements and guidance;
- the FDA may disagree with inclusion of data obtained from certain regions outside the U.S. to support the NDA for potential reasons such as differences in clinical practice from U.S. standards;

- the relevant regulatory authority could deem that our financial relationships with certain principal investigators constitute a conflict of interest, such that the data from those principal investigators may not be used to support our applications;
- as part of any future regulatory process, the FDA may ask an Advisory Committee to review portions of the NDA, the FDA may have difficulty scheduling an Advisory Committee meeting in a timely manner or, if convened, an FDA Advisory Committee could recommend non-approval, conditions of approval or restrictions on approval, and the FDA may ultimately agree with the recommendations;
- the relevant regulatory authority's review process and decision-making regarding vadadustat and any other product candidate may be impacted by the results of our and our competitors' clinical trials and safety concerns of marketed products used to treat the same indications as the indications for which vadadustat and any other product candidate are being developed;
- the relevant regulatory authority may not approve the manufacturing processes or facilities of third party manufacturers with whom we contract; or
- the policies or regulations of the relevant regulatory authority may significantly change in a manner that renders our clinical data insufficient for approval or requires us to amend or submit new clinical protocols.

If we experience further delays in obtaining approval of, or if we fail to obtain approval of vadadustat for some or all of the indications for which we have sought approval, the commercial prospects for vadadustat may be harmed and our ability to generate revenues will be materially impaired, which could have a material adverse effect on our business. For example, our resubmission to our NDA for vadadustat in September 2023 focused on the favorable balance between the benefits and risks of vadadustat for the treatment of anemia due to CKD in adult patients on dialysis.

Finally, our ability to develop and market new drug products may be impacted by ongoing litigation challenging the FDA's approval of mifepristone. Specifically, on April 7, 2023, the U.S. District Court for the Northern District of Texas stayed the approval by the FDA of mifepristone, a drug product which was originally approved in 2000 and whose distribution is governed by various conditions adopted under a REMS. In reaching that decision, the district court made a number of findings that may negatively impact the development, approval and distribution of drug products in the U.S. Among other determinations, the district court held that plaintiffs were likely to prevail in their claim that FDA had acted arbitrarily and capriciously in approving mifepristone without sufficiently considering evidence bearing on whether the drug was safe to use under the conditions identified in its labeling. Further, the district court read the standing requirements governing litigation in federal court as permitting a plaintiff to bring a lawsuit against the FDA in connection with its decision to approve an NDA or establish requirements under a REMS based on a showing that the plaintiff or its members would be harmed to the extent that FDA's drug approval decision effectively compelled the plaintiffs to provide care for patients suffering adverse events caused by a given drug.

On April 12, 2023, the district court decision was stayed, in part, by the U.S. Court of Appeals for the Fifth Circuit. Thereafter, on April 21, 2023, the U.S. Supreme Court entered a stay of the district court's decision, in its entirety, pending disposition of the appeal of the district court decision in the Court of Appeals for the Fifth Circuit and the disposition of any petition for a writ of certiorari to the Supreme Court. The Court of Appeals for the Fifth Circuit held oral argument in the case on May 17, 2023 and, on August 16, 2023, issued its decision. The court declined to order the removal of mifepristone from the market, finding that a challenge to the FDA's initial approval in 2000 is barred by the statute of limitations. But the court did hold that plaintiffs were likely to prevail in their claim that changes allowing for expanded access of mifepristone that FDA authorized in 2016 and 2021 were arbitrary and capricious. On September 8, 2023, the Justice Department and a manufacturer of mifepristone filed petitions for a writ of certiorari, requesting that the U.S. Supreme Court review the court's decision. On December 13, 2023, the U.S. Supreme Court granted these petitions for writ of certiorari for the appeals court.

Products approved for marketing are subject to extensive post-marketing regulatory requirements and could be subject to post-marketing restrictions or withdrawal from the market, and we may be subject to penalties, including withdrawal of marketing approval, if we fail to comply with regulatory requirements or if we experience unanticipated problems with our products, or product candidates, when and if any of them is approved.

Marketing approvals may be subject to limitations on the approved indicated uses for which the product may be marketed or other conditions of approval, or contain requirements or commitments for potentially costly post-marketing studies and surveillance to monitor the safety and efficacy of the product, including REMS, or registries or observational studies. For example, in connection with the FDA approvals of Auryxia, we initially committed to the FDA to conduct certain post-approval pediatric studies of Auryxia under the Pediatric Research Equity Act of 2003, or PREA. Under PREA, an NDA or supplement to an NDA for certain drug products must contain data to assess the safety and effectiveness of the drug product in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective, unless the sponsor receives a deferral or waiver from the FDA. A deferral may be granted for several reasons, including a finding that the product or therapeutic candidate is ready for approval for use in adults before pediatric trials are complete or that additional safety or effectiveness data needs to be collected before the pediatric trials begin. With regard to the Hyperphosphatemia Indication for Auryxia, we initially committed to completing the original post-approval pediatric study and submitting a final report to the FDA by December 31, 2019. However, we did not complete the study according to the original schedule and therefore did not submit the required final report by December 31, 2019. Consequently, we received a notification of noncompliance with PREA. We have since been released from the original post marketing requirement, or PMR, and a new PMR was issued that provided that the final report is due in April 2024. Therefore, this PMR trial is no longer considered delayed and is open and actively enrolling patients. In June 2023 we requested an extension of time for the submission of the final report and such request was denied by the FDA in August 2023. Therefore, the final report for this PMR trial is still due in April 2024, and we are unlikely to complete the trial by that time. With regard to our IDA Indication, we initially committed to completing the post-approval pediatric study and submitting a final report to the FDA by January 2023. We did not meet a milestone relating to this post-approval pediatric study of Auryxia in a timely manner and received a notification from the FDA. Subsequently, the FDA agreed to extend the pediatric clinical trial timelines for the IDA Indication. We subsequently communicated to the FDA that we would be delaying the start of the clinical trial in the IDA Indication while we work to produce smaller size tablets. In response, the FDA issued a partial clinical hold until we manufacture the smaller tablets and provide the FDA with relevant information regarding the smaller sized tablets for review. The FDA lifted the partial clinical hold in June 2022, however, we have not commenced start-up of this study pending resolution of the manufacturing of the smaller size tablets. If we are unable to complete these studies successfully by the applicable deadline, or have further delays in completing these studies, we will need to inform the FDA, have further discussions and, if the FDA finds that we failed to comply with pediatric study requirements, in violation of applicable law, it could institute enforcement proceedings to seize or enjoin the sale of Auryxia or seek civil penalties, which would have a material adverse impact on our ability to commercialize Auryxia and our ability to generate revenues from Auryxia.

In addition, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for Auryxia, vadadustat, if approved, and any other product for which we receive regulatory approval will be subject to extensive and ongoing regulatory requirements and guidance. These requirements and guidance include manufacturing processes and procedures (including record keeping), the implementation and operation of quality systems to control and assure the quality of the product, submissions of safety and other post-marketing information and reports, as well as continued compliance with cGMPs and GCPs for any clinical trials that we conduct post-approval. If we, our contract manufacturing organizations, or CMOs, or other third parties we engage fail to adhere to such regulatory requirements and guidance, we could suffer significant consequences, including product seizures or recalls, loss of product approval, fines and sanctions, reputational damage, loss of customer confidence, shipment delays, inventory shortages, inventory write-offs and other product-related charges and increased manufacturing costs, and our development or commercialization efforts may be materially harmed.

Post-approval discovery of previously unknown problems with an approved product, including adverse events of unanticipated severity or frequency or relating to manufacturing operations or processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing, distribution, use or manufacturing of the product;
- withdrawal of the product from the market, or product recalls;
- restrictions on the labeling or marketing of a product;
- fines, restitution or disgorgement of profits or revenues;
- warning or untitled letters or clinical holds;
- refusal by the FDA or other regulatory authorities to approve pending applications or supplements to approved applications filed by us, or suspension or revocation of product approvals;
- product seizure or detention, or refusal to permit the import or export of products;
- REMS; and
- injunctions or the imposition of civil or criminal penalties.

For example, we previously had three limited, voluntary recalls of Auryxia. These and any other recalls or any supply, quality or manufacturing issues in the future could result in significant negative consequences, including reputational harm, loss of customer confidence, and a negative impact on our financials, any of which could have a material adverse effect on our business and results of operations, and may impact our ability to supply Auryxia in Japan, Vafseo in Japan and Europe or vadadustat, if approved in other countries, for commercial and clinical use.

Non-compliance with the FDA, the EMA, the PMDA and other regulatory authorities' requirements regarding safety monitoring or pharmacovigilance can also result in significant financial penalties.

The FDA's policies and those of other regulatory authorities may change, and additional government regulations may be enacted. We cannot predict the likelihood, nature or extent of government regulations that may arise from future legislation or administrative action, either in the U.S. or in other jurisdictions. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would materially adversely affect our business.

Risks Related to Governmental Regulation and Compliance

We are subject to complex regulatory schemes that require significant resources to ensure compliance and our failure to comply with applicable laws could subject us to government scrutiny or enforcement, potentially resulting in costly investigations, fines, penalties or sanctions, contractual damages, reputational harm, administrative burdens and diminished profits and future earnings.

In general, a variety of laws apply to us or may otherwise restrict our activities, including the following:

- laws and regulations governing the conduct of preclinical studies and clinical trials in the U.S. and other countries in which we are conducting such studies;
- anti-corruption and anti-bribery laws, including the FCPA, the UK Bribery Act and various other anti-corruption laws in countries outside of the U.S.;
- data privacy laws existing in the U.S., the EU, the UK and other countries in which we operate, including the U.S. Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, state privacy and data protection laws, such as the California Consumer Privacy Act, or CCPA, as amended by the California Privacy Rights Act of 2020, or CPRA, as well as other state consumer protection laws, GDPR, any additional applicable EU member state, or EU Member State, data protection laws in force from time to time, the retained EU law version of the General Data Protection Regulation as saved into United Kingdom law by virtue of section 3 of the United Kingdom's European Union (Withdrawal) Act 2018, or the EU GDPR;
- federal and state laws requiring the submission of accurate product prices and notifications of price increases;
- federal and state securities laws;
- environmental, health and safety laws and regulations; and
- international trade laws, which are laws that regulate the sale, purchase, import, export, re-export, transfer and shipment of goods, products, materials, services and technology.

In addition, our relationships with healthcare providers, physicians and third party payors expose us to broadly applicable fraud and abuse laws that may constrain the business or financial arrangements and relationships through which we market, sell and distribute Auryxia and vadadustat, if approved, and any other products for which we may obtain marketing approval. As such, these arrangements are subject to applicable anti-kickback, fraud and abuse, false claims, transparency, health information privacy and security, and other healthcare laws and regulations at federal, state and international levels. These restrictions include, but are not limited to, the following:

- the Food, Drug and Cosmetic Act of 1938, as amended, or FDCA, which among other things, strictly regulates drug product marketing and promotion and prohibits manufacturers from marketing such products for off-label use;
- federal laws that require pharmaceutical manufacturers to report certain calculated product prices to the government or provide certain discounts or rebates to government authorities or private entities, often as a condition of reimbursement under government healthcare programs, and laws requiring notification of price increases;
- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation or arranging of, any good or service, for which payment may be made under a federal healthcare program such as Medicare and Medicaid;
- the federal False Claims Act, which imposes criminal and civil penalties, including through civil whistleblower or qui tam actions, against individuals or entities for, among other things, knowingly presenting, or causing to be presented, false or fraudulent claims for payment by a federal healthcare program or making a false statement or record material to payment of a false claim or avoiding, decreasing or concealing an obligation to pay money to the federal government, with potential liability including mandatory treble damages and significant per-claim penalties, and violations of the FDCA, the federal government pricing laws, and the federal Anti-Kickback Statute trigger liability under the federal False Claims Act;
- HIPAA, which imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- HIPAA, as amended by the HITECH, and their respective implementing regulations, also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal Open Payments Act (the former Physician Payments Sunshine Act) requires applicable manufacturers of covered drugs to report payments and other transfers of value to physicians, other healthcare providers and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members;
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws and gift ban and transparency statutes, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by state Medicaid or other programs, or non-governmental third party payors, including private insurers, and which are not preempted by federal laws and often differ from state to state, thus complicating compliance efforts; and
- U.S. state laws restricting interactions with healthcare providers and other members of the healthcare community or requiring pharmaceutical manufacturers to implement certain compliance standards, which vary from state to state.

Because of the breadth of these U.S. laws, and their non-U.S. equivalents, and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws. In addition, recent healthcare reforms have strengthened these laws. For example, the Health Care Reform Act, among other things, amended the intent requirement of the federal Anti-Kickback Statute. A person or entity no longer needs to have actual knowledge of the statute or specific intent to violate the law. The Health Care Reform Act also amended the False Claims Act, such that violations of the Anti-Kickback Statute are now deemed violations of the False Claims Act.

Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines, such as the Pharmaceutical Research and Manufacturers of America Code on Interactions with Health Care Professionals, known as the PhRMA Code. Additionally, some state and local laws require the registration and specific training of pharmaceutical sales representatives in the jurisdiction. State and foreign laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA.

Efforts to ensure that our business complies with applicable healthcare laws and regulations involves substantial costs and requires us to expend significant resources. One of the potential areas for governmental scrutiny involves federal and state requirements for pharmaceutical manufacturers to submit accurate price reports to the government. Because our processes for calculating applicable government prices and the judgments involved in making these calculations involve subjective decisions and complex methodologies, these calculations are subject to risk of errors and differing interpretations. In addition, they are subject to review and challenge by the applicable governmental agencies, or potential qui tam complaints, and it is possible that such reviews could result in changes, recalculations, or defense costs that may have adverse legal or financial consequences. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion of products from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations, any of which could materially adversely affect our business and would result in increased costs and diversion of management attention and could negatively impact the development, regulatory approval and commercialization of Auryxia or vadadustat, any of which could have a material adverse effect on our business. Further, if any of the physicians or other healthcare providers or entities with whom we expect to do business is found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from participation in government funded healthcare programs.

We will incur significant liability if it is determined that we are promoting any "off-label" use of Auryxia or any other product we may develop, in-license or acquire or if it is determined that any of our activities violates the federal Anti-Kickback Statute.

Physicians are permitted to prescribe drug products for uses that differ from those approved by the FDA or other applicable regulatory agencies. Although the FDA and other regulatory agencies do not regulate a physician's choice of treatments, the FDA and other regulatory agencies do restrict manufacturer communications regarding unapproved uses of an approved drug. Companies are not permitted to promote drugs for unapproved uses or in a manner that is inconsistent with the FDA-approved labeling. There are also restrictions about making comparative or superiority claims based on safety or efficacy that are not supported by substantial evidence. Accordingly, we may not promote Auryxia in the U.S. for use in any indications other than the Hyperphosphatemia Indication and the IDA Indication, and all promotional claims must be consistent with the FDA-approved labeling for Auryxia.

Promoting a drug off-label is a violation of the FDCA and can give rise to liability under the federal False Claims Act, as well as under additional federal and state laws and insurance statutes. The FDA, the Department of Justice and other regulatory and enforcement authorities enforce laws and regulations prohibiting promotion of off-label uses and the promotion of products for which marketing approval has not been obtained, as well as the false advertising or misleading promotion of drugs. In September 2021, the FDA published final regulations which describe the types of evidence that the agency will consider in determining the intended use of a drug product. In addition, laws and regulations govern the distribution and tracing of prescription drugs and prescription drug samples, including the Prescription Drug Marketing Act of 1976 and the Drug Supply Chain Security Act, which regulate the distribution and tracing of prescription drugs and prescription drug samples at the federal level and set minimum standards for the regulation of drug distributors by the states. A company that is found to have improperly promoted off-label uses or to have otherwise engaged in false or misleading promotion or improper distribution of drugs will be subject to significant liability, potentially including civil and administrative remedies as well as criminal sanctions. It may also be subject to exclusion and debarment from federal healthcare reimbursement programs.

Notwithstanding the regulatory restrictions on off-label promotion, the FDA and other regulatory authorities allow companies to engage in truthful, non-misleading, and non-promotional scientific communications concerning their products in certain circumstances. For example, in October 2023, the FDA published draft guidance outlining the agency's non-binding policies governing the distribution of scientific information on unapproved uses to healthcare providers. This draft guidance calls for such communications to be truthful, non-misleading, factual, and unbiased and include all information necessary for healthcare providers to interpret the strengths and weaknesses and validity and utility of the information about the unapproved use. In addition, under some relatively recent guidance from the FDA and the Pre-Approval Information Exchange Act, or PIE Act, signed into law as part of the Consolidated Appropriations Act of 2023, or the Consolidated Appropriations Act, companies may also promote information that is consistent with the prescribing information and proactively speak to formulary committee members of payors regarding data for an unapproved drug or unapproved uses of an approved drug. We intend to engage in these discussions and communicate with healthcare providers, payors and other constituencies in compliance with all applicable laws, regulatory guidance and industry best practices. Although we believe we have put in place a robust compliance program and processes designed to ensure that all such activities are performed in a legal and compliant manner, such program and processes may not be sufficient to deter or detect all violations, and we will need to carefully navigate the FDA's various regulations, guidance and policies, along with recently enacted legislation, to ensure compliance with restrictions governing promotion of our products.

In addition, if a company's activities are determined to have violated the federal Anti-Kickback Statute, this can also give rise to liability under the federal False Claims Act and such violations can result in significant fines, criminal and civil remedies, and exclusion from Medicare and Medicaid. There is increased government focus on relationships between the pharmaceutical industry and physicians, pharmacies (especially specialty pharmacies), and other sources of referrals. Common industry activities, such as speaker programs, insurance assistance and support, relationships with foundations providing copayment assistance, and relationships with patient organizations and patients are receiving increased governmental attention. If any of our relationships or activities is determined to violate applicable federal and state anti-kickback laws, false claims laws, or other laws or regulations, the company and/or company executives, employees, and other representatives could be subject to significant fines and criminal sanctions, imprisonment, and potential exclusion from Medicare and Medicaid, and could harm our reputation or result in significant legal expenses and distraction of management.

Disruptions in the FDA, regulatory authorities outside the U.S. and other government agencies caused by global health concerns or funding shortages could prevent new products and services from being developed or commercialized in a timely manner, which could negatively impact our business.

The ability of the FDA and regulatory authorities outside the U.S. to review and approve new products can be affected by a variety of factors, including global health concerns, government budget and funding levels, staffing shortages, statutory, regulatory, and policy changes and other events that may otherwise affect the FDA's or other regulatory authorities' ability to perform routine functions. Average review times at the FDA have fluctuated in recent years as a result of certain of these factors. In addition, government funding of other government agencies that fund R&D activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies may increase the time necessary for new drugs to be reviewed or approved by necessary government agencies, which would adversely affect our business. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our, or our collaboration partners', regulatory submissions, which could have a material adverse effect on our business.

If a prolonged government shutdown occurs, or if global health concerns prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

Compliance with privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and process data globally, and the failure to comply with such requirements could subject us to significant fines and penalties, which may have a material adverse effect on our business, financial condition or results of operations.

The regulatory framework for the collection, use, safeguarding, sharing, transfer and other processing of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. Globally, virtually every jurisdiction in which we operate has established its own data security and privacy frameworks with which we must comply. For example, the collection, use, disclosure, transfer, or other processing of personal data regarding individuals in the EU, including personal health data, is subject to the GDPR, which took effect across all member states of the EEA, in May 2018. Following the withdrawal of the UK from the EU, the UK Data Protection Act 2018 applies to the processing of personal data that takes place in the UK and includes parallel obligations to those set forth by GDPR. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data when required, including requirements relating to processing health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, when required, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, and taking certain measures when engaging third party processors. The GDPR increases our obligations as a sponsor in clinical trials in the EEA by expanding the definition of personal data to include coded data and requiring changes to informed consent practices and more detailed notices for clinical trial patients and investigators. The GDPR also permits data protection authorities to require destruction of improperly gathered or used personal information and/or impose substantial fines for violations of the GDPR, which can be up to four percent of the total worldwide annual turnover of a group of companies from the preceding financial year or 20 million Euros, whichever is greater, and it also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR provides that EU Member States may make their own further laws and regulations limiting the processing of personal data, including genetic, biometric or health data and permits EU Member States to adopt further penalties for violations that are not subject to the administrative fines outlined in the GDPR.

The GDPR also imposes strict rules on the transfer of personal data to countries outside the EU, including the U.S. and, as a result, increases the scrutiny that we should apply to transfers of personal data from such sites to countries that are considered to lack an adequate level of data protection, such as the U.S. There is ongoing uncertainty about the transfer mechanisms that companies rely upon to enable the legal transfer of personal data from the EU to other countries. For example, in July 2020, the Court of Justice of the European Union, or the CJEU, invalidated the EU-U.S. Privacy Shield, one of the mechanisms used to legitimize the transfer of personal data from the EEA to the U.S. Although a new Data Privacy Framework has been adopted, as court decisions and regulatory guidance evolves, challenges remain with respect to GDPR compliance. Companies must continue to monitor the regulatory landscape and implement necessary changes, all of which may be costly and may put the company out of compliance while any changes are being implemented.

Following the withdrawal of the UK from the EU, the UK Data Protection Act 2018 applies to the processing of personal data that takes place in the UK and includes parallel obligations to those set forth by GDPR. In relation to data transfers, both the UK and the EU have determined, through separate “adequacy” decisions, that data transfers between the two jurisdictions are in compliance with the UK Data Protection Act and the GDPR, respectively. The UK and the U.S. have also agreed to a U.S.-UK “Data Bridge”, which functions similarly to the EU-U.S. Data Privacy Framework and provides an additional legal mechanism for companies to transfer data from the UK to the U.S. In addition to the UK, Switzerland has approved an adequacy decision in relation to the Swiss-U.S. Data Privacy Framework (which would function similarly to the EU-U.S. Data Privacy Framework and the U.S.-UK Data Bridge in relation to data transfers from Switzerland to the U.S.). Any changes or updates to these developments have the potential to impact our business.

Additionally, in October 2022, President Biden signed an executive order to implement the EU-U.S. Data Privacy Framework, which serves as a replacement to the EU-U.S. Privacy Shield. The EU initiated the process to adopt an adequacy decision for the EU-U.S. Data Privacy Framework in December 2022, and the EC adopted the adequacy decision on July 10, 2023. The adequacy decision permits U.S. companies who self-certify to the EU-U.S. Data Privacy Framework to rely on it as a valid data transfer mechanism for data transfers from the EU to the U.S. However, some privacy advocacy groups have already challenged or suggested that they will be challenging the EU-U.S. Data Privacy Framework. If these challenges are successful, they may not only impact the EU-U.S. Data Privacy Framework, but also further limit the viability of the standard contractual clauses and other data transfer mechanisms. The uncertainty around this issue has the potential to impact our business internationally.

Given the breadth and depth of changes in data protection obligations, complying with the GDPR’s requirements is rigorous and time intensive and requires significant resources and a review of our technologies, systems and practices, as well as those of any third party collaborators, service providers, contractors or consultants that process or transfer personal data collected in the EU. The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information from our clinical trials, could require us to change our business practices and put in place additional compliance mechanisms, may interrupt or delay our development, regulatory and commercialization activities and increase our cost of doing business, and could lead to government enforcement actions, private litigation and significant fines and penalties against us and could have a material adverse effect on our business, financial condition or results of operations.

Similar privacy and data security requirements are either in place or underway in the U.S. There are a broad variety of data protection laws that may be applicable to our activities, and a range of enforcement agencies at both the state and federal levels that can review companies for privacy and data security concerns. The Federal Trade Commission, or the FTC, and state Attorneys General all are aggressive in reviewing privacy and data security protections for consumers. For example, the FTC has been particularly focused on the unpermitted processing of health and genetic data through its recent enforcement actions and is expanding the types of privacy violations that it interprets to be “unfair” under Section 5 of the Federal Trade Commission Act, as well as the types of activities it views to trigger the Health Breach Notification Rule (which the FTC also has the authority to enforce). The agency is also in the process of developing rules related to commercial surveillance and data security that may impact our business. We will need to account for the FTC’s evolving rules and guidance for proper privacy and data security practices in order to mitigate our risk for a potential enforcement action, which may be costly. If we are subject to a potential FTC enforcement action, we may be subject to a settlement order that requires us to adhere to very specific privacy and data security practices, which may impact our business. We may also be required to pay fines as part of a settlement (depending on the nature of the alleged violations). If we violate any consent order that we reach with the FTC, we may be subject to additional fines and compliance requirements.

New laws also are being considered at both the state and federal levels. For example, the CCPA, which went into effect on January 1, 2020, and the CPRA, which amends CCPA by expanding the scope and applicability, while also introducing new privacy protections, is creating similar risks and obligations as those created by GDPR. In November 2020, California voters passed a ballot initiative for the CPRA, which went into effect on January 1, 2023 and significantly expanded the CCPA to incorporate additional GDPR-like provisions including requiring that the use, retention and sharing of personal information of California residents be reasonably necessary and proportionate to the purposes of collection or processing, granting additional protections for sensitive personal information, and requiring greater disclosures related to notice to residents regarding retention of information. The CPRA also creates a new agency that is specifically responsible for enforcing the new law and other California privacy laws. Because of this, we may need to engage in additional activities (e.g., data mapping) to identify the personal information we are collecting and the purposes for which such information is collected. In addition, we will need to ensure that our policies recognize the rights granted to consumers (as that phrase is broadly defined in the CCPA and can include business contact information).

In addition to California, at least eleven other states have passed comprehensive privacy laws similar to the CCPA and CPRA. These laws are either in effect or will go into effect sometime before the end of 2026. Like the CCPA and CPRA, these laws create obligations related to the processing of personal information, as well as special obligations for the processing of “sensitive” data (which includes health data in some cases). Some of the provisions of these laws may apply to our business activities. There are also states that are strongly considering or have already passed comprehensive privacy laws during the 2023 legislative sessions that will go into effect in 2025 and beyond, including New Hampshire and New Jersey. Other states will be considering these laws in the future, and Congress has also been debating passing a federal privacy law. There are also states that are specifically regulating health information that may affect our business. For example, Washington state passed a health privacy law in 2023 that will regulate the collection and sharing of health information, and the law also has a private right of action, which further increases the relevant compliance risk. Connecticut and Nevada have also passed similar laws regulating consumer health data and additional states (including Vermont) are considering such legislation for 2024. These laws may impact our business activities, including our identification of research subjects, relationships with business partners and ultimately the marketing and distribution of our products.

A broad range of legislative measures also have been introduced at the federal level. Accordingly, failure to comply with current and any future federal and state laws regarding privacy and security of personal information could expose us to fines and penalties. We also face a threat of potential consumer class actions related to these laws and the overall protection of personal data. Even if we are not determined to have violated these laws, investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our reputation and our business.

Legislative and regulatory healthcare reform may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and affect the prices we may obtain for any products that are approved in the U.S. or foreign jurisdictions.

In the U.S. and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of vadadustat, or any other product candidate, restrict or regulate post-approval activities and affect our ability to profitably sell Auryxia and vadadustat, if approved. The pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by legislative initiatives. Current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and additional downward pressure on the price that we receive for any FDA approved product, such as Auryxia or vadadustat, if approved, or any reimbursement that physicians receive for administering any approved product.

In the U.S. the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for physician-administered drugs. In addition, this legislation provided authority for limiting the number of drugs that will be covered in any therapeutic class. Cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for Auryxia and any other approved products. While the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the MMA may result in a similar reduction in payments from private payors.

In March 2010, President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or, collectively, the ACA. In addition, other legislative and regulatory changes have been proposed and adopted since the ACA was enacted. These changes include the Budget Control Act of 2011, which, among other things, led to aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, which will remain in effect through 2031.

Under current legislation, the actual reductions in Medicare payments may vary up to 4%. The Consolidated Appropriations Act, which was signed into law by President Biden in December 2022, made several changes to sequestration of the Medicare program. Section 1001 of the Consolidated Appropriations Act delays the 4% Statutory Pay-As-You-Go Act of 2010 (PAYGO) sequester for two years, through the end of calendar year 2024. Triggered by enactment of the American Rescue Plan Act of 2021, the 4% cut to the Medicare program would have taken effect in January 2023. The Consolidated Appropriations Act's health care offset title includes Section 4163, which extends the 2% Budget Control Act of 2011 Medicare sequester for six months into fiscal year 2032 and lowers the payment reduction percentages in fiscal years 2030 and 2031.

The American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several types of providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. In addition, other legislative and regulatory changes have been proposed, but not yet adopted. For example, in July 2019, the U.S. Department of Health and Human Services, or HHS, proposed regulatory changes in kidney health policy and reimbursement. Any new legislative or regulatory changes may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for Auryxia or vadadustat, if approved, or the frequency with which Auryxia and vadadustat, if approved, is prescribed or used.

The costs and prices of prescription pharmaceuticals have also been the subject of considerable discussion in the U.S. To date, there have been several recent U.S. congressional inquiries and proposed and enacted state and federal legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the costs of drugs under Medicare and reform government program reimbursement methodologies for drug products. At the federal level, Congress and the current administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs.

For example, the former administration issued several executive orders intended to lower the costs of prescription products and certain provisions in these orders have been incorporated into regulations. These regulations include an interim final rule implementing a most favored nation model for prices that would tie Medicare Part B payments for certain physician-administered pharmaceuticals to the lowest price paid in other economically advanced countries, effective January 1, 2021. That rule, however, has been subject to a nationwide preliminary injunction and, on December 29, 2021, CMS issued a final rule to rescind it. With issuance of this rule, CMS stated that it will explore all options to incorporate value into payments for Medicare Part B pharmaceuticals and improve beneficiaries' access to evidence-based care.

In addition, in October 2020, the HHS and the FDA published a final rule allowing states and other entities to develop a Section 804 Importation Program to import certain prescription drugs from Canada into the U.S. That regulation was challenged in a lawsuit by the Pharmaceutical Research and Manufacturers of America, or PhRMA, but the case was dismissed by a federal district court in February 2023 after the court found that PhRMA did not have standing to sue HHS. Nine states (Colorado, Florida, Maine, New Hampshire, New Mexico, North Dakota, Texas, Vermont and Wisconsin) have passed laws allowing for the importation of drugs from Canada. Certain of these states have submitted Section 804 Importation Program proposals and are awaiting FDA approval. On January 5, 2023, the FDA approved Florida's plan for Canadian drug importation.

Further, on July 9, 2021, President Biden signed Executive Order 14063, which focuses on, among other things, the price of pharmaceuticals. The Order directs HHS to create a plan within 45 days to combat "excessive pricing of prescription pharmaceuticals and enhance domestic pharmaceutical supply chains, to reduce the prices paid by the federal government for such pharmaceuticals, and to address the recurrent problem of price gouging." On September 9, 2021, HHS released its plan to reduce pharmaceutical prices. The key features of that plan are to: (a) make pharmaceutical prices more affordable and equitable for all consumers and throughout the health care system by supporting pharmaceutical price negotiations with manufacturers; (b) improve and promote competition throughout the prescription pharmaceutical industry by supporting market changes that strengthen supply chains, promote biosimilars and generic drugs, and increase transparency; and (c) foster scientific innovation to promote better healthcare and improve health by supporting public and private research and making sure that market incentives promote discovery of valuable and accessible new treatments.

On August 16, 2022, the Inflation Reduction Act of 2022, or IRA, was signed into law by President Biden. The new legislation has implications for Medicare Part D, which is a program available to individuals who are entitled to Medicare Part A or enrolled in Medicare Part B to give them the option of paying a monthly premium for outpatient prescription drug coverage. Among other things, the IRA imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation (first due in 2023); and replaces the Part D coverage gap discount program with a new discounting program (beginning in 2025). The IRA permits the Secretary of HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. We consider many factors when we implement a price increase for a product, including historical and potential future inflation rates. However, there are many variables that are outside of our control and if we increase the price of Auryxia or vadadustat, if approved, faster than the pace of inflation, we would be subject to additional rebates under Medicare, which could have a material adverse effect on our product revenues.

As an oral drug, Auryxia is covered by Medicare under Part D. In January 2011, CMS implemented the ESRD PPS, a prospective payment system for dialysis treatment. Under the ESRD PPS, CMS generally makes a single bundled payment to the dialysis facility for each dialysis treatment that covers all items and services routinely required for dialysis treatments furnished to Medicare beneficiaries in Medicare-certified ESRD facilities or at their home. The inclusion of oral medications without injectable or intravenous equivalents such as Auryxia in the bundled payment was initially delayed by CMS until January 1, 2014, and through several subsequent legislative actions has been delayed until January 1, 2025.

Absent further legislation or regulation on this matter, beginning in January 2025, oral ESRD-related drugs without injectable or intravenous equivalents, including Auryxia and all other phosphate lowering medications, will be included in the ESRD bundle and separate Medicare payment for these drugs will no longer be available, as is the case today under Medicare Part D. ESRD facilities may nonetheless receive a TDAPA for new renal dialysis drugs and biological products that meet certain criteria for a period of two years. The TDAPA will provide separate payment based on the drug's ASP that will be in addition to the base rate in order to facilitate the adoption of innovative therapies. There can be no assurances that CMS will determine that Auryxia will qualify for TDAPA status or that CMS will not again delay the inclusion of these oral ESRD-related drugs in the bundled payment. Even if Auryxia is deemed eligible by CMS, revenue for sales of Auryxia could be significantly less in the TDAPA period than it would be if Auryxia is not bundled into the ESRD PPS. Moreover, in the post-TDAPA period, CMS currently expects to increase the single bundled payment base rate paid to the dialysis facility for each dialysis treatment to reflect that oral only phosphate lowering drugs will be reimbursed as part of the single bundled payment for Medicare patients. There can be no assurances that any increase in the single bundled payment base rate will be sufficient to adequately reimburse the dialysis facilities for Auryxia at a price that is profitable for us.

Specifically, with respect to price negotiations, Congress authorized Medicare to negotiate lower prices for certain costly single-source drug and biologic products that do not have competing generics or biosimilars and are reimbursed under Medicare Part B and Part D. CMS may negotiate prices for ten high-cost drugs paid for by Medicare Part D starting in 2026, followed by 15 Part D drugs in 2027, 15 Part B or Part D drugs in 2028, and 20 Part B or Part D drugs in 2029 and beyond. This provision applies to drug products that have been approved for at least 9 years and biologics that have been licensed for 13 years, but it does not apply to drugs and biologics that have been approved for a single rare disease or condition. Further, the legislation subjects drug manufacturers to civil monetary penalties and a potential excise tax for failing to comply with the legislation by offering a price that is not equal to or less than the negotiated “maximum fair price” under the law or for taking price increases that exceed inflation. The legislation also requires manufacturers to pay rebates for drugs in Medicare Part D whose price increases exceed inflation. The new law also caps Medicare out-of-pocket drug costs at an estimated $4,000 a year in 2024 and, thereafter beginning in 2025, at $2,000 a year.

On June 6, 2023, Merck & Co. Inc., or Merck, filed a lawsuit against HHS and CMS asserting that, among other things, the IRA’s Drug Price Negotiation Program for Medicare constitutes an uncompensated taking in violation of the Fifth Amendment of the Constitution. Subsequently, a number of other parties, including the U.S. Chamber of Commerce, the Chamber, Bristol Myers Squibb Company, the PhRMA, Astellas, Novo Nordisk, Janssen Pharmaceuticals, Novartis, AstraZeneca and Boehringer Ingelheim, also filed lawsuits in various courts with similar constitutional claims against HHS and CMS. We expect that litigation involving these and other provisions of the IRA will continue, with unpredictable and uncertain results. Accordingly, while it is currently unclear how the IRA will be effectuated, we cannot predict with certainty what impact any federal or state health reforms will have on us, but such changes could impose new or more stringent regulatory requirements on our activities or result in reduced reimbursement for our products, any of which could adversely affect our business, results of operations and financial condition.

At the state level, individual states are increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access, marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. A number of states, for example, require drug manufacturers and other entities in the drug supply chain, including health carriers, pharmacy benefit managers, wholesale distributors, to disclose information about pricing of pharmaceuticals. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. These measures could reduce the ultimate demand for our products or put pressure on our product pricing.

It is likely that federal and state legislatures within the U.S. and foreign governments will continue to consider changes to existing healthcare legislation. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for Auryxia and any product candidates for which we receive marketing approval or additional pricing pressures. We cannot predict the reform initiatives that may be adopted in the future or whether initiatives that have been adopted will be repealed or modified. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare may adversely affect:

- the demand for Auryxia and any products candidates for which we receive marketing approval;
- our ability to set a price that we believe is fair for our products;
- our ability to obtain and maintain coverage and reimbursement approval for Auryxia or any other approved product;
- our ability to generate revenues and achieve or maintain profitability; and
- the level of taxes that we are required to pay.

In addition, in some countries, including EU Member States, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take a significant amount of time after receipt of marketing approval for a product. In addition, there can be considerable pressure by governments and other stakeholders on prices and reimbursement levels, including as part of cost containment measures. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various EU Member States and parallel distribution, or arbitrage between low-priced and high-priced EU Member States, can further reduce prices, and in certain instances render commercialization in certain markets infeasible or disadvantageous from a financial perspective. In some countries, we or our collaborators may be required to conduct a clinical trial or other studies that compare the cost-effectiveness of our product and/or our product candidates to other available products in order to obtain or maintain reimbursement or pricing approval. Publication of discounts by third party payors or government authorities may lead to further pressure on the prices or reimbursement levels. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, the commercial launch of our product and/or product candidates could be delayed, possibly for lengthy periods of time, we or our collaborators may not launch at all in a particular country, we may not be able to recoup our investment in one or more product candidates, and there could be a material adverse effect on our business.

Our reporting and payment obligations under the Medicaid Drug Rebate Program and other governmental drug pricing programs are complex and may involve subjective decisions. Any failure to properly comply with those obligations could subject us to penalties and sanctions.

As a condition of reimbursement by various federal and state health insurance programs, we are required to calculate and report certain pricing information to federal and state agencies. The regulations governing the calculations, price reporting and payment obligations are complex and subject to interpretation by various government and regulatory agencies, as well as the courts. Reasonable assumptions have been made where there is lack of regulations or clear guidance and such assumptions involve subjective decisions and estimates. We are required to report any revisions to our calculation, price reporting and payment obligations previously reported or paid. Such revisions could affect our liability to federal and state payors and also adversely impact our reported financial results of operations in the period of such restatement. Further, a number of states have either implemented or are considering implementation of drug price transparency legislation that may prevent or limit our ability to take price increases at certain rates or frequencies. Requirements under such laws include advance notice of planned price increases, reporting price increase amounts and factors considered in taking such increases, wholesale acquisition cost information disclosure to prescribers, purchasers, and state agencies, and new product notice and reporting. Such legislation could limit the price or payment for certain drugs, and a number of states are authorized to impose civil monetary penalties or pursue other enforcement mechanisms against manufacturers for the untimely, inaccurate, or incomplete reporting of drug pricing information or for otherwise failing to comply with drug price transparency requirements. If we are found to have violated state law requirements, we may become subject to significant penalties or other enforcement mechanisms, which could have a material adverse effect on our business.

Uncertainty exists as new laws, regulations, judicial decisions, or new interpretations of existing laws, or regulations related to our calculations, price reporting or payments obligations increases the chances of a legal challenge, restatement or investigation. If we become subject to investigations, restatements, or other inquiries concerning our compliance with price reporting laws and regulations, we could be required to pay or be subject to additional reimbursements, penalties, sanctions or fines, which could have a material adverse effect on our business, financial condition and results of operations. In addition, it is possible that future healthcare reform measures could be adopted, which could result in changes to how we calculate or report certain pricing information to federal and state agencies, or increased pressure on pricing and reimbursement of our products and thus have an adverse impact on our financial position or business operations.

Further, state Medicaid programs may be slow to invoice pharmaceutical companies for calculated rebates resulting in a lag between the time a sale is recorded and the time the rebate is paid. This results in us having to carry a liability on our consolidated balance sheets for the estimate of rebate claims expected for Medicaid patients. If actual claims are higher than current estimates, our financial position and results of operations could be adversely affected.

In addition to retroactive rebates and the potential for 340B Program refunds, if we are found to have knowingly submitted any false price information related to the Medicaid Drug Rebate Program to CMS, we may be liable for civil monetary penalties. Such failure could also be grounds for CMS to terminate our Medicaid drug rebate agreement, pursuant to which we participate in the Medicaid program. In the event that CMS terminates our rebate agreement, federal payments may not be available under government programs, including Medicaid or Medicare Part B, for our covered outpatient drugs.

Additionally, if we overcharge the government in connection with the Federal Supply Schedule pricing program or Tricare Retail Pharmacy Program, whether due to a misstated Federal Ceiling Price or otherwise, we are required to refund the difference to the government. Failure to make necessary disclosures and/or to identify contract overcharges can result in allegations against us under the FDCA and other laws and regulations. Unexpected refunds to the government, and responding to a government investigation or enforcement action, would be expensive and time-consuming, and could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Our collaborators are also subject to similar requirements outside of the U.S. and thus the attendant risks and uncertainties. If our collaborators suffer material and adverse effects from such risks and uncertainties, our rights and benefits for our licensed products could be negatively impacted, which could have a material and adverse impact on our revenues.

With the passage of the CREATES Act, we are exposed to possible litigation and damages by competitors who may claim that we are not providing sufficient quantities of our approved products on commercially reasonable, market-based terms for testing in support of their abbreviated new drug applications, or ANDAs, 505(b)(2) NDAs and biosimilar product applications.

In December 2019, former President Trump signed legislation intended to facilitate the development of generic and biosimilar products. The bill, previously known as the CREATES Act, authorizes sponsors of ANDAs, 505(b)(2) NDAs or biosimilar product applications to file lawsuits against companies holding NDAs or BLAs that decline to provide sufficient quantities of an approved reference drug or biological product on commercially reasonable, market-based terms. Drug or biological products on FDA's drug shortage list are exempt from these new provisions unless the product has been on the list for more than six continuous months or the FDA determines that the supply of the product will help alleviate or prevent a shortage.

To bring an action under the statute, the developer of a product candidate that seeks to develop the product and seek approval under an ANDA, 505(b)(2) NDA, or biosimilar product application must take certain steps to request the reference product from the reference product manufacturer, which, in the case of products covered by a REMS with elements to assure safe use, include obtaining authorization from the FDA for the acquisition of the reference product. If the reference product manufacturer does not provide the reference product and the ANDA, 505(b)(2) NDA, or biosimilar product sponsor does bring an action for failure to provide a reference product, there are certain affirmative defenses available to the reference product manufacturer, which must be shown by a preponderance of evidence, including that the NDA or BLA holder sells the reference product through agents, distributors, or wholesalers and has placed no restrictions, explicit or implicit, on selling the reference product to ANDA, 505(b)(2) or biosimilar sponsors. If the sponsor prevails in litigation, it is entitled to a court order directing the reference product manufacturer to provide, without delay, sufficient quantities of the applicable product on commercially reasonable, market-based terms, plus reasonable attorney fees and costs.

Additionally, the new statutory provisions authorize a federal court to award the product developer an amount "sufficient to deter" the reference product manufacturer from refusing to provide sufficient product quantities on commercially reasonable, market-based terms, up to a certain maximum amount based on revenue earned while in noncompliance, if the court finds, by a preponderance of the evidence, that the reference product manufacturer did not have a legitimate business justification to delay providing the product or failed to comply with the court's order. For the purposes of the statute, the term “commercially reasonable, market-based terms” is defined as (1) the nondiscriminatory price at or below the most recent wholesale acquisition cost for the product, (2) a delivery schedule that meets the statutorily defined timetable, and (3) no additional conditions on the sale.

Although we intend to comply fully with the terms of these statutory provisions, we are still exposed to potential litigation and damages by competitors who may claim that we are not providing sufficient quantities of our approved products on commercially reasonable, market-based terms for testing in support of ANDAs, 505(b)(2) NDA applications or biosimilar product applications. Such litigation would subject us to additional litigation costs, damages and reputational harm, which could lead to lower revenues. The CREATES Act may facilitate future competition with Auryxia and any of our product candidates, if approved, which could impact our ability to maximize product revenue.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could harm our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the use and disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from the use of hazardous materials by our employees, contractors or consultants, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties for failure to comply with such laws and regulations.

Although we maintain workers’ compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Risks Related to our Reliance on Third Parties

We depend on collaborations with third parties for the development and commercialization of Auryxia, Riona, Vafseo and vadadustat and if these collaborations are not successful or if our collaborators terminate their agreements with us, we may not be able to capitalize on the market potential of Auryxia, Riona, Vafseo and vadadustat, and our business could be materially harmed.

We sublicensed the rights to commercialize Riona to JT and Torii in Japan. We also entered into a collaboration agreement with MTPC to develop and commercialize vadadustat in Japan and certain other Asian countries. In addition, we entered into the Vifor Agreement pursuant to which we granted CSL Vifor an exclusive license to sell vadadustat to the Supply Group in the U.S. We also granted to Averoa an exclusive license to develop and commercialize ferric citrate in the EEA, Turkey, Switzerland and the United Kingdom. Furthermore, in May 2023, we entered into a license agreement with Medice, pursuant to which we granted Medice an exclusive license to develop and commercialize vadadustat for the treatment of anemia in patients with chronic kidney disease in the Medice Territory. We may form or seek other strategic alliances, joint ventures, or collaborations, or enter into additional licensing arrangements with third parties that we believe will complement or augment our and our partners' commercialization efforts with respect to Auryxia, Riona, Vafseo and our partners' development and, if approved, commercialization efforts with respect to vadadustat and any other product candidates. We may not be able to maintain our collaborations for development and commercialization. For example, on May 13, 2022, Otsuka Pharmaceutical Co. Ltd., or Otsuka, elected to terminate our collaboration agreements with them, and we subsequently negotiated a Termination and Settlement Agreement with Otsuka. This termination by Otsuka may have delayed the launch of vadadustat in Europe or other territories previously licensed to Otsuka or adversely affect how we are perceived in scientific and financial communities. For example, in August 2023, Medice informed us that their launch of Vafseo in certain countries in the Medice Territory was going to be later than previously anticipated due to the activities required to enable the launch. If we are unable to maintain our collaborations, we may not be able to capitalize on the market potential of our products or product candidates, and our business could be materially harmed.

In addition, our current and any future collaborations may not be successful due to a number of important factors, including the following:

- collaborators may have significant discretion in determining the efforts and resources that they will apply to these collaborations;

- collaborations may be terminated in accordance with the terms of the collaboration agreements and, if terminated, may make it difficult for us to attract new collaborators or adversely affect how we are perceived in scientific and financial communities, and may result in a need for additional capital and expansion of our internal capabilities to pursue further development or commercialization of the applicable products and product candidates;
- if permitted by the terms of the collaboration agreements, collaborators may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in their strategic focus, availability of funding or other external factors such as a business combination that diverts resources or creates competing priorities;
- if permitted by the terms of the collaboration agreements, collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial, abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- a collaborator with marketing and distribution rights to our products may not commit sufficient resources to their marketing and distribution;
- if permitted by the terms of the collaboration agreements, we and our collaborator may have a difference of opinion regarding the development or commercialization strategy for a particular product or product candidate, and our collaborator may have ultimate decision making authority;
- disputes may arise between a collaborator and us that cause the delay or termination of activities related to research, development, supply or commercialization of Auryxia, Riona, Vafseo or vadadustat and any other product candidate, or that result in costly litigation or arbitration that diverts management attention and resources;
- collaborations may not lead to development or commercialization of products and product candidates, if approved, in the most efficient manner or at all;
- inefficiencies or structural changes in internal operations or processes of our collaborators may lead to increased expenses associated with commercializing a product, including manufacturing costs, rebates, returns and other adjustments which would negatively impact net product revenue;
- a significant change in the senior management team, a change in the financial condition or a change in the business operations, including a change in control or internal corporate restructuring, of any of our collaborators, could result in delayed timelines, re-prioritization of our programs, decreasing resources or funding allocated to support our programs, or termination of the collaborations; and
- collaborators may not comply with all applicable regulatory and legal requirements.

If any of these events occur, the market potential of Auryxia, Riona, Vafseo or vadadustat, if and where approved, and any other products or product candidates, could be reduced, and our business could be materially harmed. Collaborations may also divert resources, including the attention of management and other employees, from other parts of our business, which could have an adverse effect on other parts of our business, and we cannot be certain that the benefits of the collaboration will outweigh the potential risks.

We may seek to establish additional collaborations and, if we are not able to establish them on commercially reasonable terms, or at all, we may have to alter our development and commercialization plans.

We may decide to enter into additional collaborations for the development and commercialization of Auryxia or our product candidates, including vadadustat, both within and outside of the U.S. For example, in May 2023, we entered into the license agreement with Medice, pursuant to which we granted Medice an exclusive license to develop and commercialize vadadustat for the treatment of anemia in patients with chronic kidney disease in the Medice Territory. Any of these relationships may require us to incur non-recurring and other charges, increase our near and long-term expenditures, issue securities that dilute our existing stockholders, divert management’s attention, or disrupt our business.

We may not be successful in entering into additional collaborations as a result of many factors, including the following:

- competition in seeking appropriate collaborators;
- a reduced number of potential collaborators due to recent business combinations in the pharmaceutical industry;
- an inability to negotiate collaborations on acceptable terms, on a timely basis or at all;
- any international rules, regulations, guidance, laws, risks or uncertainties with respect to potential partners outside of the U.S.;
- a potential collaborator’s evaluation of Auryxia, vadadustat or any other product or product candidate may differ substantially from ours;
- a potential collaborator’s evaluation of our financial stability and resources;
- a potential collaborator’s resources and expertise; and

- restrictions due to an existing collaboration agreement.

If we are unable to enter into additional collaborations in a timely manner, or at all, we may have to delay or curtail the commercialization of Auryxia or the development and potential commercialization of any of our product candidates, including vadadustat, if approved, reduce or delay our development programs, or increase our expenditures and undertake additional development or commercialization activities at our own expense. For example, following the termination of our collaboration agreements with Otsuka in 2022, we incurred additional expenses in connection with the development of vadadustat in Europe and other countries. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop or commercialize Auryxia or our other product candidates, including vadadustat, if approved.

Even if we enter into additional collaboration agreements and strategic partnerships or license our intellectual property, we may not be able to maintain them or they may be unsuccessful, which could delay our timelines or otherwise adversely affect our business.

Royalties from commercial sales of vadadustat under our MTPC Agreement will likely fluctuate and will impact our rights to receive future payments under our Royalty Agreement with HCR.

Pursuant to the Royalty Agreement with HCR, we sold to HCR our right to receive the Royalty Interest Payments payable to us under the MTPC Agreement, subject to the Annual Cap and the Aggregate Cap. After HCR receives Royalty Interest Payments equal to the Annual Cap in a given calendar year, we will receive 85% of the Royalty Interest Payments for the remainder of that year. After HCR receives Royalty Interest Payments equal to the Aggregate Cap, or we pay the Aggregate Cap to HCR (net of the Royalty Interest Payments already received by HCR), the Royalty Interest Payments will revert back to us, and HCR would have no further right to any Royalty Interest Payments. We received $44.8 million from HCR (net of certain transaction expenses) under the Royalty Agreement, and we were eligible to receive up to an additional $5.0 million in each year from 2021 through 2023 under the Royalty Agreement if specified sales milestones were achieved for vadadustat in the territory covered by the MTPC Agreement, subject to the satisfaction of certain customary conditions, and we did not achieve such milestones.

The royalty revenues under the MTPC Agreement may fluctuate considerably because they depend upon, among other things, the rate of growth of sales of vadadustat in the territory covered by the MTPC Agreement. Negative fluctuations in these royalty revenues could delay, diminish or eliminate our ability to receive 85% of the Royalty Interest Payments after the Annual Cap is achieved in a given calendar year, or our ability to receive 100% of the Royalty Interest Payments after the Aggregate Cap is achieved.

We rely upon third parties to conduct all aspects of our product manufacturing and commercial distribution, and in many instances only have a single supplier or distributor, and the loss of these manufacturers or distributors, their failure to supply us on a timely basis, or at all, or their failure to successfully carry out their contractual duties or comply with regulatory requirements, cGMP requirements or guidance could cause delays in or disruptions to our supply chain and substantially harm our business.

We do not have any manufacturing facilities and do not expect to independently manufacture any products or product candidates. We currently rely, and expect to continue to rely, on third party manufacturers to produce all of our commercial, clinical and preclinical supply. We also utilize third parties for the commercial distribution of Auryxia, including wholesale distributors and certain specialty pharmacy providers. Our reliance on third party manufacturers, who have control over the manufacturing process, increases the risk that we will not have or be able to maintain or distribute sufficient quantities of Auryxia and vadadustat or the ability to obtain such quantities at an acceptable cost or quality, which could delay, prevent or impair our and our partners' development or commercialization efforts.

We currently rely on a single source supplier for each of Auryxia drug substance and drug product and vadadustat drug substance and drug product, and alternate sources of supply may not be readily available. We have also engaged Cardinal Health, Inc. as the exclusive third-party logistics distribution agent for commercial sales of Auryxia. If any of the following occurs, we may not have sufficient quantities of Auryxia and/or vadadustat to support our clinical trials, development, commercialization, or obtaining and maintaining marketing approvals, which could materially and adversely impact our business and results of operations:

- we are unsuccessful in maintaining our current supply arrangements for commercial quantities of Auryxia and vadadustat;
- we are unsuccessful in validating new sites;
- our commercial supply arrangements for Auryxia or vadadustat are terminated;

- any of our third party manufacturers are unable to fulfill the terms of their agreements with us due to technical issues, natural disasters or other reasons, including with respect to quality and quantity, or are unable or unwilling to continue to manufacture on the manufacturing lines included in our regulatory filings;
- any of our third party manufacturers breach our supply agreements, do not comply with quality or regulatory requirements and guidance, including cGMP or are subject to regulatory review or ceases their operations for any reason; or
- any of our third party distributors fail to perform or encounter any damage or other disruption at their facilities.

If we, or any of our third party manufacturers or distributors cannot or do not perform as agreed or expected, or any of our customers were to experience further shutdowns, delays or other business disruptions, including as a result of catastrophic events, including pandemics, terrorist attacks, wars or other armed conflicts, geopolitical tensions or natural disasters, if they misappropriate our proprietary information, if they terminate their engagements with us, if we terminate our engagements with them, or if there is a significant disagreement, we may be forced to manufacture or distribute the materials ourselves, for which we currently do not have the capabilities or resources, or enter into agreements with other third party manufacturers or distributors, which we may not be able to do in a timely manner or on favorable or reasonable terms, if at all. If any of these events occur, especially with respect to one of our sole source suppliers, we may not have sufficient quantities of product for the commercialization of Auryxia and/or vadadustat, if approved, or may experience delays in the development of our products or product candidates, which could materially and adversely impact our business and results of operation. For example, one of our manufacturers has notified us that it will be discontinuing operations at one site at a future date and then we will only be able to manufacture at their other site. In some cases, there may be a limited number of qualified replacement manufacturers, or the technical skills or equipment required to manufacture a product or product candidate may be unique or proprietary to the original manufacturer and we may have difficulty transferring such skills or technology to another third party, or a feasible alternative may not exist. These factors would increase our reliance on our current manufacturers or require us to obtain necessary regulatory approvals and licenses in order to have another third party manufacture Auryxia or vadadustat. If we are required to change manufacturers for any reason, we will be required to verify that the new manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations and guidelines. The delays and costs associated with the qualification of a new manufacturer and validation of manufacturing processes would negatively affect our ability to supply clinical trials, obtain and maintain marketing approval, or commercialize or satisfy patient demand for Auryxia and vadadustat, where approved, in a timely manner, within budget, or at all.

In addition, the cost of obtaining Auryxia and vadadustat is subject to adjustment based on our third party manufacturers' costs of obtaining raw materials and producing the product. We have limited control over the production costs of Auryxia and vadadustat, including the costs of raw materials, and have seen increases in the production costs of Auryxia and vadadustat, and any significant increase in the cost of obtaining our products could materially adversely affect our revenue for Auryxia and vadadustat, if approved.

Moreover, issues that may arise in any scale-up and technology transfer and continued commercial scale manufacture of our products may lead to significant delays in our development, marketing approval and commercial timelines for new products or affect commercial supply of Auryxia and negatively impact our financial performance. For example, a production-related issue resulted in an interruption in the supply of Auryxia in the third and fourth quarters of 2016. This supply interruption negatively impacted our revenues in 2016. This supply interruption was resolved, and we have taken and continue to take actions designed to prevent future interruptions in the supply of Auryxia. However, we recently experienced issues in manufacturing Auryxia, and if we continue to experience manufacturing issues, or incur additional costs, or our actions to prevent future interruptions are not successful, we may experience additional supply issues. In addition, before we can manufacture product at a new site, we must validate the process at that site. If the process validation is unsuccessful, or takes longer than we anticipate, we may have to expend additional resources and could experience a supply interruption. Any future supply interruptions, whether quality or quantity based, for Auryxia or vadadustat, if and where approved, would negatively and materially impact our reputation and financial condition.

There are a limited number of manufacturers that are capable of manufacturing Auryxia and vadadustat for us and complying with cGMP regulations and guidance and other stringent regulatory requirements and guidance enforced by the FDA, EMA, PMDA and other regulatory authorities. These requirements include, among other things, quality control, quality assurance and the maintenance of records and documentation, which occur in addition to our own quality assurance releases. The facilities and processes used by our third party manufacturers to manufacture Auryxia may be inspected by the FDA and other regulatory authorities at any time, and the facilities and processes used by our third party manufacturers to manufacture vadadustat will be inspected by the FDA, the EMA and other regulatory authorities prior to or after we submit our marketing applications. Although we have general visibility into the manufacturing processes of our third party manufacturers, we do not ultimately control such manufacturing processes of, and have little control over, our third party manufacturers, including, without limitation, their compliance with cGMP requirements and guidance for the manufacture of certain starting materials, drug substance and finished drug product. Similarly, although we review final production, we have little control over the ability of our third party manufacturers to maintain adequate quality control, quality assurance and qualified personnel. Our third party manufacturers may experience problems with their manufacturing and distribution operations and processes, including, for example, quality issues, such as product specification and stability failures, procedural deviations, improper equipment installation or operation, utility failures, contamination, natural disasters and public health epidemics. We may also encounter difficulties relating to our own quality processes and procedures, including regulatory compliance, lot release, quality control and quality assurance, as well as shortages of qualified personnel. If our third party manufacturers cannot successfully manufacture material that conforms to our specifications and regulatory requirements and guidance, or if we or our third party manufacturers experience manufacturing, operations and/or quality issues, including an inability or unwillingness to continue manufacturing our products at all, in accordance with agreed-upon processes or on currently validated manufacturing lines, we may not be able to supply patient demand or maintain marketing approval for Auryxia, secure and maintain marketing approval for vadadustat, and we might be required to expend additional resources to obtain material from other manufacturers. If any of these events occur, our reputation and financial condition would be negatively and materially impacted. In addition, during the year ended December 31, 2022, we had higher write-downs to inventory reserves related to Auryxia drug substance that will not be forward processed into drug product. If we have additional write-downs to inventory reserves in the future, it could negatively impact our ability to supply Auryxia, and our financial condition could be harmed.

If the FDA or other regulatory authorities do not approve the facilities being used to manufacture vadadustat, or if the EMA or other regulatory authorities withdraws any approval of the facilities being used to manufacture Auryxia and/or Vafseo, we may need to find alternative manufacturing facilities, which would significantly impact our ability to continue commercializing Auryxia or Vafseo in Japan, or to commercialize Vafseo in Europe and other countries, or to develop, obtain marketing approval for or market vadadustat or our other product candidates, if approved.

Moreover, our failure or the failure of our third party manufacturers or distributors to comply with applicable regulations or guidance, or our failure to oversee or facilitate such compliance, could result in sanctions being imposed on us or our third party manufacturers or distributors, including, where applicable, clinical holds, fines, injunctions, civil penalties, delays in, suspension of or withdrawal of approvals, license revocation, seizures or recalls of Auryxia or Vafseo in Japan, operating restrictions, receipt of a Form 483 or warning letter, or criminal prosecutions, any of which could significantly and adversely affect the supply of Auryxia or vadadustat. For example, we previously conducted three limited, voluntary recalls of Auryxia. These and any other recalls or any supply, quality or manufacturing issues in the future and any related write-downs of inventory or other consequences could result in significant negative consequences, including reputational harm, loss of customer confidence, and a negative impact on our financials, any of which could have a material adverse effect on our business and results of operations, and may impact our ability to supply Auryxia, Vafseo in Japan, Europe or other countries or vadadustat, if approved in other countries, for clinical and commercial use. Also, if our starting materials, drug substance or drug product are damaged or lost while in our or our third party manufacturers' or distributors' control, it may adversely impact our ability to supply Auryxia or vadadustat, and we may incur significant financial harm.

In addition, Auryxia, Vafseo and vadadustat may compete with other products and product candidates for access to third party manufacturing facilities. A third party manufacturer or distributor may also encounter delays or operational issues brought on by sudden internal resource constraints, labor disputes, shifting priorities or shifting regulatory protocols. Certain of these third party manufacturing facilities may be contractually prohibited from manufacturing Auryxia, Vafseo or vadadustat due to exclusivity provisions in agreements with our competitors. Any of the foregoing could negatively impact our third party manufacturers' or distributors' ability to meet our demand, which could adversely impact our ability to supply Auryxia, Vafseo or vadadustat, and we may incur significant financial harm.

Our current and anticipated future dependence on third parties for the manufacture and distribution of Auryxia, Vafseo and vadadustat may adversely affect our and our partners' ability to commercialize Auryxia, Vafseo and vadadustat, where approved, on a timely and competitive basis and may reduce any future profit margins.

We rely upon third parties to conduct our clinical trials and certain of our preclinical studies. If they do not successfully carry out their contractual duties, comply with regulatory requirements or meet expected deadlines, we may not be able to obtain or maintain marketing approval for Auryxia, vadadustat or any of our product candidates, and our business could be substantially harmed.

We do not have the ability to independently conduct certain preclinical studies and clinical trials. We are currently relying, and expect to continue to rely, upon third parties, such as CROs, clinical data management organizations, medical institutions and clinical investigators, to conduct our current and future preclinical studies and clinical trials. The third parties upon whom we rely may fail to perform effectively, or terminate their engagement with us, for a number of reasons, including the following:

- if they experience staffing difficulties;
- if we fail to communicate effectively or provide the appropriate level of oversight;

- if they undergo changes in priorities or corporate structure including as a result of a merger or acquisition or other transaction, or become financially distressed; or
- if they form relationships with other entities, some of which may be our competitors.

If the third parties upon whom we rely to conduct our trials fail to adhere to clinical trial protocols or to regulatory requirements, the quantity, quality or accuracy of the data obtained by the third parties may be compromised. We are exposed to risk of fraud or other misconduct by such third parties.

Any of these events could cause our preclinical studies and clinical trials, including post-approval clinical trials, to be extended, delayed, suspended, required to be repeated or terminated, or we may receive untitled warning letters or be the subject of an enforcement action, which could result in our failing to obtain and maintain marketing approval of vadadustat or any other product candidates on a timely basis, or at all, or fail to maintain marketing approval of Auryxia, or any other products, any of which would adversely affect our business operations. In addition, if the third parties upon whom we rely fail to perform effectively or terminate their engagement with us, we may need to enter into alternative arrangements, which could delay, perhaps significantly, the development and commercialization of vadadustat, if approved, or any other product candidates.

Even though we do not directly control the third parties upon whom we rely to conduct our preclinical studies and clinical trials and therefore cannot guarantee the satisfactory and timely performance of their obligations to us, we are nevertheless responsible for ensuring that each of our clinical trials and preclinical studies is conducted in accordance with the applicable protocol, legal and regulatory requirements, including GxP requirements, and scientific standards, and our reliance on these third parties, including CROs, will not relieve us of our regulatory responsibilities. If we or any of our CROs, their subcontractors, or clinical or preclinical trial sites fail to comply with applicable GxP requirements, the clinical data generated in our trials may be deemed unreliable or insufficient, our clinical trials could be put on hold, and/or the FDA, the EMA or other regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. In addition, our clinical and preclinical trials must be conducted with drug product that meets certain specifications and is manufactured under applicable cGMP regulations. These requirements include, among other things, quality control, quality assurance, and the satisfactory maintenance of records and documentation.

We also rely upon third parties to store and distribute drug product for our clinical trials. For example, we use third parties to store product at various sites in the U.S. to distribute to our clinical trial sites. Any performance failure on the part of our storage or distributor partners could delay clinical development, marketing approval or commercialization, resulting in additional costs and depriving us of potential product revenue.

If the licensor of certain intellectual property relating to Auryxia terminates, modifies or threatens to terminate existing contracts or relationships with us, our business may be materially harmed.

We do not own all of the rights to our product, Auryxia. We have licensed and sublicensed certain rights, patent and otherwise, to Auryxia from a third party, Panion, who in turn licenses certain rights to Auryxia from one of the inventors of Auryxia. The license agreement with Panion, or the Panion License Agreement, requires us to meet development milestones and imposes development and commercialization due diligence requirements on us. In addition, under the Panion License Agreement, we must pay royalties based on a mid-single digit percentage of net sales of product resulting from the licensed technologies, including Auryxia, and pay the patent filing, prosecution and maintenance costs related to the license. If we do not meet our obligations in a timely manner, or if we otherwise breach the terms of the Panion License Agreement, Panion could terminate the agreement, and we would lose the rights to Auryxia. For example, following announcement of the Merger, Panion notified us in writing that Panion would terminate the Panion License Agreement on November 21, 2018 if we did not cure the breach alleged by Panion, specifically, that we failed to use commercially reasonable best efforts to commercialize Auryxia outside the U.S. We disagreed with Panion's claims, and the parties entered discussions to resolve this dispute. On October 24, 2018, prior to the consummation of the Merger, we and Panion entered into a letter agreement, or the Panion Letter Agreement, pursuant to which Panion agreed to rescind any and all prior termination threats or notices relating to the Panion License Agreement and waived its rights to terminate the license agreement based on any breach by us of our obligation to use commercially reasonable efforts to commercialize Auryxia outside the U.S. until the parties executed an amendment to the Panion License Agreement in accordance with the terms of the Panion Letter Agreement, following consummation of the Merger. On April 17, 2019, we and Panion entered into an amendment and restatement of the Panion License Agreement, or the Panion Amended License Agreement, which reflects certain revisions consistent with the terms of the Panion Letter Agreement. See Note 10, *Commitments and Contingencies*, to our consolidated financial statements in Part II, Item 8. Financial Statements of this Form 10-K for additional information regarding the Panion Amended License Agreement. Even though we entered into the Panion Amended License Agreement, there are no assurances that Panion will not allege other breaches of the Panion Amended License Agreement or otherwise attempt to terminate the Panion Amended License Agreement in the future. In addition, if Panion breaches its agreement with the inventor from whom it licenses rights to Auryxia, Panion could lose its license, which could impair or delay our ability to develop and commercialize Auryxia.

From time to time, we may have disagreements with Panion, or Panion may have disagreements with the inventor from whom it licenses rights to Auryxia, regarding the terms of the agreements or ownership of proprietary rights, which could impact the commercialization of Auryxia, could require or result in litigation or arbitration, which would be time-consuming and expensive, could lead to the termination of the Panion Amended License Agreement, or force us to negotiate a revised or new license agreement on terms less favorable than the original. In addition, in the event that the owners and/or licensors of the rights we license were to enter into bankruptcy or similar proceedings, we could potentially lose our rights to Auryxia or our rights could otherwise be adversely affected, which could prevent us from continuing to commercialize Auryxia.

Risks Related to our Intellectual Property

If we are unable to adequately protect our intellectual property, third parties may be able to use our intellectual property, which could adversely affect our ability to compete in the market.

Our commercial success will depend in part on our ability, and the ability of our licensors, to obtain and maintain patent protection on our drug product and technologies, and to successfully defend these patents against third party challenges. We seek to protect our proprietary products and technology by filing patent applications in the U.S. and certain foreign jurisdictions. The process for obtaining patent protection is expensive and time consuming, and we may not be able to file and prosecute all necessary or desirable patent applications in a cost effective or timely manner. In addition, we may fail to identify patentable subject matter early enough to obtain patent protection. Further, license agreements with third parties may not allow us to control the preparation, filing and prosecution of patent applications, or the maintenance or enforcement of patents. Such third parties may decide not to enforce such patents or enforce such patents without our involvement. Thus, these patent applications and patents may not, under these circumstances, be prosecuted or enforced in a manner consistent with the best interests of the company.

Our pending patent applications may not issue as patents and may not issue in all countries in which we develop, manufacture or potentially sell our product or in countries where others develop, manufacture and potentially sell products using our technologies. Moreover, our pending patent applications, if issued as patents, may not provide additional protection for our product.

The patent positions of pharmaceutical and biotechnology companies can be highly uncertain and involve complex legal and factual questions. No consistent policy regarding the breadth of claims allowed in pharmaceutical and biotechnology patents has emerged to date. Changes in the patent laws or the interpretation of the patent laws in the U.S. and other jurisdictions may diminish the value of our patents or narrow the scope of our patent protection. Accordingly, the patents we own or license may not be sufficiently broad to prevent others from practicing our technologies or from developing competing products. Furthermore, others may independently develop similar or alternative drug products or technologies or design around our patented drug product and technologies which may have an adverse effect on our business. If our competitors prepare and file patent applications in the U.S. that claim technology also claimed by us, we may have to participate in interference or derivation proceedings in front of the U.S. Patent and Trademark Office, or USPTO, to determine priority of invention, which could result in substantial cost, even if the eventual outcome is favorable to us. Because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that any related patent may expire prior to, or remain in existence for only a short period following, commercialization, which may significantly diminish our ability to exclude others from commercializing products that are similar or identical to ours. The patents we own or license may be challenged or invalidated or may fail to provide us with any competitive advantage. Since we have licensed or sublicensed many patents from third parties, we may not be able to enforce such licensed patents against third party infringers without the cooperation of the patent owner and the licensor, which may not be forthcoming. In addition, we may not be successful or timely in obtaining any patents for which we submit applications.

Generally, the first to file a patent application is entitled to the patent if all other requirements of patentability are met. However, prior to March 16, 2013, in the U.S., the first to invent was entitled to the patent. Since publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the U.S. and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all, we cannot know with certainty whether we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions. Moreover, the laws enacted by the Leahy-Smith America Invents Act of 2011, which reformed certain patent laws in the U.S., introduce procedures that permit competitors to challenge our patents in the USPTO after grant, including inter partes review and post grant review. Similar laws exist outside of the U.S. The laws of the European Patent Convention, for example, provide for post-grant opposition procedures that permit competitors to challenge, or oppose, our European patents administratively at the European Patent Office, or EPO.

We may become involved in addressing patentability objections based on third party submission of references, or we may become involved in defending our patent rights in oppositions, derivation proceedings, reexamination, inter partes review, post grant review, interference proceedings or other patent office proceedings or litigation, in the U.S. or elsewhere, challenging our patent rights or the patent rights of others. An adverse result in any such proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged on such a basis in the courts or patent offices in the U.S. and abroad. As a result of such challenges, we may lose exclusivity or freedom-to-operate or patent claims may be narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to prevent third parties from using or commercializing similar or identical products, or limit the duration of the patent protection for our products.

Periodic maintenance fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and governmental patent agencies in other jurisdictions also require compliance with a number of procedural, documentary, fee payment (such as annuities) and other similar provisions during the patent application process. While an inadvertent lapse in many cases can be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees, and failure to properly legalize and submit formal documents. In such an event, our competitors might be able to enter the market sooner than we expect, which would have a material adverse effect on our business.

In addition, patents protecting our product candidate might expire before or shortly after such candidate is commercialized. Thus, our patent portfolio may not provide sufficient rights to exclude others from commercializing products similar or identical to ours.

We also rely on trade secrets and know-how to protect our intellectual property where we believe patent protection is not appropriate or obtainable. Trade secrets are difficult to protect. While we require our employees, licensees, collaborators and consultants to enter into confidentiality agreements, this may not be sufficient to adequately protect our trade secrets or other proprietary information. In addition, in some cases, we share certain ownership and publication rights to data relating to some of our products and product candidates with research collaborators, licensees and other third parties. If we cannot maintain the confidentiality of this information, our ability to receive patent protection or protect our trade secrets or other proprietary information will be at risk.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting and defending patents on our products and product candidates in all countries throughout the world would be prohibitively expensive. Consequently, the breadth of our intellectual property rights in some countries outside the U.S. may be less extensive than those in the U.S. In addition, the laws of some countries do not protect intellectual property rights to the same extent as laws in the U.S. As a result, we may not be able to prevent third parties from practicing our inventions in all countries outside the U.S., or from selling or importing products made using our inventions in and into the U.S. or other countries. Competitors may use our technologies in countries where we have not obtained patent protection to develop their own products and, further, may infringe our patents in territories where we have patent protection, but where enforcement is not as strong as in the U.S. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in certain countries. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property, particularly those relating to pharmaceutical and biotechnology products, which could make it difficult for us to stop the infringement of our patents or the marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in countries outside of the U.S. could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage for our products and product candidates from the intellectual property that we develop or license.

The intellectual property that we own or have licensed and related non-patent exclusivity relating to our current and future products is, and may be, limited, which could adversely affect our ability to compete in the market and adversely affect the value of Auryxia, vadadustat, if approved, or other future products.

The patent rights and related non-patent exclusivity that we own or have licensed relating to Auryxia, vadadustat, or other future products, are, or may be limited in ways that may affect our ability to exclude third parties from competing against us.

For example, a third party may design around our owned or licensed composition of matter patent claims or market a product for the methods of use not covered by our owned or licensed patents.

Obtaining proof of direct infringement by a competitor for a method of use patent requires us to demonstrate that the competitors make and market a product for the patented use(s). Alternatively, we can prove that our competitors induce or contribute to others in engaging in direct infringement. Proving that a competitor contributes to or induces infringement of a patented method by another has additional proof requirements. For example, proving inducement of infringement requires proof of intent by the competitor. If we are required to defend ourselves against claims or to protect our own proprietary rights against others, it could result in substantial costs to us and the distraction of our management. An adverse ruling in any litigation or administrative proceeding could prevent us or our partners from marketing and selling Auryxia, Vafseo or vadadustat, if approved, or other future products, increase the risk that a generic or other similar version of Auryxia, Vafseo or vadadustat, if approved, or other future products could enter the market to compete with Auryxia, Vafseo or vadadustat, if approved, or other future products, limit our or our partners' development and commercialization of Auryxia, Vafseo or vadadustat, if approved, or other future products, or otherwise harm our competitive position and result in additional significant costs.

Moreover, physicians may prescribe a competitive identical product for indications other than the one for which the product has been approved, or “off-label” indications, that are covered by the applicable patents. Although such off-label prescriptions may directly infringe or contribute to or induce infringement of method of use patents, such infringement is difficult to prevent.

In addition, any limitations of our patent protection described above may adversely affect the value of our drug product and may inhibit our ability to obtain a collaboration partner at terms acceptable to us, if at all.

In addition to patent rights in the U.S., we may seek non-patent exclusivity for vadadustat and other future products under other provisions of the FDCA such as new chemical entity, or NCE, exclusivity, or exclusivity for a new use or new formulation, but there is no guarantee that vadadustat or any other future products will receive such exclusivity. The FDCA provides a five-year period of non-patent exclusivity within the U.S. to the first sponsor to gain approval of an NDA for an NCE. A drug is an NCE if the FDA has not previously approved any other new drug containing the same active moiety, which consists of the molecule(s) or ion(s) responsible for the action of the drug substance (but not including those portions of the molecule that cause it to be a salt or ester or which are not bound to the molecule by covalent or similar bonds). During the exclusivity period, the FDA may not accept for review an ANDA or a 505(b)(2) NDA submitted by another company for another version of such drug where the sponsor does not own or have a legal right of reference to all the data required for approval.

An ANDA that references an NDA product with NCE exclusivity may be submitted after four years if it contains a certification of patent invalidity or non-infringement. The FDCA also provides three years of exclusivity for an NDA, particularly a 505(b)(2) NDA or supplement to an existing NDA, if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the sponsor are deemed by the FDA to be essential to the approval of the application (for example, for new indications, dosages, or strengths of an existing drug). This three-year exclusivity covers only the conditions associated with the new clinical investigations and does not prohibit the FDA from approving ANDAs for drugs containing the original active agent. The three-year exclusivity period, unlike five-year exclusivity, does not prevent the submission of a competing ANDA or 505(b)(2) NDA. Instead, it only prevents the FDA from granting final approval to such a product until expiration of the exclusivity period. Five-year and three-year exclusivity will not delay the submission (in the case of five-year exclusivity) or the approval (in the case of three-year exclusivity) of a full NDA submitted under section 505(b)(1) of the FDCA; however, a sponsor submitting a full NDA would be required to conduct all of its own studies needed to independently support a finding of safety and effectiveness for the proposed product, or have a full right of reference to all studies not conducted by the sponsor.

In cases where NCE exclusivity has been granted to a new drug product, the 30-month stay triggered by such litigation is extended by the amount of time such that seven years and six months will elapse from the date of approval of the NDA for that product. Without NCE exclusivity, the 30-month stay on FDA final approval of an ANDA runs from the date on which the sponsor of the reference listed drug receives notice of a Paragraph IV certification from the ANDA sponsor.

In addition to NCE, in the U.S., the FDA has the authority to grant additional regulatory exclusivity protection for approved drugs where the sponsor conducts specified testing in pediatric or adolescent populations. If granted, this pediatric exclusivity may provide an additional six months which are added to the term of any non-patent exclusivity that has been awarded as well as to the regulatory protection related to the term of a relevant patent, to the extent these protections have not already expired.

We cannot assure you that Auryxia, vadadustat, if approved, or any of our potential future products will obtain such pediatric exclusivity, NCE exclusivity or any other market exclusivity in the U.S., EU or any other territory, or that we will be the first to receive the respective regulatory approval for such drugs so as to be eligible for any non-patent exclusivity protection. We also cannot assure you that Auryxia, vadadustat, if approved, or any of our potential future products will obtain patent term extension.

The market entry of one or more generic competitors or any third party's attempt to challenge our intellectual property rights will likely limit Auryxia sales and have an adverse impact on our business and results of operation.

Although the composition and use of Auryxia is currently claimed by 14 issued patents that are listed in the FDA's Orange Book, we cannot assure you that we will be successful in defending against third parties attempting to invalidate or design around our patents or asserting that our patents are invalid or otherwise unenforceable or not infringed, or in competing against third parties introducing generic equivalents of Auryxia or any of our potential future products. If our Orange Book-listed patents are successfully challenged by a third party and a generic version of Auryxia is approved and launched sooner than we anticipate, revenue from Auryxia could decline significantly, which would have a material adverse effect on our sales, results of operations and financial condition.

We previously received Paragraph IV certification notice letters regarding ANDAs submitted to the FDA requesting approval for generic versions of Auryxia tablets (210 mg ferric iron per tablet). We filed complaints for patent infringement relating to such ANDAs, and subsequently entered into settlement and license agreements with all such ANDA filers that allow such ANDA filers to market a generic version of Auryxia in the U.S. beginning on March 20, 2025. It is possible that we may receive Paragraph IV certification notice letters from additional ANDA filers and may not ultimately be successful in an ANDA litigation. Generic competition for Auryxia or any of our potential future products could have a material adverse effect on our sales, results of operations and financial condition.

Litigation and administrative proceedings, including third party claims of intellectual property infringement and opposition/invalidation proceedings against third party patents, may be costly and time consuming and may delay or harm our drug discovery, development and commercialization efforts.

We may be forced to initiate litigation to enforce our contractual and intellectual property rights, or we may be sued by third parties asserting claims based on contract, tort or intellectual property infringement. Competitors may infringe our patents or misappropriate our trade secrets or confidential information. We may not be able to prevent infringement of our patents or misappropriation of our trade secrets or confidential information, particularly in countries where the laws may not protect those rights as fully as in the U.S. In addition, third parties may have or may obtain patents in the future and claim that our products or other technologies infringe their patents. If we are required to defend against suits brought by third parties, or if we sue third parties to protect our rights, we may be required to pay substantial litigation costs, and our management's attention may be diverted from operating our business. In addition, any legal action against our licensor, licensees or us that seeks damages or an injunction of commercial activities relating to Auryxia, vadadustat or any other product candidates or other technologies, including those that may be in-licensed or acquired, could subject us to monetary liability, a temporary or permanent injunction preventing the development, marketing and sale of such products or such technologies, and/or require our licensor, licensees or us to obtain a license to continue to develop, market or sell such products or other technologies. In addition, in an infringement proceeding, a court may decide that a patent of ours is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. We cannot predict whether our licensor, licensees or we would prevail in any of these types of actions or that any required license would be made available on commercially acceptable terms, if at all.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. However, there may be patents of third parties of which we are currently unaware with claims to compounds, materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Also, because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that our product candidates may infringe. The pharmaceutical and biotechnology industries are characterized by extensive litigation over patent and other intellectual property rights. We have in the past and may in the future become a party to, or be threatened with, future adversarial litigation or other proceedings regarding intellectual property rights with respect to our product and product candidates. As the pharmaceutical and biotechnology industries expand and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others.

While our product candidates are in preclinical studies and clinical trials, we believe that the use of our product candidates in these preclinical studies and clinical trials in the U.S. falls within the scope of the exemptions provided by 35 U.S.C. Section 271(e), which provides that it shall not be an act of infringement to make, use, offer to sell, or sell within the U.S. or import into the U.S. a patented invention solely for uses reasonably related to the development and submission of information to the FDA. There is an increased possibility of a patent infringement claim against us with respect to commercial products. Our portfolio includes one commercial product, Auryxia. We received the CRL from the FDA regarding our NDA for vadadustat in March 2022, and we resubmitted our NDA in September 2023. If in the future vadadustat is approved, vadadustat could be commercialized. We attempt to ensure that our products and product candidates and the methods we employ to manufacture them, as well as the methods for their use which we intend to promote, do not infringe other parties' patents and other proprietary rights. There can be no assurance they do not, however, and competitors or other parties may assert that we infringe their proprietary rights in any event.

FibroGen has filed patent applications in the U.S. and other countries directed to purportedly new methods of using previously known heterocyclic carboxamide compounds for purposes of treating or affecting specified conditions, and some of these applications have since issued as patents. In November 2023, we and our collaboration partner, MTPC, entered into a Settlement and Cross License Agreement, or the Settlement Agreement, with FibroGen and its collaboration partner, Astellas. The Settlement Agreement resolves all patent disputes between us, MTPC, FibroGen and Astellas in the EU, the contracting states to the European Patent Convention, the UK and Japan, or the Settlement Territory. We discuss the status of the opposition and proceedings against certain FibroGen patents in Part I, Item 3. Legal Proceedings of this Form 10-K. We may in the future initiate invalidity actions or other legal proceedings with respect to FibroGen patents outside of the Settlement Territory. If we are not successful in such proceedings, FibroGen could try to claim that our products infringe their patent rights.

Third parties, including FibroGen, may in the future claim that our product and product candidates and other technologies infringe upon their patents and may challenge our ability to commercialize Auryxia and vadadustat, if approved. Parties making claims against us or our licensees may seek and obtain injunctive or other equitable relief, which could effectively block our or their ability to continue to commercialize Auryxia or further develop and commercialize vadadustat or any other product candidates, including those that may be in-licensed or acquired. If any third party patents were held by a court of competent jurisdiction to cover the manufacturing process of any of our products or product candidates, any molecules formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product or product candidate unless we obtained a license under the applicable patents, or until such patents expire or they are finally determined to be held invalid or unenforceable. Similarly, if any third party patent were held by a court of competent jurisdiction to cover aspects of our formulations, processes for manufacture or our intended methods of use, the holders of any such patent may be able to block or impair our ability to develop and commercialize the applicable product candidate unless we obtained a license or until such patent expires or is finally determined to be held invalid or unenforceable. We may also elect to enter into a license in order to settle litigation or in order to resolve disputes prior to litigation. Furthermore, even in the absence of litigation, we may need to obtain licenses from third parties to advance our research or allow commercialization of our products or product candidates. Should a license to a third party patent become necessary, we cannot predict whether we would be able to obtain a license or, if a license were available, whether it would be available on commercially reasonable terms. If such a license is necessary and a license under the applicable patent is unavailable on commercially reasonable terms, or at all, our ability to commercialize our product or product candidate may be impaired or delayed, which could in turn significantly harm our business.

Further, defense of infringement claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, pay royalties or redesign our products, which may be impossible or require substantial time and monetary expenditure.

In addition, there may be a challenge or dispute regarding inventorship or ownership of patents or applications currently identified as being owned by or licensed to us. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. Interference proceedings provoked by third parties or brought by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications.

Various administrative proceedings are also available for challenging patents, including interference, reexamination, inter partes review, and post-grant review proceedings before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. Competitors may initiate an administrative proceeding challenging our issued patents or pending patent applications, which can be expensive and time-consuming to defend. An adverse result in any current or future defense proceedings could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and held not infringed and could put our patent applications at risk of not issuing. In addition, an unfavorable outcome in any current or future proceeding in which we are challenging third party patents could require us to cease using the patented technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms or at all. Even if we are successful, participation in interference or other administrative proceedings before the USPTO or a foreign patent office may result in substantial costs and distract our management and other employees.

We are currently involved in opposition proceedings in the European Patent Office and Indian Patent Office. These proceedings may be ongoing for a number of years and may involve substantial expense and diversion of employee resources from our business. In addition, we may become involved in additional opposition proceedings or other legal or administrative proceedings in the future. For more information, see the other risk factors under "Risks Related to our Intellectual Property".

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation and some administrative proceedings, there is a risk that some of our confidential information could be compromised by disclosure during discovery. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties.

We have received confidential and proprietary information from potential collaborators, prospective licensees and other third parties. In addition, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of these third parties or our employees' former employers. We may also be subject to claims that former employees, collaborators or other third parties have an ownership interest in our patents or other intellectual property. We may be subject to ownership disputes in the future arising, for example, from conflicting obligations of consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and employees.

Risks Related to our Business and Managing Growth

If we fail to attract, retain and motivate senior management and qualified personnel, we may be unable to successfully develop, obtain and/or maintain marketing approval of and commercialize vadadustat or commercialize Auryxia.

Recruiting and retaining qualified personnel is critical to our success. We are also highly dependent on our executives, certain members of our senior management and certain members of our commercial organization. The loss of the services of our executives, senior managers or other employees could impede the achievement of our research, development, regulatory and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Specifically, following receipt of the CRL, we implemented a reduction of our workforce in April and May 2022 by approximately 42% across all areas of our Company (47% inclusive of the closing of the majority of open positions), including several members of management. In November 2022, we also implemented a reduction of our workforce, by approximately 14% consisting of individuals within our commercial organization as a result of our decision to shift to a strategic account management focused model for our commercial efforts. In addition, uncertainty related to the outcome of regulatory decisions, could increase attrition. Losing members of management and other key personnel subjects us to a number of risks, including the failure to coordinate responsibilities and tasks, the necessity to create new management systems and processes, the impact on corporate culture, and the retention of historical knowledge.

Furthermore, replacing executives, senior managers and other key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, obtain and/or maintain marketing approval of and commercialize Auryxia, vadadustat and other product candidates. Our future financial performance and our ability to develop, obtain and/or maintain marketing approval of and commercialize Auryxia and vadadustat and to compete effectively will depend, in part, on our ability to manage any future growth effectively. To that end, we must be able to hire, train, integrate, and retain additional qualified personnel with sufficient experience. We may be unable to hire, train, retain or motivate these personnel on acceptable terms given the intense competition for our personnel from our competitors and other companies throughout our industry, particularly in our geographic region. Over the last several years, the challenges in recruiting and retaining employees across the pharmaceutical and biotechnology industries have increased substantially due to current industry job market dynamics.

In addition, we rely on contractors, consultants and advisors, including scientific and clinical advisors, to assist us in formulating and executing our R&D and commercialization strategy. Our contractors, consultants and advisors may become employed by companies other than ours and may have commitments with other entities that may limit their availability to us. If additional members of management or other personnel leave, or we are unable to continue to attract and retain high quality personnel, our ability to grow and pursue our business strategy will be limited.

Our cost savings plan and the associated workforce reductions implemented in April, May and November 2022 may not result in anticipated savings, could result in total costs and expenses that are greater than expected and could disrupt our business.

Following receipt of the CRL we implemented a reduction in workforce in April and May 2022 by approximately 42% across all areas of our Company, including several members of management. In November 2022, we also implemented a reduction of our workforce, by approximately 14% consisting of individuals within our commercial organization as a result of our decision to shift to a strategic account management focused model for our commercial efforts. The reductions in workforce reflected our determination to refocus our strategic priorities around our commercial product, Auryxia, and our development portfolio, and were steps in a broader cost savings plan to significantly reduce our operating expense profile. We may not realize, in full or in part, the anticipated benefits, savings and improvements in our cost structure from our restructuring efforts due to unforeseen difficulties, delays or unexpected costs. We recorded a restructuring charge of approximately $0.2 million and $15.9 million in the years ended December 31, 2023 and 2022, respectively, primarily related to contractual termination benefits including severance, non-cash stock-based compensation expense, healthcare and related benefits. If we are unable to realize the expected operational efficiencies and cost savings from the restructuring, our operating results and financial condition would be adversely affected. We also cannot guarantee that we will not have to undertake additional workforce reductions or restructuring activities in the future, including as a result of the FDA's decision related to our NDA resubmission for vadadustat. Furthermore, our cost savings plan may be disruptive to our operations, including our commercialization of Auryxia, which could affect our ability to generate product revenue. In addition, our workforce reductions could yield unanticipated consequences, such as attrition beyond planned staff reductions, or disruptions in our day-to-day operations. Our workforce reductions could also harm our ability to attract and retain qualified management, scientific, clinical, manufacturing and sales and marketing personnel who are critical to our business. Any failure to attract or retain qualified personnel could prevent us from successfully commercializing Auryxia and from successfully developing and commercializing our product candidates in the future, including vadadustat, if approved. If we are ultimately successful in obtaining approval of vadadustat in the U.S., we will need to hire additional employees to support the commercialization of vadadustat in the U.S., and if we are unsuccessful or delayed in doing so, the potential launch of vadadustat could be delayed.

We may encounter difficulties in managing our growth, including with respect to our employee base, and managing our partnerships and operations successfully.

In our day-to-day operations, we may encounter difficulties in managing the size of our operations as well as challenges associated with managing our business. We have strategic collaborations for the commercialization of Riona and the development and commercialization of vadadustat, which is now being or will be marketed under the trade name Vafseo by our collaboration partner, MTPC, in Japan and our collaboration partner, Medice, in the Medice Territory. Additionally, in the U.S., we have a strategic relationship with CSL Vifor related to the commercialization of vadadustat, if approved. As our operations continue, we expect that we will need to manage our current relationships and enter into new relationships with various strategic collaborators, consultants, vendors, suppliers and other third parties. These relationships are complex and create numerous risks as we deal with issues that arise.

For example, we supply or have agreed to supply, as applicable, Auryxia in Europe, Vafseo in Japan, Europe and other territories where it is approved, and vadadustat in the U.S., if approved, for commercial and clinical use to MTPC, Medice, Averoa and CSL Vifor, which will require us to successfully manage our limited financial and managerial resources. In addition, we may not be able to obtain the raw materials or product that we need, or the cost of the raw materials or product may be higher than expected. If we are unable to successfully manage our supply obligations, our ability to commercialize our products or supply such products to our partners could have a material adverse effect on our relationships with our partners and our results of operations.

Our future financial performance and our ability to commercialize Auryxia and vadadustat, if and where approved, and to compete effectively will depend, in part, on our ability to manage any future growth effectively. This future growth will impose significant added responsibilities on the business and members of management. To manage any future growth, we must continue to implement and improve our managerial, operational and financial systems, procedures and processes. We may not be able to implement these improvements in an efficient or timely manner and may discover deficiencies in existing systems, procedures and processes. Moreover, the systems, procedures and processes currently in place or to be implemented may not be adequate for any such growth. Any expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations. We may not be able to accomplish these tasks, and our failure to accomplish any of them could prevent us from successfully managing and, as applicable, growing our Company.

In addition, we may need to further adjust the size of our workforce as a result of changes to our expectations for our business, which can result in management being required to divert a disproportionate amount of its attention away from our day-to-day activities and devote a substantial amount of time to managing these growth-related activities and related expenses. Further, we rely on independent third parties to provide certain services to us. We structure our relationships with these outside service providers in a manner that we believe results in an independent contractor relationship, not an employee relationship. If any of our service providers are later legally deemed to be employees, we could be subject to employment and tax withholding liabilities and other additional costs as well as other multiple damages and attorneys' fees.

We have identified a material weakness in our internal control over financial reporting as of December 31, 2023 relating to our accounting for inventory and inventory related transactions. If we are not able to remediate this material weakness, or

if we experience additional material weaknesses or other deficiencies in our internal control over financial reporting in the future or otherwise fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately or timely report our financial results or prevent fraud, and we may conclude that our internal control over financial reporting is not effective, which may adversely affect our business.

Effective internal control over financial reporting is necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, is designed to prevent fraud. Any failure to maintain or implement required new or improved controls, or difficulties encountered in implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us, as and when required, conducted in connection with Section 404 of the Sarbanes-Oxley Act, or Section 404, or any testing by our independent registered public accounting firm may reveal deficiencies in our internal control over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our consolidated financial statements or identify other areas for further attention or improvement.

We identified a material weakness in our internal control over financial reporting as of December 31, 2023. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim consolidated financial statements will not be prevented or detected on a timely basis. Specifically, our management concluded that we did not design and maintain effective controls over the completeness and accuracy of accounting for inventory and inventory related transactions, including inventory reconciliations, calculation of overheads, presentation of inventory in our balance sheet between short-term and long-term and our liabilities related to the calculation of firm purchase commitments. For further discussion of the material weakness, see Part II, Item 9A, “Controls and Procedures.”

We have taken certain steps and plan to take additional steps to remediate this material weakness, including (i) implementing and documenting new processes and controls to help ensure the completeness and accuracy of our inventory reconciliations, (ii) engaging additional third party subject matter experts and accounting personnel with U.S. GAAP experience specific to inventory accounting, (iii) enhancing the accuracy of key reports used to calculate the firm purchase commitment and (iv) establishing effective monitoring and oversight controls to help to ensure the completeness and accuracy of inventory included in our financial statements and related disclosures. However, we cannot provide assurance that we will be able to correct this material weakness in a timely manner or that our remediation efforts will be adequate to allow us to conclude that our internal control over financial reporting will be effective in the future. Even if this material weakness is remediated in the future, we could identify additional material weaknesses or deficiencies in our internal control over financial reporting that could require correction or remediation. For example, we previously identified a material weakness in our internal control over financial reporting as of December 31, 2022 relating to our product return reserves that resulted in a revision of our financial statements for the years ended December 31, 2022, 2021 and 2020.

In addition, our conclusion that we have a material weakness could give rise to increased scrutiny, review, audit and investigation over our accounting controls and procedures, which could then lead to additional areas of deficiency or errors in our financial statements.

We will need to continue to dedicate internal resources, engage outside consultants and maintain a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to remediate the material weakness relating to our accounting for inventory and inventory related transactions described above and any future control deficiencies or material weaknesses, and improve control processes as appropriate, validate through testing that controls are functioning as documented and maintain a continuous reporting and improvement process for internal control over financial reporting. If we are not able to correct material weaknesses or deficiencies in internal controls in a timely manner or otherwise comply with the requirements of Section 404 in a timely manner, our ability to record, process, summarize and report financial information accurately and within applicable time periods may be adversely affected, and we could be subject to sanctions or investigations by the SEC, the Nasdaq Stock Market or other regulatory authorities as well as stockholder litigation which, even if resolved in our favor, would require additional financial and management resources and could adversely affect the market price of our common stock. Any failure to maintain or implement required effective internal control over financial reporting, or any difficulties we encounter in their implementation, could result in additional material weaknesses, cause us to fail to meet our reporting obligations or result in material misstatements in our financial statements. Furthermore, if we cannot provide reliable financial reports or prevent fraud, our business and results of operations could be harmed. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock and could also affect our ability to raise capital to fund future business initiatives.

Security breaches and unauthorized use of our information technology systems and information, or the information technology systems or information in the possession of our collaborators and other third parties, could damage the integrity of our clinical trials, impact our regulatory filings, compromise our ability to protect our intellectual property, and subject us to regulatory actions that could result in significant fines or other penalties.

We, our collaborators, contractors and other third parties rely significantly upon information technology, and any failure, inadequacy, interruption or security lapse of that technology, including any cybersecurity incidents, could harm our ability to operate our business effectively. In addition, we and our collaborators, contractors and other third parties rely on information technology networks and systems, including the Internet and artificial intelligence based software, to process, transmit and store clinical trial data, patient information, and other electronic information, and manage or support a variety of business processes, including operational and financial transactions and records, personal identifying information, payroll data and workforce scheduling information. We purchase most of our information technology from vendors, on whom our systems depend. We rely on commercially available systems, software, tools and monitoring to provide security for the processing, transmission and storage of company and customer information.

In the ordinary course of our business, we and our third party contractors maintain personal and other sensitive data on our and their respective networks, including our intellectual property and proprietary or confidential business information relating to our business and that of our clinical trial patients and business partners. In particular, we rely on CROs and other third parties to store and manage information from our clinical trials. We also rely on third parties to manage patient information for Auryxia. Additionally, the use of artificial intelligence based software is increasingly being used in the biopharmaceutical industry. Use of artificial intelligence based software may lead to the release of confidential proprietary information, which may impact our ability to realize the benefit of our intellectual property. The secure maintenance of this sensitive information is critical to our business and reputation.

Companies and other entities and individuals have been increasingly subject to a wide variety of security incidents, cyber-attacks and other attempts to gain unauthorized access to systems and information. These threats can come from a variety of sources, ranging in sophistication from individual hackers to state-sponsored attacks. Attackers have used artificial intelligence and machine learning to launch more automated, targeted and coordinated attacks against targets. Cyber threats may be broadly targeted, or they may be custom-crafted against our information systems or those of our vendors or third party service providers. A security breach, cyberattack or unauthorized access of our clinical data or other data could damage the integrity of our clinical trials, impact our regulatory filings, cause significant risk to our business, compromise our ability to protect our intellectual property, and subject us to regulatory actions, including under the GDPR and CCPA discussed elsewhere in these risk factors and the privacy or security rules under federal, state, or other local laws outside of the U.S. protecting confidential or personal information, that could be expensive to defend and could result in significant fines or other penalties. Cyberattacks can include malware, computer viruses, hacking, social engineering, zero day vulnerabilities or other unauthorized access or other significant compromise of our computer, communications and related systems. Although we take steps to manage and avoid these risks and to be prepared to respond to attacks, our preventive and any remedial actions may not be successful and no such measures can eliminate the possibility of the systems' improper functioning or the improper access or disclosure of confidential or personally identifiable information such as in the event of cyberattacks. Security breaches, whether through physical or electronic break-ins, computer viruses, ransomware, impersonation of authorized users, attacks by hackers or other means, can create system disruptions or shutdowns or the unauthorized disclosure of confidential information.

Although we believe our collaborators, vendors and service providers, such as our CROs, take steps to manage and avoid information security risks and respond to attacks, we may be adversely affected by attacks against our collaborators, vendors or service providers, and we may not have adequate contractual remedies against such collaborators, vendors and service providers to remedy any harm to our business caused by such event. Additionally, outside parties may attempt to fraudulently induce employees, collaborators, or other contractors to disclose sensitive information or take other actions, including making fraudulent payments or downloading malware, by using "spoofing" and "phishing" emails or other types of attacks. Our employees may be targeted by such fraudulent activities. Outside parties may also subject us to distributed denial of services attacks or introduce viruses or other malware through "trojan horse" programs to our users' computers in order to gain access to our systems and the data stored therein. Cyber-attacks have become more prevalent and much harder to detect and defend against. Because the techniques used to obtain unauthorized access, disable or degrade service, or sabotage systems change frequently and continuously become more sophisticated, including the use of artificial intelligence to generate sophisticated spoofed emails and deep fake voice and video, often are not recognized until launched against a target and may be difficult to detect for a long time, we may be unable to anticipate these techniques or to implement adequate preventive or detective measures, and we might not immediately detect such incidents and the damage caused by such incidents.

Such attacks, whether successful or unsuccessful, or other compromises with respect to our information security and the measures we implement to prevent, detect and respond to them, could:

- result in our incurring significant costs related to, for example, rebuilding internal systems, defending against litigation, responding to regulatory inquiries or actions, paying damages or fines, or taking other remedial steps with respect to third parties;
- lead to public exposure of personal information of participants in our clinical trials, Auryxia patients and others;

- damage the integrity of our studies or delay their completion, disrupt our development programs, our business operations and commercialization efforts;
- compromise our ability to protect our trade secrets and proprietary information;
- damage our reputation and deter business partners from working with us; or
- divert the attention of our management and key information technology resources.

Any failure to maintain proper functionality and security of our internal computer and information systems could result in a loss of, or damage to, our data or marketing applications or inappropriate disclosure of confidential or proprietary information, interrupt our operations, damage our reputation, subject us to liability claims or regulatory penalties, under a variety of federal, state or other applicable privacy laws, such as HIPAA, the GDPR, or state data protection laws including the CCPA, harm our competitive position and delay the further development and commercialization of our products and product candidates, or impact our relationships with customers and patients.

Our employees, independent contractors, principal investigators, CROs, CMOs, consultants and vendors may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading. In addition, laws and regulations governing any international operations we have or may have in the future may require us to develop and implement costly compliance programs.

We are exposed to the risk that our employees, independent contractors, principal investigators, CROs, CMOs, consultants and vendors may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or unauthorized activities that violate applicable laws, including the following:

- FDA and other healthcare authorities' regulations, including those laws that require the reporting of true, complete and accurate information to regulatory authorities, and those prohibiting the promotion of unapproved drugs or approved drugs for an unapproved use;
- quality standards, including GxP;
- federal and state healthcare fraud and abuse laws and regulations and their non-U.S. equivalents;
- anti-bribery and anti-corruption laws, such as the FCPA and the UK Bribery Act or country-specific anti-bribery or anti-corruption laws, as well as various import and export laws and regulations;
- laws that require the reporting of true and accurate financial information and data; and
- U.S. state and federal securities laws and regulations and their non-U.S. equivalents, including those related to insider trading.

We hold a marketing authorization for vadadustat from the MHRA and TGA, and we conducted our global clinical trials for vadadustat, and may in the future conduct additional trials, in countries where corruption is prevalent, and violations of any of these laws by our personnel or by any of our vendors or agents, such as our CROs or CMOs, could have a material adverse impact on our clinical trials and our business and could result in criminal or civil fines and sanctions. We are subject to complex laws that govern our international business practices. These laws include the FCPA, which prohibits U.S. companies and their intermediaries, such as CROs or CMOs, from making improper payments to foreign government officials for the purpose of obtaining or keeping business or obtaining any kind of advantage for the company. The FCPA also requires companies to keep accurate books and records and maintain adequate accounting controls. A number of past and recent FCPA investigations by the Department of Justice and the SEC have focused on the life sciences sector.

Compliance with the FCPA is expensive and difficult, particularly in countries in which corruption is a recognized problem. Some of the countries in which we have conducted clinical trials and in which we have CMOs have a history of corruption, which increases our risks of FCPA violations. In addition, the FCPA presents unique challenges in the pharmaceutical industry because in many countries' hospitals are operated by the government, and doctors and other hospital employees are considered foreign government officials. Certain payments made by pharmaceutical companies, or on their behalf by CROs, to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

Additionally, the UK Bribery Act applies to our global activities and prohibits bribery of private individuals as well as public officials. The UK Bribery Act prohibits both the offering and accepting of a bribe and imposes strict liability on companies for failing to prevent bribery, unless the company can show that it had "adequate procedures" in place to prevent bribery. There are also local anti-bribery and anti-corruption laws in countries where we have conducted clinical trials, and many of these also carry the risk of significant financial or criminal penalties.

We are also subject to trade control regulations and trade sanction laws that restrict the movement of certain goods, currency, products, materials, services and technology to, and certain operations in, various countries or with certain persons. Our ability to transfer commercial and clinical product and other clinical trial supplies, and for our employees, independent contractors, principal investigators, CROs, CMOs, consultants and vendors ability to travel, between certain countries is subject to maintaining required licenses and complying with these laws and regulations.

Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. This could include violations of HIPAA, other U.S. federal and state laws, and requirements of non-U.S. jurisdictions, including the GDPR. We are also exposed to risks in connection with any insider trading violations by employees or others affiliated with us.

The internal controls, policies and procedures, and training and compliance programs we have implemented to deter prohibited practices may not be effective in preventing our employees, contractors, consultants, agents or other representatives from violating or circumventing such internal policies or violating applicable laws and regulations. The failure to comply with laws governing international business practices may impact any future clinical trials, result in substantial civil or criminal penalties for us and any such individuals, including imprisonment, suspension or debarment from government contracting, withdrawal of our products, if approved, from the market, or being delisted from The Nasdaq Capital Market. In addition, we may incur significant costs in implementing sufficient systems, controls and processes to ensure compliance with the aforementioned laws. The laws and regulations referenced above may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements that could adversely affect our business.

Additionally, it is not always possible to identify and deter misconduct by employees and third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling known or unknown risks or preventing losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, or if any such action is instituted against our employees, consultants, independent contractors, CROs, CMOs, vendors or principal investigators, those actions could have a significant impact on our business, including the imposition of civil, criminal and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, curtailment of our operations, disclosure of our confidential information and imprisonment, any of which could adversely affect our ability to operate our business and our results of operations.

Our financial statements include long-lived assets, including goodwill and an intangible asset as a result of the Merger. The intangible asset has become impaired and could become further impaired in the future under certain conditions. In addition, other long lived assets, including property and equipment, right-of-use assets or goodwill could become impaired in the future under certain conditions. Any potential future impairment of property and equipment, our right-of-use assets, goodwill or intangible asset may significantly impact our results of operations and financial condition.

As of December 31, 2023, we had approximately $95.1 million in the aggregate of goodwill and a definite lived intangible asset from the Merger, $3.6 million of property and equipment and $12.4 million right-of-use assets. In accordance with ASC 350, *Goodwill and Other*, we are required annually for goodwill, or more frequently upon certain indicators of impairment, to review our estimates and assumptions underlying the fair value of our goodwill and intangible asset. In addition, under ASC 360, *Property, Plant and Equipment*, we are required to review our property and equipment and right-of-use assets whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Events giving rise to impairment of long-lived assets are an inherent risk in the pharmaceutical industry and often cannot be predicted.

Conditions that could indicate impairment and necessitate such a review include, but are not limited to, Auryxia's commercial performance, our inability to execute on our strategic initiatives, the deterioration of our market capitalization such that it is significantly below our net book value, a significant adverse change in legal factors, unexpected adverse business conditions, and an adverse action or assessment by a regulator. To the extent we conclude our long-lived assets have become impaired, we may be required to incur material write-offs relating to such impairment and any such write-offs could have a material impact on our future operating results and financial position. The estimates, judgments and assumptions used in our impairment analyses, and the results of our analyses, are discussed in Note 2, *Summary of Significant Accounting Policies*, to our consolidated financial statements in Part II, Item 8. Financial Statements and Supplementary Data of this Form 10-K. If these estimates, judgments and assumptions change in the future, including if the Auryxia asset group does not meet its current forecasted projections, additional impairment charges related to plant and equipment, right-of-use assets, goodwill or our intangible asset could be recorded in the future and additional corresponding adjustments may need to be made to the estimated useful life of the developed product rights for Auryxia, which could materially impact our financial position, certain of our material agreements, and our future operating results.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of Auryxia or vadadustat, if approved.

We face an inherent risk of product liability as a result of the clinical and commercial use of Auryxia and vadadustat. For example, we may be sued if Auryxia or vadadustat allegedly causes injury or is found to be otherwise unsuitable during clinical trials, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product or product candidate, negligence, strict liability and breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of Auryxia or vadadustat, if approved. Even a successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, product liability claims may result in:

- decreased demand for Auryxia or vadadustat, if approved;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- delay or termination of clinical trials;
- our inability to continue to develop Auryxia or vadadustat;
- significant costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to study subjects or patients;
- product recalls or withdrawals, or labeling, marketing or promotional restrictions;
- decreased demand for Auryxia or vadadustat, if approved;
- loss of revenue;
- the inability to commercialize Auryxia or vadadustat, if approved; and
- a decline in our stock price.

Failure to obtain and retain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop. We currently carry product liability insurance that we believe is appropriate for our Company. Although we maintain product liability insurance, any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. Our insurance policies also have various exclusions, and we may be subject to a product liability claim for which we have insufficient or no coverage. If we have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, we may not have, or be able to obtain, sufficient capital to pay such amounts. In addition, insurance coverage is becoming increasingly expensive, and we may not be able to maintain insurance coverage at a reasonable cost. We also may not be able to obtain additional insurance coverage that will be adequate to cover additional product liability risks that may arise. Consequently, a product liability claim may result in losses that could be material to our business.

We will continue to incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to compliance initiatives and corporate governance practices.

As a public company, we operate in a demanding regulatory environment, and we have and will continue to incur significant legal, accounting, auditing and other expenses. The Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The Nasdaq Capital Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and certain corporate governance practices. In particular, our compliance with Section 404 of the Sarbanes-Oxley Act has required and will continue to require that we incur substantial accounting-related expenses and expend significant management efforts. Our testing, or the testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls that we would be required to remediate in a timely manner. If we are not able to comply with the requirements of the Sarbanes-Oxley Act, we could be subject to sanctions or investigations by the SEC, the Nasdaq Capital Market or other regulatory authorities, which would require additional financial and management resources and could adversely affect the market price of our securities. Furthermore, if we cannot provide reliable financial reports or prevent fraud, including as a result of remote working by our employees, our business and results of operations would likely be materially and adversely affected.

We cannot predict or estimate the amount of additional costs we may incur to continue to operate as a public company, nor can we predict the timing of such costs. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies, which could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our Ninth Amended and Restated Certificate of Incorporation, as amended, or Charter, and our Second Amended and Restated Bylaws, or Bylaws, as amended to date, contain provisions that eliminate, to the maximum extent permitted by the General Corporation Law of the State of Delaware, or DGCL, the personal liability of our directors and executive officers for monetary damages for breach of their fiduciary duties as a director or officer. Our Charter and our Bylaws also provide that we will indemnify our directors and executive officers and may indemnify our employees and other agents to the fullest extent permitted by the DGCL.

In addition, as permitted by Section 145 of the DGCL our Bylaws and our indemnification agreements that we have entered into with our directors and executive officers provide that:

- We will indemnify our directors and officers, as defined in our Bylaws, for serving us in those capacities or for serving other related business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of Akebia and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful.
- We may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.
- We are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification.
- The rights conferred in our Bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons.

Any claims for indemnification made by our directors or officers could impact our cash resources and our ability to fund the business.

Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

Under Section 382 of the Internal Revenue Code, or Section 382, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-change net operating losses, or NOLs, to offset future taxable income. On December 12, 2018, we completed the Merger, which we believe has resulted in an ownership change under Section 382. In addition, the Tax Cuts and Jobs Act, including amendments made by the CARES Act, includes changes to U.S. federal tax rates and the rules governing net operating loss carryforwards that may significantly impact our ability to utilize our net operating losses to fully offset taxable income in the future. Future changes in our stock ownership, many of which are outside of our control, could result in an additional ownership change under Section 382. As a result, if we generate taxable income, our ability to use our pre-change NOL carryforwards to offset federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us. At the state level, state net operating losses generated in one state cannot be used to offset income generated in another state and there may be periods during which the use of NOL carryforwards is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed.

Furthermore, our ability to utilize our NOLs is conditioned upon our attaining profitability and generating U.S. taxable income. As described above under "—Risks Related to our Financial Position, Need for Additional Capital and Growth Strategy," we have incurred significant net losses since our inception and anticipate that we will continue to incur losses for the foreseeable future; thus, we do not know whether or when we will generate the U.S. taxable income necessary to utilize our NOLs.

Our Charter designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our Charter provides that, subject to limited exceptions, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim against us arising pursuant to any provision of the DGCL our Charter or our Bylaws, or (iv) any other action asserting a claim against us, our directors, officers or other employees that is governed by the internal affairs doctrine. Under our Charter, this exclusive forum provision will not apply to claims that are vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery of the State of Delaware, or for which the Court of Chancery of the State of Delaware does not have subject matter jurisdiction. For instance, the provision would not apply to actions arising under federal securities laws, including suits brought to enforce any liability or duty created by the Securities Exchange Act of 1934, as amended, or the Exchange Act, or the rules and regulations thereunder. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our Charter described above. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find these provisions of our Charter inapplicable to, or unenforceable with respect to, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business and financial condition.

We are currently subject to legal proceedings that could result in substantial costs and divert management's attention, and we could be subject to additional legal proceedings.

We are currently subject to legal proceedings, including those described in Part I, Item 3. Legal Proceedings in this Form 10-K, and additional claims may arise in the future. In addition, securities class action and derivative lawsuits and other legal proceedings are often brought against companies for any of the risks described in this Form 10-K following a decline in the market price of their securities. For example, we were party to a putative class action lawsuit in state court filed by purported Keryx stockholders challenging the disclosures made in connection with the Merger, including those that relate to vadadustat's safety, approvability and commercial viability. Oral argument was held on October 7, 2022, and the Court dismissed the complaint without prejudice on October 17, 2022, giving plaintiffs thirty days to amend their complaint. On November 16, 2022, plaintiffs filed an amended consolidated complaint, asserting the same claims and seeking the same relief as the consolidated complaint. On January 18, 2023, defendants moved to dismiss the amended consolidated complaint in its entirety. Briefing on defendants' motion to dismiss the amended consolidated complaint was completed on April 5, 2023 and oral argument was held on March 13, 2024. At the conclusion of the hearing, the Court granted our motion to dismiss. In connection with any litigation or other legal proceedings, we could incur substantial costs, and such costs and any related settlements or judgments may not be covered by insurance. Monetary damages or any other adverse judgment would have a material adverse effect on our business and financial position. In addition, if other resolution or actions taken as a result of legal proceedings were to restrain our ability to operate or market our products and services, our consolidated financial position, results of operations or cash flows could be materially adversely affected. We could also suffer an adverse impact on our reputation, negative publicity and a diversion of management's attention and resources, which could have a material adverse effect on our business.

Risks Related to our Common Stock

Our stock price has been and may continue to be volatile, which could result in substantial losses for holders or future purchasers of our common stock and lawsuits against us and our officers and directors.

Our stock price has been and will likely continue to be volatile. The stock market in general and the market for similarly situated biopharmaceutical companies specifically have experienced extreme volatility that has often been unrelated to the operating performance of particular companies, such as rising inflation and increasing interest rates. Since our initial public offering in March 2014, the price of our common stock as reported on The Nasdaq Stock Market has ranged from a low of $0.24 on October 24, 2022 to a high of $31.00 on June 20, 2014. The daily closing market price for our common stock varied between a high price of $1.84 on August 1, 2023 and a low price of $0.51 on April 5, 2023 in the twelve-month period ending on December 31, 2023. During that time, the price of our common stock ranged from an intra-day low of $0.49 per share to an intra-day high of $1.84 per share. The market price of shares of our common stock could be subject to wide fluctuations in response to many risk factors listed in this section, including, among others, developments related to and results of our research or clinical trials, developments related to our regulatory submissions and meetings with regulatory authorities, in particular as it relates to vadadustat, commercialization of Auryxia, vadadustat in Europe and, if and as approved in the U.S. and other foreign markets, and any other product candidates, announcements by us or our competitors of significant transactions or strategic collaborations, negative publicity around Auryxia or vadadustat, regulatory or legal developments in the U.S. and other countries, developments or disputes concerning our intellectual property, the recruitment or departure of key personnel including as a result of our reductions in workforce, actual or anticipated changes in estimates as to financial results, changes in the structure of healthcare payment systems, market conditions in the biopharmaceutical sector, potential delisting from The Nasdaq Stock Market and other factors beyond our control. As a result of this volatility, our stockholders may not be able to sell their common stock at or above the price at which they purchased it.

In addition, companies that have experienced volatility in the market price of their stock have frequently been the subject of securities class action and shareholder derivative litigation. See Part I, Item 3. Legal Proceedings of this Form 10-K for information concerning securities class action initiated against Keryx and certain current and former directors and officers of ours and Keryx's. In addition, we could be the target of other such litigation in the future. Class action and shareholder derivative lawsuits, whether successful or not, could result in substantial costs, damage or settlement awards and a diversion of our management's resources and attention from running our business, which could materially harm our reputation, financial condition and results of operations.

The issuance of additional shares of our common stock or the sale of shares of our common stock by any of our directors, officers or significant stockholders will dilute our stockholders' ownership interest in Akebia and may cause the market price of our common stock to decline.

Most of our outstanding common stock can be traded without restriction at any time. As such, sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell such shares, could reduce the market price of our common stock.

As of December 31, 2023 and based on the amounts reported in the most recent filings made under Section 13(d) and 13(g) of the Exchange Act, Muneer A. Satter, or Satter, beneficially owned approximately 8.3% of our outstanding shares of common stock, the Vanguard Group, or Vanguard, beneficially owned approximately 4.0% of our outstanding shares of common stock, and CSL Vifor beneficially owned approximately 4% of our outstanding shares of common stock. By selling a large number of shares of common stock, Satter or Vanguard could cause the price of our common stock to decline. The shares beneficially owned by CSL Vifor have not been registered pursuant to the Securities Act and were issued and sold in reliance upon the exemption from registration contained in Section 4(a)(2) of the Securities Act and Rule 506 promulgated thereunder, but if they are registered in the future, those shares would become freely tradable and, if a large portion of such shares are sold, could cause the price of our common stock to decline.

In addition, we entered into a warrant agreement with Kreos Capital VII Aggregator SCSp, an affiliate of Kreos, or the Warrant Holder, pursuant to which (i) we issued a warrant to the Warrant Holder to purchase 3,076,923 shares of our common stock, at an exercise price per share of $1.30 (subject to standard adjustments for stock splits, stock dividends, rights offerings and pro rata distributions), or the Exercise Price, and (ii) if we drawdown the Tranche C Loan, at that time we will issue a warrant to the Warrant Holder to purchase 1,153,846 shares of our common stock, at an exercise price per share equal to the Exercise Price. Each warrant is exercisable for eight years from date of issuance. If any or all of the warrants are exercised, our stockholders could realize dilution, and the value of their shares could decrease.

We have a significant number of shares that are subject to outstanding options and restricted stock units, and in the future we may issue additional options, restricted stock units, or other derivative securities convertible into our common stock. The exercise or vesting of any such options, restricted stock units, or other derivative securities, and the subsequent sale of the underlying common stock, could cause a further decline in our stock price. These sales also might make it difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. Such sales of our common stock could result in higher than average trading volume and may cause the market price for our common stock to decline.

Sales of substantial amounts of shares of our common stock or other securities by our employees or our other stockholders or by us under any shelf registration statement, pursuant to at-the-market offerings or otherwise, could dilute our stockholders, lower the market price of our common stock and impair our ability to raise capital through the sale of equity securities.

Our executive officers, directors and principal stockholders maintain the ability to significantly influence all matters submitted to stockholders for approval.

As of December 31, 2023, our executive officers, directors and principal stockholders, in the aggregate, beneficially owned shares representing a significant percentage of our capital stock. As a result, if these stockholders were to choose to act together, they would be able to significantly influence all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons could significantly influence the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. This concentration of voting power could delay or prevent an acquisition of our Company on terms that other stockholders may desire.

Provisions in our organizational documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders, and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our Charter and our Bylaws contain provisions that may have the effect of discouraging, delaying or preventing a change in control of us or changes in our management. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our Board of Directors is responsible for appointing certain members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our Board of Directors. Among other things, these provisions:

- authorize "blank check" preferred stock, which could be issued by our Board of Directors without stockholder approval and may contain voting, liquidation, dividend and other rights superior to our common stock;
- create a classified Board of Directors whose members serve staggered three-year terms;
- specify that special meetings of our stockholders can be called only by our Board of Directors pursuant to a resolution adopted by a majority of the total number of directors;

- prohibit stockholder action by written consent;
- establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our Board of Directors;
- provide that our directors may be removed only for cause;
- provide that vacancies on our Board of Directors may be filled only by a majority of directors then in office, even though less than a quorum;
- require a supermajority vote of 75% of the holders of our capital stock entitled to vote or the majority vote of our Board of Directors to amend our Bylaws; and
- require a supermajority vote of 85% of the holders of our capital stock entitled to vote to amend the classification of our Board of Directors and to amend certain other provisions of our Charter.

These provisions, alone or together, could delay or prevent hostile takeovers, changes in control or changes in our management.

In addition, Section 203 of the DGCL prohibits a publicly-held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person which together with its affiliates owns, or within the last three years has owned, 15% of our voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner.

Because we do not anticipate paying any cash dividends on our capital in the foreseeable future, capital appreciation, if any, will be our stockholders' sole source of gain.

We have never declared or paid cash dividends on our capital stock and we currently intend to retain all of our future earnings, if any, to finance the development and growth of our business. Any payment of cash dividends in the future would be at the discretion of our Board of Directors and would depend on, among other things, our earnings, financial condition, capital requirements, level of indebtedness, statutory and contractual restrictions applying to the payment of dividends and other considerations that the Board of Directors deems relevant. In addition, the terms of the BlackRock Credit Agreement preclude us from paying cash dividends without prior written consent of the lender and future debt agreements may preclude us from paying cash dividends. As a result, capital appreciation, if any, of our common stock will be our stockholders' sole source of gain for the foreseeable future.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity.

Cybersecurity Risk Management and Strategy

We have certain processes for assessing, identifying, and managing material risks from cybersecurity threats, which are integrated into our enterprise risk management processes. Specifically, we have processes for:

- **Identifying and Managing Cybersecurity Risks** — We have implemented a cross-functional approach to assessing, identifying and managing material cybersecurity threats and incidents. We periodically review, assess, update and test our policies, standards, processes and practices in a manner intended to address cybersecurity threats and events. The results of such reviews, assessments and tests are evaluated by management and reported to our Audit Committee of the Board of Directors, or the Audit Committee, and our Board of Directors.

- **Technical Safeguards** — We have integrated cybersecurity into our overall information technology operations and designed our processes and systems to help protect our information assets and operations from internal and external cyber threats, protect employee and patient information from unauthorized access or attack as well as secure our networks and systems.

- **Incident Response and Recovery Planning —** To better facilitate our cybersecurity program, our cybersecurity team works collaboratively across our Company to implement programs designed to protect our information systems from cybersecurity threats and to promptly respond to any material cybersecurity incidents. We conduct regular tabletop exercises, including incident simulations to test these plans and ensure personnel are familiar with their roles and responsibilities in a response scenario.

- **Third-Party Risk Management** — We maintain a risk-based approach to identifying and overseeing material cybersecurity threats presented by third parties and the systems of third parties that could adversely impact our business in the event of a material cybersecurity incident affecting those third-party systems.
- **Education and Awareness** — We provide training regarding cybersecurity threats as a means to equip our employees and consultants with tools to make employees and consultants aware of and to address cybersecurity threats, and to communicate our evolving information security policies, standards, processes and practices. We also use technology-based tools to mitigate cybersecurity risks and to bolster our employee-based cybersecurity programs.

We adjust our cybersecurity policies, standards, processes, and practices as necessary based on the information provided by our assessments, audits and reviews. Such processes include (i) procedural and technical safeguards, (ii) response plans, (iii) annual tests on our systems, (iv) incident simulations and (v) routine review of our cybersecurity policies and procedures to identify risks and improve our practices. We engage certain external cybersecurity firms to enhance our cybersecurity oversight. We include confidentiality provisions in all contracts with third-party service providers, and data protection provisions in certain contracts with third-party service providers where applicable, to help protect us and our employees and patients from any related vulnerabilities.

Governance

Our Board of Directors is responsible for exercising oversight of management's identification and management of, and planning for, risks from cybersecurity threats. While the full Board of Directors has overall responsibility for risk oversight, the Board of Directors has delegated oversight responsibility related to risks from cybersecurity threats to the Audit Committee. The Audit Committee reports to the Board of Directors at least annually, and notifies the Board of Directors as necessary regarding significant new cybersecurity threats or incidents. The Audit Committee of our Board of Directors meets annually to discuss our approach to overseeing cybersecurity threats with management, including with members of our internal cybersecurity team.

We use an internal management committee to run our information and technology team and our information and technology team includes our cybersecurity team lead who has served in various roles in information technology and information security for over 25 years, including at other public companies. Through ongoing communications with this management committee, senior management is informed about and monitors the prevention, detection, mitigation and remediation of cybersecurity threats and incidents in real-time and reports such threats and incidents to the Audit Committee, when appropriate. Management updates the Audit Committee quarterly with an overview of our cybersecurity threat risk management and strategy processes. Members of the Audit Committee are also encouraged to regularly engage in ad hoc conversations with management on cybersecurity-related topics and discuss any updates to our cybersecurity risk management and strategy programs. The Audit Committee is notified between such updates regarding significant new cybersecurity threats or incidents that meet pre-established reporting thresholds and any ongoing updates regarding any risk, as needed.

We have not identified any risks from cybersecurity threats, including as a result of any previous cybersecurity incidents, that have materially affected or are reasonably likely to materially affect our company, including our business strategy, results of operations or financial condition. However, as discussed under "Risk Factor — Risks Related to our Business and Managing Growth" in Part I, Item 1A of this Form 10-K, cybersecurity threats could pose multiple risks to us. As cybersecurity threats become more frequent, sophisticated, and coordinated, it is reasonably likely that we will be required to expend greater resources to continue to modify and enhance our protective measures.

Item 2. Properties

We currently lease approximately 65,167 square feet of office, storage and laboratory space in Cambridge, Massachusetts, which is our corporate headquarters. Excluding renewal options, the lease for our Cambridge, Massachusetts office and storage space expires on September 11, 2026 and the lease for our laboratory space expires on January 31, 2025. In the third quarter of 2022, as a result of the reductions in our workforce and our transition to primarily hybrid and remote work schedules, we ceased using two-thirds of the office space, and began to market up to 59,216 square feet of furnished office space for sublease. We believe our existing facilities are adequate to meet our operational needs.

Item 3. Legal Proceedings

Opposition Proceedings Against Akebia

In September 2018, Dr. Reddy's Laboratories Limited filed an opposition to our issued Indian Patent No. 287720 in the Indian Patent Office.

On July 26, 2022, Sandoz AG filed an opposition against our issued European Patent No. 3277270 in the European Patent Office, or the EPO. During an oral proceeding held on February 6, 2024, the EPO's Opposition Division rejected the opposition and upheld the patent as granted.

Settled Opposition Proceedings Against Akebia

On February 13, 2023, FibroGen, Inc., or FibroGen, filed an opposition against our issued European Patent No. 3357911, or the '911 EP Patent, in the EPO. On November 21, 2023, we and our collaboration partner in Japan, Mitsubishi Tanabe Pharma Corporation, or MTPC, entered into a Settlement and Cross License Agreement, or the Settlement Agreement, with FibroGen and its collaboration partner in Europe and Japan, Astellas Pharma Inc., or Astellas. This Settlement Agreement resolves all patent disputes between Akebia, MTPC, FibroGen and Astellas in the EU, the contracting states to the European Patent Convention, the UK, and Japan with no cash payment. On November 22, 2023, FibroGen withdrew the opposition against the '911 EP Patent pursuant to the terms of the Settlement Agreement.

Settled Proceedings Filed by Akebia Against FibroGen

Europe

We filed an opposition in the EPO against FibroGen's European Patent No. 1463823, or the '823 EP Patent on December 5, 2013, and an oral proceeding took place March 8 and 9, 2016. Following the oral proceeding, the Opposition Division of EPO ruled that the patent as granted did not meet the requirements for patentability under the European Patent Convention and, therefore, revoked the patent in its entirety. FibroGen appealed that decision. On February 27, 2023, FibroGen withdrew its appeal, and the patent remains revoked.

On April 3, 2019, we filed oppositions to FibroGen's European Patent Nos. 2289531, or the '531 EP Patent, and 2298301, or the '301 EP Patent in the EPO, respectively, requesting the patents be revoked in their entirety. Oral proceedings for oppositions to the two patents were held on September 7, 8 and 10, 2021. Following oral proceedings, the Opposition Division of the EPO maintained certain claims in amended form in the two patents. On January 26, 2022, we filed notice to appeal the Opposition Division's decision for '531 EP Patent. On July 8, 2022, FibroGen filed notice to appeal the Opposition Division's decision for the '301 EP Patent, which it withdrew on August 17, 2022. On November 21, 2023, we withdrew our appeal to the Opposition Division's decision for '531 EP Patent pursuant to the terms of the Settlement Agreement.

Japan

In 2018, we and MTPC jointly filed a Request for Trial before the Japan Patent Office, or JPO to challenge the validity of certain of FibroGen's HIF-related patents in Japan: JP4845728, JP5474872 and JP5474741. On September 26, 2019, the JPO conducted an invalidation trial for JP5474872 and JP4845728. On November 11, 2019, the JPO conducted an invalidation trial for JP5474741. On April 1, 2022, the JPO issued a final decision for JP4845728, which invalidated all claims except claims directed to the medical use to treat anemia that does not respond to erythropoiesis. On May 18, 2022, the JPO issued a final decision for JP5474741 and JP5474872, which maintained the claims in amended form. In May 2022, MTPC filed revocation lawsuits for the three patents in the Intellectual Property High Court requesting cancellation of the JPO's decisions. In July 2022, we filed a revocation lawsuit for JP4845728 in the Intellectual Property High Court requesting cancellation of the JPO's decision. In August 2022, we filed revocation lawsuits for JP5474741 and JP5474872 in the Intellectual Property High Court requesting cancellation of the JPO's decisions. In September 2022, FibroGen filed a revocation lawsuit for JP4845728 in the Intellectual Property High Court requesting cancellation of the JPO's decision on the claims that were invalidated. In November 2023, Akebia, MTPC, and FibroGen filed with the Japan Intellectual High Court written consent to withdraw the revocation lawsuits related to JP4845728, JP5474872 and JP5474741 pursuant to the terms of the Settlement Agreement.

United Kingdom

On December 13, 2018, we filed Particulars of Claim in the Patents Court of the United Kingdom to challenge the validity of FibroGen's six HIF-related patents in the UK: the '823 EP Patent (UK), European Patent (UK) No. 1633333, or the '333 EP Patent (UK), European Patent (UK) No. 2322153, or the '153 EP Patent (UK), European Patent (UK) No. 2322155, or the '155 EP Patent (UK), European Patent (UK) No. 2,289,531, or the '531 EP Patent (UK), and European Patent (UK) No. 2,298,301, or the '301 EP Patent (UK). In May 2019, Astellas, the exclusive licensee of FibroGen's HIF-related patents, sued Akebia for patent infringement in the Patents Court of the UK. In September 2019, we filed an Amended Particulars of Claim to include FibroGen's European Patent No. 1487472, or the '472 EP Patent (UK). On February 28, 2020, the parties agreed to dismiss the '472 EP Patent (UK) from the trial.

A trial was conducted in March 2020. On April 20, 2020, the Patents Court of the UK issued a judgment in favor of Akebia, which invalidated all the claims at issue in each of the '823 EP Patent (UK), the '333 EP Patent (UK), the '153 EP Patent (UK), the '155 EP Patent (UK) and the '301 EP Patent (UK). The '531 EP Patent (UK) was amended to a single claim to recite one specific compound; this claim was held to be valid but not infringed by vadadustat. On June 11, 2020, FibroGen and Astellas appealed the Patents Court's judgment on the invalidity of the '823 EP Patent (UK), the '301 EP Patent (UK), the '333 EP

Patent (UK), the ’153 EP Patent (UK), and the ’155 EP Patent (UK) in the Court of Appeal (Civil Division). On June 8, 2021 - June 10, 2021, the United Kingdom Court of Appeal held a three-day hearing for the appeal. On August 24, 2021, the Court of Appeal issued a judgment, which reversed the Patents Court’s judgment on the invalidity of the ’823 EP Patent (UK) and maintained certain claims of the ’823 EP Patent (UK) and the ’301 EP Patent (UK) in amended form, and which affirmed the Patents Court’s judgment on the invalidity of the ’333 EP Patent (UK), the ’155 EP Patent (UK), and the ’153 EP Patent (UK). Akebia sought permission to appeal to the UK Supreme Court, which was granted on October 3, 2022. On November 28, 2023, we filed an application for withdrawal of the Appeal at the UK Supreme Court pursuant to the terms of the Settlement Agreement. On December 15, 2023, the UK Supreme Court ordered that the Appeal be withdrawn.

Legal Proceedings Relating to Auryxia

Stockholder Litigation Relating to the Merger

On June 28, 2018, we entered into an Agreement and Plan of Merger with Keryx and Alpha Therapeutics Merger Sub, Inc., or the Merger Sub, pursuant to which the Merger Sub merged with and into Keryx, with Keryx becoming a wholly owned subsidiary of ours, or the Merger. On December 12, 2018, we completed the Merger.

On July 15, 2021, a purported former Keryx stockholder filed a putative class action in the Supreme Court of the State of New York against Akebia, a current officer of Akebia (John P. Butler), a former officer of Akebia (Jason A. Amello), former directors of Akebia (Muneer A. Satter, Scott A. Canute, Michael D. Clayman, Maxine Gowen, Duane Nash, Ronald C. Renaud, Jr., and Michael S. Wyzga), a current director of Akebia (Cynthia Smith), a former director and officer of Keryx (Jodie P. Morrison), a former officer of Keryx (Scott A. Holmes) and former directors of Keryx (Michael Rogers, Kevin J. Cameron, Steven C. Gilman, Daniel P. Regan, Mark J. Enyedy, and Michael T. Heffernan, some of whom are current members of our Board of Directors). The action is captioned Loper v. Akebia Therapeutics, Inc., et al., or the Loper Action. The complaint in the Loper Action alleges that the registration statement filed in connection with the Merger contained allegedly false and misleading statements or failed to disclose certain allegedly material information in violation of Section 11, 12(a)(2), and 15 of the Securities Act of 1933, as amended. It alleges, among other things, that Akebia failed to disclose heightened safety risks that allegedly threatened the prospects of the Phase 3 PRO2TECT clinical trial and the commercial viability of vadadustat. The complaint in the Loper Action seeks damages including interest thereon, an award of plaintiffs’ and the class’s costs and expenses, including counsel fees and expert fees, and rescission, disgorgement, or such other equitable or injunctive relief that the Court deems appropriate.

On August 16, 2021, another purported former Keryx stockholder filed a putative class action making substantially similar allegations and asserting the same claims as the Loper Action, also in the Supreme Court of the State of New York against Akebia and many of the same individual defendants named in the Loper Action. The action is captioned Panicho v. Akebia Therapeutics, Inc., et al., or the Panicho Action.

On September 13, 2021, the parties in the Loper Action and Panicho Action entered into a joint stipulation and proposed order, which provided for the consolidation of the two actions under the caption In re Akebia Therapeutics, Inc. Securities Litigation, or the Consolidated State Action. On October 27, 2021, plaintiffs filed a consolidated complaint in the Consolidated State Action. On January 10, 2022, defendants moved to dismiss the consolidated complaint in its entirety. Briefing on defendants’ motion to dismiss was completed on April 22, 2022. Oral argument was held on October 7, 2022, and the Court dismissed the complaint without prejudice on October 17, 2022, giving plaintiffs thirty days to amend their complaint. On November 16, 2022, plaintiffs filed an amended consolidated complaint, asserting the same claims and seeking the same relief as the consolidated complaint. On January 18, 2023, defendants moved to dismiss the amended consolidated complaint in its entirety, and the plaintiffs filed their opposition on March 6, 2023. Briefing on defendants’ motion to dismiss the amended consolidated complaint was completed on April 5, 2023. Oral argument was held on March 13, 2024. At the conclusion of the hearing, the Court granted our motion to dismiss.

We deny any allegations of wrongdoing and intend to continue vigorously defending against the one active stockholder lawsuit described in this Legal Proceedings section, the Consolidated State Action. There is no assurance, however, that we will be successful in the defense of this action, or any associated appeals, or that insurance will be available or adequate to fund any settlement or judgment or the litigation costs of this action. Moreover, we are unable to predict the outcome or reasonably estimate a range of possible losses at this time. A resolution of the Consolidated State Action in a manner adverse to us, however, could have a material effect on our financial position and results of operations in the period in which the action is resolved.

Settled ANDA Litigation

In February 2023, we received a Paragraph IV certification notice letter regarding an Abbreviated New Drug Application, or ANDA, submitted to the U.S. Food and Drug Administration, or FDA, by Zydus Worldwide DMCC requesting approval for a generic version of Auryxia tablets (210 mg ferric iron per tablet). On March 24, 2023, we and Panion & BF Biotech, Inc., or Panion, filed a complaint for patent infringement against Zydus Worldwide DMCC, Zydus Pharmaceuticals (USA) Inc., and Zydus Lifesciences Limited, or collectively Zydus, in the United States District Court for the District of Delaware arising from

Zydus' ANDA filing with the FDA. On May 30, 2023, we and Panion entered into a settlement and license agreement with Zydus, which resolved the patent litigation brought by we and Panion. Such settlement and license agreement, consistent with our prior ANDA settlements, granted Zydus a license to market a generic version of Auryxia in the U.S. beginning on March 20, 2025 (subject to FDA approval), or earlier under certain circumstances customary for settlement agreements of this nature. Additionally, in accordance with the settlement and license agreement, the parties terminated all ongoing litigation among us, Panion and Zydus regarding Auryxia patents pending in the Delaware District Court. The settlement and license agreement is confidential and subject to review by the U.S. Federal Trade Commission and the U.S. Department of Justice. On June 5, 2023, the Delaware District Court entered a stipulation and order of dismissal filed by the parties to terminate the action against Zydus.

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 traded on The Nasdaq Capital Market under the symbol "AKBA".

Holders

At March 12, 2024, there were approximately 30 holders of record of our common stock. The number of record holders is based upon the actual number of holders registered on our books at such date and does not include shares held in street name by brokers or other nominees, and shares held by persons, partnerships, associations, corporations or other entities whose shares are held by depository trust companies.

Dividends

We have never declared or paid any cash dividends on our common stock and we do not anticipate paying cash dividends in the foreseeable future. In addition, the terms of our BlackRock Credit Agreement preclude us from paying cash dividends without prior written consent and future debt agreements may preclude us from paying cash dividends.

Issuer Purchases of Equity Securities

None.

Recent Sales of Unregistered Securities

None.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Comparative Stock Performance Graph

We are a smaller reporting company, as defined by Rule 12b-2 of the Exchange Act, and are not required to provide a stock performance graph.

Securities Authorized for Issuance under Equity Compensation Plans

Information about our equity compensation plans is incorporated herein by reference to Item 12, *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*, of this Form 10-K.

Item 6. [Reserved]

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

This Annual Report on Form 10-K, or Form 10-K*, including this management's discussion and analysis of financial condition and results of operations, contains forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results may differ materially from those described in or implied in these forward-looking statements as a result of various factors, including those factors set forth in the "Risk Factors" section included in Part I, Item 1A of this Form 10-K. All references to years, unless otherwise noted, refer to our fiscal years, which end on December 31. For purposes of this section, all references to "we," "us," "our," "Akebia," or the "Company" refer to Akebia Therapeutics, Inc. and its consolidated subsidiaries.*

The following discussion and analysis should also be read in conjunction with the accompanying audited consolidated financial statements and related notes included in Part II, Item 8 of this Form 10-K. This section discusses 2023 and 2022 financial condition, and results of operations and year-to-year comparisons between 2023 and 2022. For discussion of 2022 items and year-over-year comparisons between 2022 and 2021 that are not included in this 2023 Form 10-K, refer to "Item 7. – Management's Discussion and Analysis of Financial Condition and Results of Operations" found in our Form 10-K/A for the year ended December 31, 2022, that was filed with the Securities and Exchange Commission on August 28, 2023.

Business Overview

We are a fully integrated commercial-stage biopharmaceutical company committed to addressing patients' unmet needs. We have built a business focused on developing and commercializing innovative therapeutics that we believe serves as a foundation for future growth. Our purpose is to better the life of each person impacted by kidney disease, and we have established ourselves as a leader in the kidney community. We believe our demonstrated ability to deliver value broadly to the kidney community has enabled us to build a sustainable company. Upon this solid foundation and our continued commitment to patients, we believe focusing on all patients who can realize a meaningful benefit from our medicines, will result in delivering value for our shareholders.

Our current portfolio includes:

- ***Auryxia® (ferric citrate)*** is an an orally administered medicine approved and marketed in the United States, or U.S., for two indications: (1) the control of serum phosphorus levels in adult patients with dialysis dependent chronic kidney disease, or DD-CKD, and (2) the treatment of iron deficiency anemia, or IDA, in adult patients with non-dialysis-dependent chronic kidney disease, or NDD-CKD. Today, we market Auryxia in the U.S. with our well-established, nephrology-focused commercial organization. Our Japanese sublicensee, Japan Tobacco, Inc., and its subsidiary, Torii Pharmaceutical Co., Ltd., collectively, JT and Torii, commercialize ferric citrate hydrate as Riona in Japan. Averoa SAS, or Averoa, has an exclusive license to develop and commercialize ferric citrate in the European Economic Area, or EEA, Turkey, Switzerland and the United Kingdom, or UK. We expect Averoa will apply for marketing authorization for ferric citrate in Europe.

- ***Vafseo™ (vadadustat)*** is an oral hypoxia-inducible factor prolyl hydroxylase, or HIF-PH, inhibitor, approved in 36 countries as a treatment for anemia due to CKD. In the European Union, or EU, the UK, Switzerland and Australia, vadadustat is approved under the trade name Vafseo for the treatment of symptomatic anemia associated with chronic kidney disease, or CKD, in adults on chronic maintenance dialysis. In May 2023, we entered into a License Agreement with MEDICE Arzneimittel Pütter GmbH & Co. KG, or Medice, pursuant to which we granted Medice an exclusive license to develop and commercialize vadadustat for the treatment of anemia in patients with CKD in the EEA, the UK, Switzerland and Australia, or the Medice Territory. In Japan, vadadustat is approved as a treatment for anemia due to CKD in both dialysis dependent and non-dialysis dependent patients under the trade name Vafseo, and is marketed and sold by our collaborator Mitsubishi Tanabe Pharma Corporation, or MTPC. In Taiwan, vadadustat is approved for the treatment of symptomatic anemia due to CKD in adult patients on chronic maintenance dialysis and in Korea as an anemia treatment for patients with CKD on hemodialysis. MTPC plans to commercialize vadadustat in Taiwan. We continue to pursue approval for vadadustat in the U.S., and in September 2023, we completed our resubmission to our New Drug Application, or NDA, for the treatment of anemia due to CKD for dialysis dependent patients to the U.S. Food and Drug Administration, or FDA. In October 2023, the FDA acknowledged that the resubmission was complete, classified it as a Class 2 response and set a user fee goal date, or PDUFA Date, of March 27, 2024. Beyond seeking U.S. approval, we have several lifecycle management and indication expansion opportunities currently under evaluation for vadadustat, including the potential for alternative dosing and label expansion for treatment of adult patients not on dialysis.
- ***Our HIF-based pipeline assets*** are molecules being evaluated to target areas of unmet needs in acute care settings. The discovery of hypoxia-inducible factor, or HIF, laid the foundation to explore the central role of oxygen sensing in many diseases. As we have seen through the development of vadadustat as a treatment for anemia due to CKD, when stabilized, HIF triggers wide-ranging adaptive, protective responses during hypoxic or ischemic conditions. We have selected two additional HIF molecules for preclinical development: AKB-9090, for use in an acute care setting, potentially for acute kidney disease, or AKI, or acute respiratory distress syndrome, or ARDS, and AKB-10108 for retinopathy of prematurity, or ROP, in neonates.

We continue to explore additional commercial and development opportunities to expand our pipeline and portfolio of novel therapeutics through both internal research and external innovation to leverage our fully integrated team.

Factors Affecting Our Performance and Results of Operation

Financial Highlights

Net product revenue in 2023 decreased by approximately 4% to $170.3 million from $176.9 million in 2022, primarily due to a decrease in Auryxia product volume partially offset by increases in pricing, improved payor mix and execution of our contracting strategy with third-party payors.

We have incurred net losses in each year since inception. Our net losses were $51.9 million and $94.2 million for the years ended December 31, 2023 and 2022, respectively. Substantially all of our net losses resulted from costs incurred in connection with the continued commercialization of Auryxia and development efforts relating to vadadustat, including conducting clinical trials of, and seeking regulatory approval for, vadadustat, providing general and administrative support for these operations and protecting our intellectual property.

Financial Components

Product Revenue

We generate product revenue from commercial sales of Auryxia to a limited number of wholesale distributors as well as certain specialty pharmacy providers. Our net product revenue includes many variables, including judgments and estimates of discounts, rebates and product returns, which can fluctuate from quarter-to-quarter and year-over-year. We evaluate, at least annually and more frequently, if needed, the price of Auryxia, which will lose exclusivity, or LoE, in March 2025. We expect our product revenue to continue to be generated primarily from our commercial sales of Auryxia.

Due to the buying patterns of our customers we tend to have seasonality from quarter to quarter. In general, our first quarter usually has lower revenues than the preceding fourth quarter, the second and third quarters have higher revenues than the first quarter, and the fourth quarter revenues are the highest in the year. While seasonality may affect quarterly comparisons within a fiscal year, it generally is not material to our annual consolidated results. However, we expect Auryxia to be included in the ESRD bundle starting in January 2025, which coupled with Auryxia's LoE in March 2025 may impact the buying patterns of our existing customers during 2024, and therefore their buying pattern in 2024 may be different than their historical practices.

We believe the Centers for Medicare & Medicaid Services', or CMS, decision to include phosphate binders in the dialysis bundle could potentially lead to higher sales of Auryxia after the LoE date than in other LoE scenarios, and plan to work with payors and providers to seek to continue the use of Auryxia beyond LoE.

License, Collaboration and Other Revenue

License, collaboration and other revenue includes revenue earned under collaboration agreements, license fees, royalty payments and revenue from product we supply under our license and supply agreements with our collaboration partners.

We expect to continue to generate revenue from our collaboration and, if applicable, supply agreements with Medice, MTPC, JT and Torii and any other collaborations into which we have entered or may enter, including our collaboration with Vifor (International) Ltd. (now a part of CSL Limited), or CSL Vifor, if vadadustat is approved in the U.S.

In 2022, we recorded a nonrefundable, non-creditable termination fee pursuant to the terms of the Termination and Settlement Agreement, or Termination Agreement, with Otsuka Pharmaceutical Co. Ltd, or Otsuka. Furthermore, in 2023 we recorded a payment received from Otsuka, in connection with the Packaging Validation Transfer Agreement, to license, collaboration and other revenue. Also in 2022, we recorded revenue from cost sharing agreements under which we were reimbursed by our collaboration partner for expenses incurred by us for research and development, or R&D, activities and, may in the future generate revenue from potential co-promotion activities, under our collaboration agreements. We do not expect to recognize any future revenue under any of our collaboration agreements with Otsuka, which were terminated on June 30, 2022.

Cost of Goods Sold

Cost of goods sold, or COGS, - Cost of product and other revenue - COGS - Cost of product and other revenue includes costs closely correlated or directly related to the costs to manufacture commercial drug substance and drug product for Auryxia, including at our contract manufacturing organizations, or CMOs, as well as indirect costs. Direct and indirect costs include fees for packaging, shipping, insurance and quality assurance, idle capacity charges, changes in reserves for excess inventory, write-offs for inventory that fails to meet specifications or is otherwise no longer suitable for commercial sale, including scrap, changes in our firm purchase commitment liability and royalties due to the licensor of Auryxia related to U.S. and Japan product sales recognized during the period.

COGS also includes costs to manufacture drug product provided to MTPC and Medice for commercial sale of Vafseo in Japan and the Medice Territory, respectively, as well as personnel-related costs, including salaries and bonuses, employee benefits and stock-based compensation attributable to employees in particular functions and associated directly with the manufacturing of our commercial products.

Cost of product and other revenue for a newly launched product does not include the full cost of manufacturing until the initial pre-launch inventory is depleted and additional inventory is manufactured and sold. Unless and until we receive regulatory approval for vadadustat, in the U.S. we record costs incurred to manufacture the U.S. pre-launch inventory, such as raw materials, drug substance and drug product conversion costs as R&D, expense. Likewise, the cost of product and other does not include the full cost of manufacturing until the initial pre-launch inventory, for the supply of vadadustat product to Medice which was previously expensed as R&D is depleted.

Cost of goods sold - Amortization of intangible asset - In addition, COGS includes the amortization of development product rights for Auryxia through the end of 2024.

Research and Development Expenses

R&D expenses consist primarily of costs incurred for the development of vadadustat and costs associated with our pipeline which includes:

- personnel-related expenses, including salaries, bonuses, employee benefits, stock-based compensation and travel expenses for employees engaged in R&D functions;

- costs associated with feasibility and potential new manufacturing processes and methods for our commercial products;
- regulatory registration and related fees for non-commercial products;
- expenses incurred under agreements with contract research organizations, or CROs, and investigative sites that conduct our clinical trials;
- the cost of acquiring, developing and manufacturing clinical trial materials through contract manufacturing organizations, or CMOs;
- facilities, depreciation and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, insurance and other supplies associated with our laboratory space as well as our R&D team;
- costs associated with discovery and development for preclinical, clinical and regulatory activities; and
- costs associated with the pre-launch inventory build for vadadustat in the U.S., for which the FDA set a PDUFA date of March 27, 2024 for our NDA resubmission, and in Europe prior to the European Commission, or EC, approval in April 2023.

R&D costs are expensed as incurred. Advance payments made for goods or services to be received in the future for use in R&D activities are recorded as prepaid expenses and other current assets. The prepaid amounts are expensed as the benefits are consumed. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors and our clinical sites.

We cannot determine with certainty the duration and completion costs of our R&D projects, the costs of related clinical development, or if, when, or to what extent we will generate revenue from the commercialization or sale of any of our product candidates. In addition, we may never obtain marketing approval for vadadustat in the U.S.

From inception through December 31, 2023, we have incurred $1.6 billion in R&D expenses. We expect to incur significant R&D expenditures for the foreseeable future as we continue the development of Auryxia, vadadustat and any other product or product candidate, including those that may be in-licensed or acquired.

A significant portion of our R&D costs have been external costs, which we track on a program-by-program basis as well as costs related to possible new manufacturing processes and methods associated with our commercial product. These external costs include fees paid to investigators, consultants, central laboratories and CROs in connection with our clinical trials and costs related to acquiring and manufacturing clinical trial materials, including costs paid to CMOs to manufacture clinical trial materials.

We do not track our internal personnel and facilities costs on a program-by-program basis as our personnel are deployed across multiple R&D projects.

Each of our products and product candidates has technical, clinical, regulatory, and commercial risk, including those discussed more fully under the heading “Risk Factors” in Part I, Item 1A of this Form 10-K. A change in the outcome of any of the variables with respect to the development of Auryxia, vadadustat or any other product or product candidate could result in a significant change in the costs and timing associated with that development.

Selling, General and Administrative Expenses

Selling, general and administrative, or SG&A, expenses consist primarily of compensation for personnel, including stock-based compensation related to commercial, marketing, executive, finance and accounting, information technology, corporate and business development and human resource functions. Other SG&A expenses include costs for marketing initiatives for our commercial products, market research and analysis on our commercial product and potential product candidates, conferences and trade shows, travel expenses, professional services fees (including legal, patent, accounting, audit, tax, and consulting fees), insurance costs, general corporate expenses and allocated facilities-related expenses, including rent and maintenance of facilities.

License Expense

License expense relates to royalties due to Panion & BF Biotech, Inc., or Panion, for sales of Auryxia in the U.S. and Riona in Japan.

Other Income (Expense), Net

Other income (expense), net consists primarily of interest income on our interest-bearing accounts, interest expense related to our term loans, accretion of the debt discount on our term loans as well as changes in the fair value of our derivative liabilities, amortization of the discount on the liability related to the termination fees associated with the termination agreement with BioVectra Inc., or BioVectra, entered into in December 2022, or the BioVectra Termination Agreement, and the amortization of the discount and deferred gain related to our refund liability to CSL Vifor. See Note 10, *Commitments and*

Contingencies, in the accompanying notes to the consolidated financial statements included in Part II, Item 8 of this Form 10-K for further information on the BioVectra Termination Agreement.

Recent Events

Borrowing Under BlackRock Term Loans and Repayment of Pharmakon Term Loans

On January 29, 2024, we entered into a secured term loan facility with Kreos Capital VII (UK) Limited, or Kreos, which are funds and accounts managed by BlackRock Inc., collectively BlackRock, or the BlackRock Credit Agreement, that provides for an aggregate principal amount of up to $55.0 million made available under the following three tranches:

(i) Tranche A — $37.0 million, drawn down on the closing date of the BlackRock Credit Agreement, of which we received $34.5 million, net of debt issuance costs, fees and expenses and was used to repay our senior secured term loans, or the Pharmakon Term Loans, with Pharmakon Advisors LP, or Pharmakon, of $35.0 million,

(ii) Tranche B — $8.0 million available in a single draw through December 31, 2024 and

(iii) Tranche C — $10.0 million available in a single draw through December 31, 2024.

Tranche B and C are only available subject to certain conditions, including receipt of marketing approval for vadadustat from the FDA and, in the case of Tranche C, receipt of a certain amount of cumulative gross cash proceeds from the sale of common stock.

On January 29, 2024, we also entered into a warrant agreement with Kreos Capital VII Aggregator SCSp, an affiliate of Kreos, pursuant to which we (i) issued a warrant to purchase 3,076,923 shares of our common stock, at an exercise price per share of $1.30 (subject to standard adjustments for stock splits, stock dividends, rights offerings and pro rata distributions), or the Exercise Price, and (ii) will issue at the time of drawdown of the Tranche C Loan, if applicable, a warrant to purchase 1,153,846 shares of our common stock, at the Exercise Price. Each warrant shall be exercisable for eight years from date of issuance.

See Note 7, *Indebtedness,* in the accompanying notes to the consolidated financial statements included in Part II, Item 8 of this Form 10-K for further information.

At-the-Market (ATM) Offering

On April 7, 2022, we entered into an Open Market Sale Agreement[SM], or Sales Agreement, with Jefferies LLC as agent, to sell up to $26.0 million of our common stock at current market prices from time to time. During the quarter and year ended December 31, 2023, we sold 6,189,974 shares of common stock under this program with net proceeds of $6.7 million, after deducting commissions and other offering expenses. Including the amount sold during the year ended December 31, 2023, through the date of the filing of this Form 10-K, we sold 19,451,285 shares of our common stock under the Sales Agreement with net proceeds of $25.4 million, after deducting commissions and other offering expenses.

PDUFA Date - March 27, 2024

On March 29, 2022, we received a complete response letter, or CRL, from the FDA, in response to our NDA for vadadustat for the treatment of anemia due to CKD in adult patients in its present form. In October 2022, we submitted a Formal Dispute Resolution Request with the FDA and in May 2023, the Office of New Drugs, or OND, denied our appeal but provided a path forward for us to resubmit the NDA for vadadustat for the treatment of anemia due to CKD for dialysis dependent patients without the need for us to generate additional clinical data. In September 2023, we completed our resubmission to our NDA for vadadustat for the treatment of anemia due to CKD in adult patients on dialysis. In October 2023, the FDA acknowledged our NDA resubmission was complete, classified it as a Class 2 response and set a PDUFA date of March 27, 2024.

Impact of Inflation

We are experiencing rising costs for certain inflation-sensitive operating expenses, such as labor, and certain of our service providers are heavily dependent on labor. We do not believe these impacts were material to our net loss during the year ended December 31, 2023 or will be going forward. However, significant sustained inflation rates driven by the macroeconomic environment or other factors could negatively impact our margins, profitability and results of operations in future periods.

Results of Operations

The tables and discussion below present the results for the periods indicated. The year ended December 31, 2022 has been updated to reflect the errors revised in prior periods and as described in more detail in Note 1, *Revision of Previously Issued Financial Statements*, in the notes to the consolidated financial statements found in Part II, Item 8 of our 2022 Form 10-K/A filed with the SEC on August 28, 2023:

	Years ended December 31,		Change 2023-2022	
(dollars in thousands)	2023	2022	$	%
Revenues				
Product revenue, net	$ 170,301	$ 176,949	$ (6,648)	(4)%
License, collaboration and other revenue	24,322	115,535	(91,213)	(79)%
Total revenues	194,623	292,484	(97,861)	(33)%
Cost of goods sold				
Cost of product and other revenue	38,107	49,526	(11,419)	(23)%
Amortization of intangible asset	36,042	36,042	—	— %
Total cost of goods sold	74,149	85,568	(11,419)	(13)%
Operating expenses				
R&D	63,079	129,986	(66,907)	(51)%
SG&A	100,233	138,601	(38,368)	(28)%
License	3,237	3,175	62	2 %
Restructuring	181	15,933	(15,752)	(99)%
Total operating expenses	166,730	287,695	(120,965)	(42)%
Operating loss	(46,256)	(80,779)	34,523	(43)%
Other expense, net	(5,145)	(12,541)	7,396	(59)%
Loss on extinguishment of debt	—	(906)	906	(100)%
Loss on termination of lease	(524)	—	(524)	*
Net loss	$ (51,925)	$ (94,226)	$ 42,301	(45)%

*Percentage change not meaningful.

Product Revenue, Net—Net product revenue is derived from sales of our only commercial product in the U.S., Auryxia. We distribute Auryxia principally through a limited number of wholesale distributors as well as certain specialty pharmacy providers.

Net product revenue was $170.3 million for the year ended December 31, 2023, compared to net product revenue of $176.9 million for the year ended December 31, 2022. The decrease was primarily due to a reduction in volume, partially offset by price increases, favorable payor mix and execution of our contracting strategy with third party payors.

Auryxia will lose exclusivity in the U.S. in March 2025, which may have a negative impact on revenue. We believe CMS's decision to include phosphate binders in the dialysis bundle could potentially lead to higher sales of Auryxia after the LoE date than in other LoE scenarios, and plan to work with third-party payors and providers to continue the use of Auryxia beyond LoE.

License, Collaboration and Other Revenue—License, collaboration and other revenue was $24.3 million for the year ended December 31, 2023, compared to $115.5 million for the year ended December 31, 2022. The decrease was due primarily to the termination of the Otsuka agreements in June 2022 under which we recognized $92.3 million and a reduction of $12.5 million in revenue recognized from the supply of drug product to MTPC, partially offset by a one-time $10.0 million upfront payment from Medice received in 2023 in connection with entering into our license agreement with Medice for their development and commercialization of vadadustat in the EU.

We do not expect to recognize any future revenue under any of the Otsuka agreements, which were terminated on June 30, 2022. Additionally, we expect our revenue under our supply agreement with MTPC to continue to decline due to the assignment of our supply agreement with Esteve Química, S.A. to MTPC in December 2022.

See Note 12, *License, Collaboration and Other Revenue*, in the accompanying notes to the consolidated financial statements included in Part II, Item 8 of this Form 10-K for further information.

A further breakdown of the license, collaboration and other revenue is as follows:

License, Collaboration and Other Revenue (dollars in thousands)	Years Ended December 31, 2023	2022
License Fees:		
Medice upfront license payment	$ 10,000	$ —
Drug Product Supply:		
MTPC vadadustat drug product supply	3,738	16,191
Medice vadadustat drug product supply	968	—
Drug Product Supply Subtotal	4,706	16,191
Royalties:		
JT and Torii royalties	5,394	5,291
MTPC royalties	1,997	1,777
Royalties Subtotal	7,391	7,068
Otsuka U.S. and International Agreements (Terminated)	2,225	92,276
Total License, Collaboration and Other Revenue	$ 24,322	$ 115,535

Cost of Goods Sold: Cost of Product and Other Revenue—Cost of product and other revenue was $38.1 million for the year ended December 31, 2023, compared to $49.5 million for the year ended December 31, 2022. The decrease was driven by lower year-over-year sales volume and a reduction in the write-downs of inventories to net realizable value in 2023. In addition, for the year ended December 31, 2023, we realized a lower cost of product and other revenue of $4.3 million due to our ability to commercially sell inventory previously written-down as excess inventory. Primarily during the first half of 2024, we anticipate realizing lower costs of up to $12.3 million related to our ability to commercially sell inventory previously written-down as excess inventory. For the year ended December 31, 2023, we recorded $1.5 million related to our firm purchase commitment liability.

For the year ended December 31, 2022, we recorded a net benefit of $37.2 million comprised of a one-time $28.7 million termination fee in connection with the BioVectra Termination Agreement offset by a one-time benefit of $65.9 million due to the reduction of our firm purchase commitment liability in connection with the BioVectra Termination Agreement.

We expense pre-launch inventory for the U.S. and Medice Territory, including certain manufacturing related expenses as R&D expenses until the product receives the required approval. Medice obtained marketing authorization from the EMA for Vafseo in April 2023. During 2023, under a side-letter, we sold certain lots of Vafseo to Medice. If the pre-launch inventory had been capitalized and the associated cost recognized when we sold the product, cost of product and other revenue for the year ended December 31, 2023 would have increased by approximately $0.8 million. The selling of the remaining zero cost inventories of Vafseo on hand of approximately $28.4 million as of December 31, 2023 will be dependent on the timing of sales of Vafseo related in the U.S., if approved, and Medice Territory.

Cost of Goods Sold: Amortization of Intangible Asset—Amortization of intangible asset relates to the acquired developed product rights for Auryxia, which is being amortized using a straight-line method over its estimated useful life of approximately six years. Amortization of the intangible asset during each of the years ended December 31, 2023 and 2022 was $36.0 million and will continue through the end of 2024.

R&D Expenses— R&D expenses were $63.1 million for the year ended December 31, 2023, compared to $130.0 million for the year ended December 31, 2022. The decrease of $66.9 million was a result of the completion of certain clinical trials coupled with cost reduction efforts that began in 2022 following the complete response letter for vadadustat in the U.S. In 2022, we began streamlining and optimizing our operations to align with our business goals which yielded savings of approximately $15.8 million in 2023, primarily due to the reduced headcount related costs as a result of the 2022 reduction in force and the overall lower headcount in 2023. In 2023, clinical trial costs decreased by approximately $23.7 million, which is largely attributed to the wind-down of certain clinical trials. We also slowed the production of pre-launch inventory while we resubmitted our NDA to the FDA. We submitted the revised NDA in September 2023 and are awaiting a response from the FDA on our PDUFA date of March 27, 2024. We believe we have sufficient levels of pre-launch inventory on hand to support both the U.S., if approved, and the European launch that were previously expensed in the current or prior years to R&D expenses.

During 2022, we incurred higher regulatory compliance fees associated with vadadustat, higher costs associated with the exploration of a new manufacturing method and process costs related to Auryxia and recorded a $8.8 million non-cash expense in connection with the R&D services the Company received from Otsuka. In addition, in 2022, received $5.4 million from our then collaboration partner which was used to offset the cost of the pre-launch inventory of $13.0 million ($7.6 million net).

The following table summarizes our R&D expenses for the years ended December 31, 2023 and 2022 (in thousands):

	Years ended December 31,	
	2023	2022
Vadadustat clinical trial and other external costs	$ 14,792	$ 51,196
Vadadustat pre-launch inventory	6,434	7,589
External costs for other programs, including feasibility and new processes and methods associated with commercial products	7,902	21,422
Total external R&D expenses	29,128	80,207
Internal personnel, consulting, facilities and other	33,951	49,779
Total R&D expenses	$ 63,079	$ 129,986

We expect to incur significant R&D expenses in future periods in support of ongoing or planned studies with respect to the development of potential product candidates and our product candidate portfolio as well as vadadustat.

Selling, General and Administrative Expenses—SG&A expenses were $100.2 million for the year ended December 31, 2023, compared to $138.6 million for the year ended December 31, 2022. The decrease of $38.4 million was primarily due to decreased headcount related costs, including stock-based compensation, as a result of the 2022 reductions in force, decreased professional service, consulting and outsourced contract expenses and lower marketing and promotional expenses. In addition, we successfully reduced our facilities footprint in May 2023 when we assigned our lease for 27,924 square feet of office space that was located in the Boston, Massachusetts, or the Boston Lease, allowing us to reduce our costs by approximately $2.4 million annually. See Note 9, *Leases,* in the accompanying notes to the consolidated financial statements included in Part II, Item 8 of this Form 10-K for further information on the Boston Lease.

While we expect to continue to find ways to operate more efficiently and reduce our general and administrative expenses, we will invest those savings in our sales and marketing and commercial efforts as we prepare for the launch of vadadustat, if approved in the U.S.

License Expenses—License expense related to royalties due to Panion for sales of Riona in Japan were $3.2 million for each of the years ended December 31, 2023 and 2022.

Restructuring Expenses—Restructuring expenses were $0.2 million for the year ended December 31, 2023, compared to $15.9 million for the year ended December 31, 2022. Following the receipt of the complete response letter, or CRL, for vadadustat in the second quarter of 2022, we implemented a reduction of our workforce which reduced our headcount by approximately 42% and impacted all departments, including several members of senior management. On November 7, 2022, we implemented a further reduction in our workforce by approximately 14% consisting solely of individuals within the commercial organization as a result of our decision to shift to a strategic account management focused model for our commercial efforts. These actions reflected our determination to refocus our strategic priorities around our commercial product, Auryxia, and our development portfolio, and were steps in a broader cost savings plan to significantly reduce our operating expense profile. We continue to decrease our operating expenses by seeking to operate more efficiently and curtail non-headcount related expense growth. We expect to slightly increase our headcount primarily on our commercial and medical affairs teams in 2024 in connection with a vadadustat launch, if approved.

Other Expense, Net—Other expense, net, was $5.1 million for the year ended December 31, 2023, compared to $12.5 million for the year ended December 31, 2022. The decrease was primarily due to a decrease in interest expense as a result of reducing our outstanding principal balance on the Pharmakon Term Loans by $32.0 million offset by a nearly 228 basis point increase in the interest rate since the year ended December 31, 2022. In addition, we no longer record interest on our liability for the sale of future royalties.

Loss on Extinguishment of Debt—During the year ended December 31, 2022, we recorded a debt extinguishment loss of $0.9 million related to the principal prepayments made on the Pharmakon Term Loans pursuant to the Second Amendment and Waiver.

Loss on Lease Termination—On May 26, 2023 we incurred a loss on lease termination of $0.5 million in connection with the assignment of our Boston Lease. In accordance with ASC 842, *Leases*, we wrote off the right-of-use asset and lease liability associated with the Boston Lease, and recognized the difference between the right-of-use asset and the lease liability offset by the payment we made to LG Chem Life Sciences Innovation Center, Inc. in connection with the assignment of $1.3 million. See Note 9, *Leases*, in the accompanying notes to the consolidated financial statements included in Part II, Item 8 of this Form 10-K for further information.

Liquidity and Capital Resources

As of December 31, 2023, we had cash and cash equivalents of approximately $42.9 million and restricted cash of $1.7 million.

To date, we have funded our operations principally through sales of our common stock, including through our employee stock purchase plan, product sales, payments received from our collaboration and licensing partners, borrowings under term loans, a working capital payment from CSL Vifor also referred to as a refund liability and a royalty transaction. From inception through December 31, 2023, we raised approximately $820.2 million of net proceeds from the sale of equity, including $519.8 million from various underwritten public offerings, $230.4 million from at-the-market offerings, or ATM Offerings, pursuant to our sales agreement with Jefferies LLC and prior sales agreements with Cantor Fitzgerald & Co., and $70.0 million from the sale of 7,571,429 shares of common stock to CSL Vifor. From January 1, 2024 through February 23, 2024, we sold 13,261,311 shares of our common stock under our Sales Agreement, resulting in proceeds to us of $18.7 million, net of offering expenses, which are not included in the above amounts reported under the ATM sales agreement.

We have incurred recurring losses and negative cash flow from operations in each year since inception and anticipate net losses and negative cash flows for the near future. For the years ended December 31, 2023 and 2022, we incurred net operating losses of $51.9 million and $94.2 million, respectively. As of December 31, 2023 and 2022, we had an accumulated deficit of $1.6 billion.

We currently have exclusive rights under a series of patents and patent applications to commercialize Auryxia in the U.S. that protect us from generic drug competition until March 2025. Following LoE, in the U.S., we may not be able to realize enough product revenue from sales of Auryxia to realize net profits from product sales. While we believe CMS's decision to include phosphate binders in the dialysis bundle could potentially lead to higher sales of Auryxia after the LoE date than in other LoE scenarios, and plan to work with payors and providers to continue the use of Auryxia beyond LoE, Auryxia product sales have not generated, and may not generate, now or following LoE in the U.S., sufficient product revenue to realize net profits from product sales to cover our current or long-term operating costs.

We believe our existing cash resources and the cash we expect to generate from product, royalty, supply and license revenues as well as the borrowings and potential future borrowing that are available under the BlackRock Credit Agreement and the working capital liability are sufficient to fund our current operating plan for at least twenty-four months if vadadustat is approved in the U.S. and for at least twelve months from filing the Form 10-K, if vadadustat is not approved in the U.S. However, if our operating performance deteriorates significantly from the levels expected in our operating plan, or if vadadustat is not approved in the U.S., it would have an adverse effect on our liquidity and capital resources and could affect our ability to continue as a going concern in the future. In addition, we may also seek to sell additional private or public equity, enter into new debt transactions, explore potential strategic transactions or a combination of these approaches or other strategic alternatives. If we raise additional funds by issuing equity securities, our shareholders would experience dilution. Debt financing, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders. Additional financing may not be available to us in amounts or on terms acceptable to us, if at all. If we are unable to raise additional capital in sufficient amounts when needed or on attractive terms, we may not be able to pursue development and commercial activities related to Auryxia and vadadustat, if approved, or any additional products and product candidates, including those that may be in-licensed or acquired. Any of these events could significantly harm our business, financial condition and prospects.

There can be no assurance that the current operating plan will be achieved in the time frame anticipated by us, or that our cash resources will fund our operating plan for the period of time anticipated by us, or that additional funding will be available on terms acceptable to us, or at all. Our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement and involves numerous risks and uncertainties, and actual results could vary as a result of a number of factors, many of which are outside our control. We have based this estimate on assumptions that may be substantially different than actual results, and we could utilize our available capital resources sooner than we currently expect. Our future funding requirements, both near- and long-term, will depend on many factors including, but not limited to, those described under Part I, Item 1A. Risk Factors under the heading "Risks Related to our Financial Position, Need for Additional Capital and Growth Strategy."

Contractual Obligations and Commitments

Debt Agreements and Other Funding Arrangements

BlackRock Term Loans

On January 29, 2024, or the Closing Date, we entered into the BlackRock Credit Agreement, which provides for a senior secured term loan facility, in the aggregate principal amount of up to $55.0 million, or the Term Loan Facility. The initial tranche of $37.0 million, or the Tranche A Loan, was funded on the Closing Date and used to pay off the Pharmakon Term Loans. The Term Loan Facility provides for additional tranches available as follows: (i) $8.0 million available in a single draw through December 31, 2024, or the Tranche B Loan, and (ii) $10.0 million available in a single draw through December 31, 2024, or the Tranche C Loan and, together with the Tranche A Loan and the Tranche B Loan, the Term Loans. The Term Loan Facility matures on March 31, 2025, which will be automatically extended to January 29, 2028 if we receive FDA approval for vadadustat on or prior to June 30, 2024, or the BlackRock Maturity Date.

We are required to make interest-only payments until December 31, 2026 after which, we will begin making equal monthly principal payments.

The Term Loan Facility will accrue interest at a floating annual rate equal to the sum of (i) term Secured Overnight Financing Rate, or SOFR, for a tenor of one month (subject to a floor of 4.25% per annum) plus (ii) a margin of 6.75% per annum (subject to an overall cap of 15.00% per annum on the all-in interest rate). During the continuance of any payment event of default the interest rate on such overdue sum will automatically increase by an additional 3.0% per annum, and may be subject to an additional late fee of 2.0% of such overdue sum.

In the event of certain prespecified events, the repayment schedule will be accelerated. For example, if FDA approval of vadadustat is not obtained on or prior to June 30, 2024, the interest only period will automatically terminate on October 1, 2024, and we will be required to repay the Term Loans in seven equal monthly payments (comprised of principal and interest), commencing on October 1, 2024 and ending on the BlackRock Maturity Date.

All obligations under the Term Loan Facility are secured by substantially all of our existing and after-acquired assets. The BlackRock Credit Agreement requires us to either (i) maintain cash and cash equivalents, measured as of the last day of each fiscal month, greater than or equal to $15.0 million or (ii) earn consolidated revenue, measured as of the last day of each fiscal month for the trailing twelve-month period, of $150.0 million. The BlackRock Credit Agreement contains certain representations and warranties, affirmative and negative covenants that limit our ability to engage in specified types of transactions and other provisions typical within a credit agreement. If an event of default occurs and is continuing under the BlackRock Credit Agreement, BlackRock is entitled to take enforcement action, including acceleration of amounts due. If we prepay the Term Loans prior to the BlackRock Maturity Date, we will be required to pay a prepayment fee ranging from 1.0% to 4.0% of the amount prepaid.

On the Closing Date, Kreos Capital VII Aggregator SCSp, an affiliate of Kreos, or the Warrant Holder, received a warrant to purchase 3,076,923 shares of our common stock, at an exercise price per share of $1.30, and upon borrowing of Tranche C, we will become obligated to issue additional warrants to purchase 1,153,846 shares of our common stock at an exercise price per share of $1.30. Each warrant shall be exercisable for eight years from date of issuance.

As of December 31, 2023, we had outstanding debt of $35.0 million, net of debt issuance costs of $0.3 million with Pharmakon.

In connection with the entry into the BlackRock Credit Agreement, on the Closing Date, we terminated the Pharmakon Loan Agreement, all obligations thereunder were paid in full and discharged and Pharmakon's security interests in our assets and property were released. See Note 7, *Indebtedness,* in the accompanying notes to the consolidated financial statements included in Part II, Item 8 of this Form 10-K for further information.

Working Capital Fund/Refund Liability

In February 2022, we amended our agreement with CSL Vifor and they contributed $40.0 million to a working capital fund, or the Working Capital Fund, established to partially fund our costs of purchasing vadadustat from our contract manufacturers. The Working Capital Fund amount may fluctuate, and will be repaid to CSL Vifor over time.

We have recorded the Working Capital Fund as a refund liability under ASC 606, *Revenue from Contracts with Customers*. The refund liability is considered a debt arrangement with zero coupon interest and we impute interest on the refund liability at a rate of 15.0% per annum. As of December 31, 2023, the $40.1 million refund liability is classified as a long-term liability based on management's estimated timing of the repayment of the refund liability to CSL Vifor exceeding one-year. See Note 8, *Deferred Revenue*, *Refund Liability and Liability Related to Sale of Future Royalties*, in the accompanying notes to the consolidated financial statements in Part II, Item 8 of this Form 10-K for further information.

Liability Related to Sale of Future Royalties

In February 2021, we sold to HealthCare Royalty Partners IV L.P., or HCR, our right to receive royalties and sales milestones for vadadustat in Japan and certain other Asian countries, such countries collectively, the MTPC Territory, such payments collectively the Royalty Interest Payments, in each case, payable to us under the MTPC Agreement. The Royalty Interest Payments are subject to an annual maximum “cap” of $13.0 million, after which we will receive 85% of the Royalty Interest Payments for the remainder of that year. The Royalty Interest Payments are also subject to an aggregate maximum “cap” of $150.0 million, after which the Royalty Interest Payments will revert back to us.

We received $44.8 million from HCR, net of certain transaction expenses, which we recorded as a liability at the transaction date. We amortize the liability related to the sale of future royalties using the effective interest method over the life of the arrangement. The annual effective interest rate as of December 31, 2023 was 0%. We retain the right to receive all potential future regulatory milestones for vadadustat under the MTPC Agreement. During the year ended December 31, 2023 and 2022, we recorded $2.0 million and $1.8 million of non-cash royalty revenue, respectively. See Note 8, *Deferred Revenue, Refund Liability and Liability Related to Sale of Future Royalties*, in the accompanying notes to the consolidated financial statements in Part II, Item 8 of this Form 10-K for further information.

Off-Balance Sheet Arrangements

Letter of Credit

As of December 31, 2023, in connection with the Cambridge Lease (as defined below), we had $1.7 million in a letter of credit outstanding.

Director and Officer Indemnification

We have entered into indemnification agreements with our directors and certain officers that will require us, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors or officers. No demands have been made upon us to provide indemnification under such agreements and there are no claims that we are aware of that could have a material effect on our consolidated financial statements.

Contractual Obligations and Commitments Other Than Debt Agreements

We are party to contractual obligations involving commitments to make payments to third parties in the future. Certain contractual obligations are reflected on our consolidated balance sheet as of December 31, 2023, while others are considered future obligations. Our material cash requirements as of December 31, 2023, include contractual obligations and commitments arising in the normal course of business, including leases, license agreements, manufacturing agreements and unconditional purchases commitments which are described in more detail below.

Cambridge Leases

We lease approximately 65,167 square feet of office, storage and laboratory space in Cambridge, Massachusetts under non-cancelable operating leases, collectively the Cambridge Lease. The office and storage lease expires on September 11, 2026 and the lease for the laboratory space expires on January 31, 2025. We ceased using approximately two-thirds of our office space in 2022 and we are currently marketing the furnished office space for sublease.

See Note 9, *Leases*, in the accompanying notes to the consolidated financial statements included in Part II, Item 8 of this Form 10-K for further information.

License Agreements

We have a license agreement with Panion, under which we are required to pay royalties related to the sale of Auryxia. The royalty payment obligations are contingent upon generating product revenue, and the amount and timing of such payments are not known. See Note 10, *Commitments and Contingencies*, in the accompanying notes to the consolidated financial statements included in Part II, Item 8 of this Form 10-K for further information.

In June 2021, we entered into a license agreement, or Cyclerion Agreement, with Cyclerion Therapeutics Inc. under which we obtained an exclusive global license under certain intellectual property rights to research, develop and commercialize praliciguat, an investigational oral soluble guanylate cyclase stimulator. We may be obligated to pay up to an aggregate of $222.0 million in specified development and regulatory milestone payments, certain specified commercial milestones and tiered royalties ranging from a low-single-digit to mid-double-digit percentage of net sales, on a product-by-product basis, and subject to reduction upon expiration of patent rights or the launch of a generic product in the territory.

Unless earlier terminated, the Cyclerion Agreement will expire on a product-by-product and country-by-country basis upon the expiration of the last royalty term, which ends upon the longest of (i) the expiration of the patents licensed under the Cyclerion Agreement, (ii) the expiration of regulatory exclusivity for such product and (iii) ten years from first commercial sale of such product. We may terminate the Cyclerion Agreement in its entirety or only with respect to a particular licensed compound or product upon 180 days' prior written notice to Cyclerion. The parties also have customary termination rights, subject to a cure period, in the event of the other party’s material breach of the Cyclerion Agreement or in the event of certain additional circumstances.

Manufacturing Agreements

We have various supply arrangements to which we are a party, and we are obligated to pay for drug substance and drug product for commercial use. Under one of our agreements, we are required to purchase a minimum quantity of Auryxia drug substance at a predetermined price. We are also obligated to purchase a certain percentage of the global demand for vadadustat drug substance and drug product based on certain quarterly and annual forecasts we provide to certain suppliers. Our supply agreements for vadadustat drug substance and drug product provide for a volume-based pricing structure. We may also be required to reimburse certain suppliers for reasonable expenses.

See Note 10, *Commitments and Contingencies*, in the accompanying notes to the consolidated financial statements included in Part II, Item 8 of this Form 10-K for further information.

Amounts Due Under Former Manufacturing and Unconditional Purchase Commitments

On December 22, 2022, we and BioVectra terminated any and all existing agreements for BioVectra to supply us Auryxia drug substance. Under the BioVectra Termination Agreement, we agreed to pay BioVectra a total of $32.5 million consisting of (i) an upfront payment of $17.5 million that was paid in December 2022 and (ii) six quarterly payments of $2.5 million commencing in April 2024. In addition, we and BioVectra have released one another from all existing and future claims and liabilities and agreed to return certain materials and documents.

Other Third Party Contracts

Unconditional Purchase Commitments

We enter into agreements in the normal course of business with various vendors, which are generally cancellable upon notice. Payments due upon cancellation consist only of payments for services provided or expenses incurred, including non-cancellable obligations of service providers, up to the date of cancellation. In addition, we contract with various organizations to conduct R&D activities with remaining contract costs to us of approximately $44.7 million as of December 31, 2023. The scope of the services under these R&D contracts can be modified and the contracts cancelled by us upon written notice. In some instances, the contracts may be cancelled by the third party upon written notice.

Cash Flows

The following table provides a summary of cash flow data for each applicable period:

	Years ended December 31,	
NET CASH PROVIDED BY/(USED IN) *(in thousands)*:	**2023**	**2022**
Operating activities	$ (23,384)	$ (73,154)
Investing activities	—	(114)
Financing activities	(25,206)	14,598
Net decrease in cash, cash equivalents and restricted cash	**$ (48,590)**	**$ (58,670)**
Cash, cash equivalents and restricted cash — beginning of period	93,169	151,839
Cash, cash equivalents and restricted cash — end of period	**$ 44,579**	**$ 93,169**

Operating Activities

Net cash used in operating activities during the year ended December 31, 2023 was $23.4 million. Net cash used in operating activities during the year ended December 31, 2023 consisted of a net loss of $51.9 million and net non-cash adjustments of $49.3 million, including amortization of our intangible asset of $36.0 million, and a reduction of $20.7 million in working capital.

Net cash used in operating activities during the year ended December 31, 2022 was $73.2 million. Net cash used in operating activities consisted of a net loss of $94.2 million and non-cash adjustments of $22.5 million, including amortization of our intangible asset of $36.0 million and decrease in our inventory firm purchase commitments that reduced our net loss by $65.9 million, primarily due to the termination of our supply agreement with BioVectra, and a reduction of $1.4 million in working capital.

Investing Activities

No net cash was used in investing activities during the year ended December 31, 2023.

Net cash used in investing activities during the year ended December 31, 2022 of $0.1 million was used to purchase equipment.

Financing Activities

Net cash used in financing activities for the year ended December 31, 2023 was $25.2 million and consisted of principal payments of $32.0 million partially offset by $6.7 million of net proceeds from the sale of common stock under our ATM Facility and from the sale of stock under our employee stock purchase plan.

Net cash provided by financing activities for the year ended December 31, 2022 was $14.6 million and consisted of net proceeds from a refund liability to a customer of $40.0 million, net proceeds from the issuance of common stock of $7.1 million under our then current at-the-market offering facility and proceeds from the exercise of common stock options and from the sale of stock under our employee stock purchase plan, partially offset by principal payments of debt of $33.0 million.

Recent Accounting Pronouncements

For a discussion of recent accounting pronouncements not yet adopted, see Note 2, *Summary of Significant Accounting Policies,* to our consolidated financial statements included in Part II, Item 8 of this Form 10-K.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements included elsewhere in this Form 10-K, which consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles, or U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, including the current or long-term classification of such assets, liabilities and expenses, classification of the expenses and the related disclosure of contingent assets and liabilities. We monitor our estimates on an ongoing basis for changes in facts and circumstances, and material changes in these estimates could occur in the future. Changes in estimates are recorded in the period in which they become known. We base our estimates on historical experience and other assumptions that we believe to be reasonable under the circumstances. Actual results may differ from our estimates if past experience or other assumptions do not turn out to be substantially accurate.

While our significant accounting policies are described in more detail in Note 2, *Summary of Significant Accounting Policies*, to our consolidated financial statements in Part II, Item 8 of this Form 10-K, we believe the following accounting policies are those most critical to the judgments and estimates used in the preparation of our consolidated financial statements and to understanding of our results of operations.

Inventories, including Pre-Launch Inventory

We assess the value of our inventories quarterly at the lower-of-cost or net realizable value, with approximate cost determined using the first-in, first-out method. Work-in-process and finished goods inventories include materials, labor, and overhead. Other long-term assets include inventory expected to remain on hand beyond one year.

We write down inventories based on quality control testing data, or when product is obsolete or conditions exist that suggest that inventory may be in excess of the anticipated demand based on assumptions about future demand for our products and market conditions. Our estimates of forecasted demand are based upon our analysis and assumptions including, but not limited to, expected product lifecycles, market conditions, product development plans and historical usage by product. If actual market conditions are less favorable than our forecasts, or actual demand from our customers is lower than our estimates, we may be required to record additional inventory write-downs. If actual market conditions are more favorable than anticipated, inventory previously written down may be sold, resulting in lower cost of sales and higher income from operations than expected in that period.

Impairment charges are recorded as a component of cost of product sales in the consolidated statements of operations and comprehensive loss in the period in which the impairment or excess quantity is identified.

The costs incurred to manufacture pre-launch inventory in advance of marketing authorization in the EU and FDA approval in the U.S. is expensed to R&D.

Impairment of Long-Lived Assets and Intangible Assets Subject to Amortization

Long-lived assets primarily include property and equipment, right-of-use assets, intangible assets and goodwill. Right-of-use assets pertain to leases of our office and laboratory spaces and the property and equipment primarily related to the leasehold improvements made to the right-of-use assets as well as furniture and laboratory equipment. In 2018, we recorded a definite-lived intangible asset related to developed product rights for Auryxia in connection with our merger with Keryx Biopharmaceuticals, Inc., or Keryx. We amortize our intangible asset that has a finite life using the straight-line method, which we estimated to be six years. As of December 31, 2023, we had $36.0 million on our consolidated balance sheet that is being amortized through December 2024.

Goodwill is the amount by which the purchase price of acquired net assets in a business combination exceeded the fair values of net identifiable assets on the date of acquisition. Goodwill is not amortized but is subject to impairment test annually or more frequently if events or changes in circumstances suggest that the carrying value of goodwill may not be recoverable, utilizing either the qualitative or quantitative method. The goodwill recorded in our financial statements pertains to the merger with Keryx in 2018.

Annually, or more frequently upon certain indicators of impairment, we review our estimates and assumptions underlying the fair value of our long-lived assets when indicators of impairment are present. If an impairment indicator exists, we perform a recoverability test by a comparison of the carrying amount of an asset or reporting unit to the future undiscounted net cash flows expected to be generated by the asset or reporting unit. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds the fair value of the asset or reporting unit.

We calculate the fair value of the long-lived asset group as the present value of estimated future cash flows expected to be generated from the long-lived asset group using a risk-adjusted discount rate. In determining estimated future cash flows associated with the long-lived asset group, we use market participant assumptions pursuant to ASC Topic 820, *Fair Value Measurements and Disclosures*.

Working Capital Fund/Refund Liability to Customer

We treat the refund liability related to the Vifor Working Capital Fund as a debt arrangement with zero coupon interest, which is recorded at net present value. On March 18, 2022, when the funds were received from CSL Vifor, we recorded an initial discount on the refund liability and a corresponding deferred gain to the refund liability on the consolidated balance sheets. The discount on the refund liability is being amortized to interest expense using the effective interest method over the expected term of the Vifor Agreement. The deferred gain is being amortized to interest income on a straight-line basis over the expected term of the Vifor Agreement.

Product Revenue, Net

We recognize revenue on product sales when the customer obtains control of our product, which occurs at a point in time, typically upon delivery to the customer. We expense incremental costs of obtaining a contract as and when incurred if the expected amortization period of the asset that we would have recognized is one year or less.

The most significant estimate we are required to make is related to government and private payor rebates, chargebacks, discounts and fees, collectively rebates (collectively considered variable consideration). The values of the rebates provided to third-party payors vary significantly and are based on government-mandated discounts and our arrangements with other third-party payors. To estimate our total rebates, we estimate the percentage of prescriptions that will be covered by each third-party payor, which is referred to as the payor mix. Thus, revenue from product sales is recorded at the net sales price (transaction price), which includes estimates of variable consideration, which are described below. We track available information regarding changes, if any, to the payor mix for our products, to our contractual terms with third-party payors and to applicable governmental programs and regulations and levels of our products in the distribution channel. We adjust our estimated rebates based upon new information as it becomes available, including information regarding actual rebates for our products and forecasted customer buying and payment demands. Claims by third-party payors for rebates are submitted to us significantly after the related sales, potentially resulting in adjustments in the period in which the new information becomes known. Our adjustments to revenue related to prior period sales have not been significant.

Further details on the variable consideration components or reserves include:

- *Trade Discounts and Allowances*—Discounts that include incentive fees that are explicitly stated in our contracts. In addition, we compensate (through trade discounts and allowances) our customers for sales order management, data and distribution services.
- *Product Returns*—Consistent with industry practice, subject to certain caps for certain customers, we generally offer customers a limited right of return which allows for the product to be returned when the product expiry is within an allowable window, when the quantity delivered is different than quantity ordered, the product is damaged in transit prior to receipt by the customer, or is subject to a recall. This right of return generally lapses once the product is provided to a patient. We estimate the amount of our product sales that may be returned for credit by our customers. Product return reserves are estimated primarily based on our gross sales multiplied by an estimated return rate calculated using our historical actual rate of return for product sales as well as recent trends on lots still subject to the return window. In addition, certain customers are subject to an annual cap on returns of 2% of gross sales in any given year.
- *Provider Chargebacks and Discounts*—Chargebacks for fees and discounts to providers represent the estimated obligations resulting from contractual commitments to sell products to qualified healthcare providers at prices lower than the list prices charged to customers who directly purchase the product from us. Customers charge us for the difference between what they pay for the product and the ultimate selling price to the qualified healthcare providers. Reserves for chargebacks consist of credits that we expect to issue for units that remain in the distribution

channel at each reporting period end that we expect will be sold to qualified healthcare providers and chargebacks that customers have claimed but for which we have not yet issued a credit.

- *Commercial and Medicare Part D Rebates*—We contract with various commercial payor organizations, primarily health insurance companies and pharmacy benefit managers, for the payment of rebates with respect to utilization of our products. We estimate the rebates for commercial and Medicare Part D payors based upon (i) our contracts with the payors and (ii) information obtained from our customers and other third parties regarding the payor mix for Auryxia.
- *Other Government Rebates*—We are subject to discount obligations under state Medicaid programs and other government programs. We estimate Medicaid and other government programs rebates based upon a range of possible outcomes that are probability-weighted for the estimated payor mix. For Medicare, we also estimate the number of patients in the prescription drug coverage gap for whom we will owe an additional liability under the Medicare Part D program. Our liability for these rebates consists of invoices received for claims from prior quarters that have not been paid or for which an invoice has not yet been received, estimates of claims for the current quarter, and estimated future claims that will be made for product that has been recognized as revenue, but which remains in the distribution channel at the end of each reporting period.
- *Other Incentives*—Other incentives that we offer include voluntary patient assistance programs such as our co-pay assistance program, which are intended to provide financial assistance to qualified commercially insured patients with prescription drug co-payments required by payors. The calculation of the accrual for co-pay assistance is based on actual claims processed during a given period, as well as historical utilization data to estimate the amount we expect to receive associated with product that has been recognized as revenue, but remains in in the distribution channel at the end of each reporting period.

Overall, these reserves reflect our best estimates of the amount of consideration to which we are entitled based on the terms of the respective underlying contracts. Our calculation of the reserves, include estimates and judgments that materially affect our recognition of net product revenues. Changes in our estimates of net product revenues could have a material effect on net product revenues recorded in the period in which we determine that change occurs.

Research and Development Expense

R&D costs are expensed as incurred. Internal R&D expenses are comprised of costs incurred in providing R&D activities, including salaries and bonuses, employee benefits and stock-based compensation for personnel engaged in R&D activities. In addition, they include facility costs, including the laboratory and an allocation of office space for utilization by R&D staff, depreciation expense on the laboratory equipment as well as other direct costs such as lab supplies.

External R&D costs include development of potential new manufacturing processes and methods for both commercial and non-commercial products, conceptual formulation and design of possible product and process alternatives for commercial and non-commercial products, research compounds and clinical manufacturing costs, costs incurred for consultants and other outside services, such as data management and statistical analysis support and materials and supplies used in support of the clinical and preclinical programs and costs paid to CROs including investigative sites that conduct our clinical trials.

We also expense pre-launch inventory to R&D until approval from the respective regulatory body is obtained.

We estimate certain costs and expenses and accrue for these liabilities as part of our process of preparing financial statements. Examples of areas in which subjective judgments may be required include, among other things, costs associated with services provided by contract organizations for preclinical development and manufacturing of our product candidates and clinical trials. We accrue for costs incurred as the services are being provided by monitoring the status of the trial or services provided, and the invoices received from our external service providers which can at times be significantly delayed. As actual costs become known to us, we adjust our accruals. To date, our estimates have not differed materially from the actual costs incurred. However, subsequent changes in estimates may result in a material change in our accruals, which could also materially affect our balance sheet and results of operations.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We are a smaller reporting company as defined by Rule 12b-2 of the Exchange Act, and are not required to provide information under this item.

Item 8. Financial Statements and Supplementary Data

All financial statement schedules have been omitted, since the required information is not applicable or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the consolidated financial statements and accompanying notes.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Akebia Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Akebia Therapeutics, Inc. (the Company) as of December 31, 2023 and 2022, the related consolidated statements of operations and comprehensive loss, stockholders' (deficit) equity and cash flows for each of the two years in the period ended December 31, 2023, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2023, 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, 2023, 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 March 14, 2024 expressed a qualified 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 Matter

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

Revenue Recognition - Payor Mix Impact on Measuring Variable Consideration, Specifically Payor Rebates

Description of the Matter	As of December 31, 2023, the Company recorded accrued product revenue allowances of $29.9 million, which includes payor rebates. As discussed in Note 2 to the Company's consolidated financial statements, the Company recognizes revenue from product sales at the net sales price (transaction price), which includes estimates of variable consideration for which reserves are established. The Company contracts with various commercial payor organizations, primarily health insurance companies and pharmacy benefit managers, for the payment of rebates with respect to utilization of its products. The Company estimates the rebates for payors based upon (i) its contracts with the payors and (ii) information obtained from its customers and other third parties regarding the payor mix. The Company estimates these payor rebates and records such estimates in the same period the related revenue is recognized, resulting in a reduction of product revenue and the establishment of an accrued liability. Auditing the measurement of the Company's net product revenues was complex and judgmental due to the significant estimation required in determining the amount of consideration that will be collected net of estimates for payor rebates. In particular, the payor rebate is affected by assumptions in payor behavior such as changes in payor mix, payor collections and current customer contractual requirements.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's revenue recognition process, including controls over the underlying assumptions and inputs used by management to estimate the payor rebates. Specifically, this included controls to assess the completeness and accuracy of the current and historical data used in calculating the estimate. Our audit procedures to test the Company's recognition of net product revenues and specifically the variable consideration component of payor rebates included, among others, assessing the methodology used to determine the estimate and testing the significant assumptions and the underlying data used by the Company in its analysis. This included testing the reasonableness of management's estimates to other inputs into their calculations such as contract terms, product in the distribution channel, and actual invoices received. We assessed the historical accuracy of management's estimates by comparing actual activity to previous estimates and performed analytical procedures to evaluate the completeness of the payor rebate reserves.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2013.

Boston, Massachusetts
March 14, 2024

AKEBIA THERAPEUTICS, INC.
CONSOLIDATED BALANCE SHEETS

(dollars in thousands, except per share amounts)	December 31, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 42,925	$ 90,466
Inventories	15,691	21,568
Accounts receivable, net	39,290	40,284
Prepaid expenses and other current assets	20,243	32,864
Total current assets	118,149	185,182
Property and equipment, net	3,629	5,214
Operating right-of-use assets	12,416	29,158
Intangible asset, net	36,042	72,084
Goodwill	59,044	59,044
Other long-term assets	12,423	5,372
Total assets	$ 241,703	$ 356,054
Liabilities and stockholders' (deficit) equity		
Current liabilities:		
Accounts payable	$ 14,635	$ 18,021
Accrued expenses and other current liabilities	67,735	75,777
Short-term deferred revenue	—	3,738
Current portion of long-term debt	17,500	32,000
Total current liabilities	99,870	129,536
Deferred revenue, net of current portion	43,296	43,296
Long-term operating lease liabilities	8,947	28,961
Embedded debt derivative	—	760
Long-term debt, net	17,183	34,078
Liability related to sale of future royalties	54,013	57,484
Refund liability to customer	40,093	40,992
Other long-term liabilities	8,885	15,717
Total liabilities	272,287	350,824
Commitments and contingencies (Note 10)		
Stockholders' (deficit) equity:		
Preferred stock $0.00001 par value, 25,000,000 shares authorized; no shares issued and outstanding at December 31, 2023 and 2022	—	—
Common stock: $0.00001 par value; 350,000,000 shares authorized at December 31, 2023 and 2022; 194,582,539 and 184,135,714 shares issued and outstanding at December 31, 2023 and 2022, respectively	2	2
Additional paid-in capital	1,578,358	1,562,247
Accumulated other comprehensive income	6	6
Accumulated deficit	(1,608,950)	(1,557,025)
Total stockholders' (deficit) equity	(30,584)	5,230
Total liabilities and stockholders' (deficit) equity	$ 241,703	$ 356,054

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

AKEBIA THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(dollars in thousands, except per share amounts)	Years Ended December 31, 2023	2022
Revenues:		
Product revenue, net	$ 170,301	$ 176,949
License, collaboration and other revenue	24,322	115,535
Total revenues	194,623	292,484
Cost of goods sold:		
Cost of product and other revenue	38,107	49,526
Amortization of intangible asset	36,042	36,042
Total cost of goods sold	74,149	85,568
Operating expenses:		
Research and development	63,079	129,986
Selling, general and administrative	100,233	138,601
License	3,237	3,175
Restructuring	181	15,933
Total operating expenses	166,730	287,695
Loss from operations	(46,256)	(80,779)
Other income (expense):		
Interest expense	(6,032)	(15,687)
Other income	887	3,146
Loss on extinguishment of debt	—	(906)
Loss on termination of lease	(524)	—
Net loss before income taxes	(51,925)	(94,226)
Net loss	$ (51,925)	$ (94,226)
Comprehensive loss	$ (51,925)	$ (94,226)
Net loss per share:		
Basic and diluted	$(0.28)	$(0.52)
Weighted average number of common shares outstanding:		
Basic and diluted	187,465,448	182,782,680

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

Akebia Therapeutics, Inc.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' (DEFICIT) EQUITY

(dollars in thousands)	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' (Deficit) Equity
Balance at December 31, 2021	**177,000,963**	**$ 1**	**$ 1,536,800**	**$ 6**	**$ (1,462,799)**	**$ 74,008**
Issuance of common stock, net of issuance costs	4,404,600	1	7,121	—	—	7,122
Proceeds from sale of stock under employee stock purchase plan	335,146	—	410	—	—	410
Stock-based compensation expense	—	—	17,849	—	—	17,849
Restricted stock unit vesting	2,252,565	—	—	—	—	—
Exercise of options	142,440	—	67	—	—	67
Net loss	—	—	—	—	(94,226)	(94,226)
Balance at December 31, 2022	**184,135,714**	**$ 2**	**$ 1,562,247**	**$ 6**	**$ (1,557,025)**	**$ 5,230**
Issuance of common stock, net of issuance costs	6,189,974	—	6,708	—	—	6,708
Proceeds from sale of stock under employee stock purchase plan	200,194	—	85	—	—	85
Stock-based compensation expense	—	—	9,317	—	—	9,317
Restricted stock unit vesting	4,054,407	—	—	—	—	—
Exercise of options	2,250	—	1	—	—	1
Net loss	—	—	—	—	(51,925)	(51,925)
Balance at December 31, 2023	**194,582,539**	**$ 2**	**$ 1,578,358**	**$ 6**	**$ (1,608,950)**	**$ (30,584)**

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

Akebia Therapeutics, Inc.
CONSOLIDATED STATEMENT OF CASH FLOWS

(dollars in thousands)	Years Ended December 31, 2023	2022
Operating Activities:		
Net loss	$ (51,925)	$ (94,226)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	1,585	1,654
Amortization of intangible asset	36,042	36,043
Interest expense related to sale of future royalties (non-cash)	—	6,182
Accretion of interest expense and amortization of refund liability	(2,228)	2,121
Royalty revenue from MTPC (non-cash)	(1,977)	(1,777)
Collaboration revenue in connection with the termination of the Otsuka Agreement (non-cash)	—	(9,550)
R&D expense in connection with the termination of the Otsuka Agreement (non-cash)	782	8,768
Amortization of right-of-use assets	4,219	(2,417)
Write-off on termination of Boston Lease (non-cash)	(825)	—
Loss on extinguishment of debt	—	406
Provision of inventories	1,580	30,242
Change in firm purchase commitments	1,533	(65,946)
Stock-based compensation expense	9,317	17,849
Change in fair value of embedded debt derivative	(760)	(1,060)
Changes in operating assets and liabilities:		
Accounts receivable	994	11,297
Inventories	(2,542)	19,087
Prepaid expenses and other current assets	11,839	1,058
Other long-term assets	(1,361)	(5,623)
Accounts payable	(5,244)	1,501
Accrued expense and other current liabilities	(10,021)	(38,005)
Lease liabilities	(4,963)	2,311
Deferred revenue	(3,738)	4,654
Other long-term liabilities	(5,691)	2,277
Net cash used in operating activities	(23,384)	(73,154)
Investing Activities:		
Purchase of property and equipment	—	(114)
Net cash provided by (used in) investing activities	—	(114)
Financing Activities:		
Proceeds from refund liability to customer	—	40,000
Proceeds from the issuance of common stock, net of issuance costs	6,708	7,121
Proceeds from the sale of stock under employee stock purchase plan	85	410
Proceeds from the exercise of common stock options	1	67
Principal payments on debt	(32,000)	(33,000)
Net cash (used in) provided by financing activities	(25,206)	14,598
Decrease in cash, cash equivalents and restricted cash	(48,590)	(58,670)
Cash, cash equivalents and restricted cash at beginning of the period	93,169	151,839
Cash, cash equivalents and restricted cash at end of the period	$ 44,579	$ 93,169
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 6,059	$ 6,755

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

Akebia Therapeutics, Inc.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1. NATURE OF BUSINESS

Organization

Akebia Therapeutics, Inc., referred to as Akebia or the Company, was incorporated in the State of Delaware in 2007 and became a public company in 2014. Akebia is a fully integrated commercial-stage biopharmaceutical company committed to addressing patients' unmet needs. Our purpose is to better the life of each person impacted by kidney disease.

The Company has one commercial product in the United States, or U.S, Auryxia® (ferric citrate), which is approved by the U.S. Food and Drug Administration, or FDA, and marketed for two indications: (i) the control of serum phosphorus levels in adult patients with dialysis dependent chronic kidney disease, or DD-CKD, and (ii) the treatment of iron deficiency anemia, or IDA, in adult patients with non-dialysis chronic kidney disease, or NDD-CKD. Auryxia will lose exclusivity in the U.S. in March 2025.

Ferric citrate is also approved in Japan, and is marketed and sold by the Company's collaboration partner, as an oral treatment for the improvement of hyperphosphatemia in patients with chronic kidney disease, or CKD, including DD-CKD and NDD-CKD and for the treatment of adult patients with IDA under the trade name Riona (ferric citrate hydrate).

The Company has early to late-stage clinical programs, including vadadustat, the Company's lead investigational product candidate. Vadadustat is an investigational oral hypoxia-inducible factor prolyl hydroxylase, or HIF-PH, inhibitor. In October 2023, the FDA acknowledged the Company's New Drug Application, or NDA, resubmission for vadadustat was complete, classified it as a Class 2 response and set a user fee goal date, or PDUFA date, of March 27, 2024.

Vadadustat is approved for the treatment of symptomatic anemia associated with CKD under the trade name Vafseo in the European Economic Area, or EEA, the United Kingdom, or UK, Switzerland, Australia and Taiwan in adult patients on chronic maintenance dialysis, in Korea for adult patients with CKD on hemodialysis and in Japan for adult dialysis-dependent and non-dialysis patients. The Company will continue to support its partners in preparation to launch vadadustat in Europe, Taiwan and potentially other countries to pursue our goal of enabling broad access to vadadustat for patients globally.

Since its inception, the Company has devoted most of its resources to research and development, or R&D, including its preclinical and clinical development activities, commercializing Auryxia and providing general and administrative support for these operations. The Company began recording revenue from the U.S. sales of Auryxia and revenue from sublicensing rights to Auryxia in Japan from the Company's Japanese partners, Japan Tobacco, Inc. and its subsidiary Torii Pharmaceutical Co., Ltd., collectively, JT and Torii, in 2018. In addition, the Company continues to explore additional development opportunities to expand its pipeline and portfolio of novel therapeutics. If the Company does not successfully commercialize vadadustat in the U.S., if approved, or any other potential product candidate, it may be unable to achieve profitability.

As of December 31, 2023, the Company had cash and cash equivalents of approximately $42.9 million. Based on its current operating plan, the Company believes that its cash resources and the cash the Company expects to generate from product, royalty, supply and license revenues will be sufficient to allow the Company to fund its current operating plan through at least twelve months from the filing of this Annual Report on Form 10-K, or Form 10-K. However, if the Company's operating performance deteriorates significantly from the levels expected in the Company's operating plan, or if vadadustat is not approved in the U.S., it would affect the Company's liquidity and its ability to continue as a going concern in the future. The Company expects to finance future cash needs through product and collaboration, license and other revenue, including royalties and revenue from supply agreements. If the Company believes its resources are insufficient to satisfy its liquidity requirements, we may seek to sell public or private equity, enter into new debt transactions, explore potential strategic transactions, consider other cash-generating or saving measures or a combination of these approaches or other strategic alternatives. There can be no assurance that the current operating plan will be achieved in the time frame anticipated by the Company or that its cash resources will fund its operating plan for the period of time anticipated by the Company, or that additional funding will be available on terms acceptable to the Company, or at all.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Principles of Consolidation

The accompanying consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the U.S., or GAAP. Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification, or ASC, and Accounting Standards Update, or ASU, of the Financial Accounting Standards Board, or FASB.

The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated in the consolidated financial statements herein.

Certain monetary amounts, percentages and other figures included elsewhere in these consolidated financial statements have been subject to rounding adjustments. Accordingly, figures shown as totals in certain tables may not be the arithmetic aggregation of the figures that precede them, and figures expressed as percentages in the text may not total 100% or, as applicable, when aggregated, may not be the arithmetic aggregation of the percentages that precede them.

Use of Estimates

The preparation of financial statements in conformity with GAAP, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, revenue and expenses, classification of the expenses, assets and liabilities and the disclosure of contingent assets and liabilities as of and during the reported period. On an ongoing basis, management evaluates its estimates. Management bases its estimates and assumptions on historical experience when available and on various factors, including expected business and operational changes, sensitivity and volatility associated with the assumption that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of the assets and liabilities that are not readily apparent from other sources. In certain circumstances, management must apply significant judgment in these processes. The estimation process often may yield a range of potentially reasonable estimates of the ultimate future outcomes, and management selects an amount that falls within that range of reasonable estimates. Although, we regularly assesses these estimates, actual results may differ materially from those estimates and changes in estimates are recorded in the period they become known.

Significant estimates and judgments reflected in these consolidated financial statements include, but are not limited to: accrued expenses, other long-term liabilities, product revenues, including various rebates, returns and reserves related to product sales, inventories, classification of expenses between cost of goods sold, R&D and selling, general and administrative, long-term assets, including the Company's right-of-use assets, intangible asset and goodwill.

Cash, Cash Equivalents and Restricted Cash

In determining cash, cash equivalents and restricted cash, the Company considers only those highly liquid investments, readily convertible to cash within 90 days from the date of purchase to be cash equivalents. As of December 31, 2023, cash and cash equivalents primarily included cash on hand and funds invested in money market funds.

Restricted cash represents amounts required to secure the outstanding letter of credit in connection with the Company’s office and laboratory space in Cambridge, Massachusetts, or the Cambridge Lease. Restricted cash is included in “other long-term assets” in the consolidated balance sheets.

The following table reconciles cash, cash equivalents and restricted cash reported within the Company's consolidated balance sheets to the total amounts reported in the consolidated statements of cash flows:

	December 31,	
Reconciliation of cash, cash equivalents and restricted cash (in thousands)	**2023**	**2022**
Cash and cash equivalents	$ 42,925	$ 90,466
Restricted cash included in other long-term assets	1,654	2,703
Total cash, cash equivalents and restricted cash	$ 44,579	$ 93,169

Fair Value of Financial Instruments

Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required to be recorded at fair value, management considers the principal or most advantageous market in which it would transact and considers assumptions that market participants would use when pricing the asset or liability. ASC Topic 820, *Fair Value Measurement*, establishes a fair value hierarchy that requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. To the extent the valuation is based on models or inputs that are less observable in the market, the determination of fair values requires more judgment. A financial instrument categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The three levels of inputs that may be used to measure fair value are:

- **Level 1** – unadjusted quoted prices in active markets for identical assets or liabilities to the reporting entity at the measurement date.
- **Level 2** – quoted prices for similar assets or liabilities in markets that are not active, or for which all significant inputs are observable, either directly or indirectly, for substantially the full term of the asset or liability.

- **Level 3** – unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date.

Accounts Receivable

The Company’s accounts receivable represent amounts due to the Company from product sales (see Note 11) and from its collaboration, license and other agreements (see Note 12). Reimbursable costs that have not been invoiced as of the balance sheet date are recorded as unbilled accounts receivable. Accounts receivable arising from product sales primarily represent amounts due from the Company's customers, net of allowances for customer discounts and chargebacks. The Company deducts trade allowances for prompt payment, among other certain discounts or chargebacks, from its accounts receivable based on its experience that the Company’s customers will earn these discounts and fees.

The Company makes judgments as to its ability to collect outstanding receivables and provides an allowance for receivables when collection becomes doubtful. Provisions are made based upon a specific review of all significant outstanding receivables and the overall quality and age of those invoices not specifically reviewed as well as historical payment patterns and existing economic factors. The Company believes that credit risks associated with its customers and collaboration partners are not significant. The Company's allowance for credit losses was $1.0 million and $1.1 million as of December 31, 2023 and 2022, respectively. The write-offs for the year ended December 31, 2023 and 2022 were $0.1 million and $0.4 million, respectively.

Concentrations of Risk and Off-Balance Sheet Risk

Credit Risk

Cash, cash equivalents and accounts receivable are the only financial instruments that potentially subject the Company to concentrations of credit risk. The Company maintains cash accounts principally at three financial institutions in the U.S., which at times, may exceed the Federal Deposit Insurance Corporation's limits. The Company has not experienced any losses from cash balances in excess of the insurance limit. The Company's management does not believe the Company is exposed to significant credit risk at this time due to the financial condition of the financial institutions where its cash is held.

Gross revenues and accounts receivable from each of the Company’s customers or collaboration partners who individually accounted for 10% or more of total gross revenues and/or 10% or more of total gross accounts receivable consisted of the following:

	% of Total Gross Revenues	
	Years Ended December 31,	
Customer	**2023**	**2022**
Fresenius Medical Care Rx	40%	34%
Cencora, Inc., formerly known as AmerisourceBergen Drug Corporation	21%	15%
McKesson Corporation	11%	—%
Cardinal Health, Inc.	10%	—%
Otsuka Pharmaceutical Co. Ltd.	—%	20%

	% of Gross Accounts Receivable	
	December 31,	
Customer	**2023**	**2022**
Fresenius Medical Care Rx	31%	44%
Cencora, Inc., formerly known as AmerisourceBergen Drug Corporation	25%	16%
Cardinal Health, Inc.	16%	13%
McKesson Corporation	12%	10%

Off-Balance Sheet Accounts

The Company has no significant off-balance sheet concentrations of credit risk, such as foreign currency exchange contracts, option contracts or other hedging arrangement. See Note 9, *Leases,* for further details.

Manufacturing and Distribution Risk.

The Company is dependent on third-party manufacturers, logistics company and distributors to supply products for commercial activities associated with its product and product candidates, as applicable. In particular, the Company relies and expects to continue to rely on a small number of manufacturers to supply it with its requirements for the active pharmaceutical ingredients and formulated drugs related to the Company's product and product candidate activities. These activities, including the commercialization of Auryxia, could be adversely affected by a significant interruption in the supply of active pharmaceutical ingredients and formulated drugs or distribution of finished product to the market.

Inventories, including Pre-Launch Inventories

The Company values its inventories at the lower-of-actual cost or net realizable value. The Company determines the cost of its inventories, which includes amounts related to materials and manufacturing overhead, on a first-in, first-out basis. When the Company expects to utilize the inventory beyond one year we record it in inventories, long-term on its consolidated balance sheets.

Prior to obtaining initial regulatory approval for an investigational product candidate the Company expenses costs relating to production of pre-launch inventory as R&D expense in its consolidated statements of operations and comprehensive loss in the period incurred. After regulatory approval has been received, the Company capitalizes such inventory costs. Products used in clinical trials are expensed as R&D expense in the statement of operations and comprehensive loss.

The Company performs an assessment of the recoverability of capitalized inventory during each reporting period, and writes down any excess or obsolete inventory to its net realizable value in the period in which the impairment is identified through cost of product and other revenue in the consolidated statements of operations and comprehensive loss.

Additionally, the Company’s product is subject to strict quality control and monitoring that is performed throughout the manufacturing process, including release of work-in-process to finished goods. In the event that certain batches or units of product do not meet quality specifications, the Company will record a write-down of any potential unmarketable inventory to its estimated net realizable value and record the expense as cost of product and other revenue in the consolidated statements of operations and comprehensive loss.

The Company prepays for certain manufacturing costs, including the raw materials to its CMOs which are included in prepaid manufacturing on the consolidated balance sheet.

Property and Equipment

Property and equipment are recorded at cost, less accumulated depreciation. Expenditures for repairs and maintenance are expensed as incurred. Depreciation expense is recognized using the straight-line method over the estimated useful lives, which are typically:

Asset Category	Estimated Useful Life
Computer equipment and software	3 years
Furniture and fixtures	5 years - 7 years
Laboratory and other equipment	7 years
Leasehold improvements	Shorter of the useful life or remaining lease term

Maintenance and repairs to an asset that do not improve or extend its life are charged to operations. When assets are retired or otherwise disposed of, the assets and related accumulated depreciation are eliminated from the accounts and any resulting gain or loss is reflected in the Company's consolidated statements of operations and comprehensive loss.

Intangible Asset

The Company maintains a definite-lived intangible asset related to developed product rights for Auryxia. The intangible asset was initially recorded at fair value and is stated net of accumulated amortization. The Company amortizes its intangible asset that has a finite life using the straight-line method. Amortization for the Company’s intangible asset is recorded over its remaining estimated useful life, which as of December 31, 2023 is estimated to be six years.

Goodwill

Goodwill reflects the excess purchase price over the fair value of the net tangible and intangible assets acquired in a business combination.

Goodwill is evaluated for impairment on an annual basis, and more frequently if indicators are present or changes in circumstances suggest that impairment may exist. The Company compares the fair value of its reporting unit to its carrying value. If the carrying value of the net assets assigned to the reporting unit exceeds the fair value of its reporting unit, the Company would record an impairment loss equal to the difference. As described above, the Company operates in one operating segment which the Company considers to be the only reporting unit.

Impairment of Long-Lived Assets and Intangible Assets Subject to Amortization

Long-lived assets primarily include property and equipment, intangible assets. The Company evaluates its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. The recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds the fair value of the asset.

The Company did not recognize any impairment losses on long-lived assets for the years ended December 31, 2023 and 2022, respectively.

Leases

The Company made an accounting policy election not to recognize leases with an initial term of twelve months or less within its consolidated balance sheets and to recognize those lease payments as an expense on a straight-line basis in its consolidated statements of operations and comprehensive loss. The Company also made the accounting policy election not to separate the non-lease components from the lease components for its building leases and, rather, account for each non-lease component and lease component as a single component.

The Company determines if an arrangement is a lease at inception. An arrangement is determined to contain a lease if the contract conveys the right to control the use of an identified property, plant or equipment for a period of time in exchange for consideration. If the Company can benefit from the various underlying assets of a lease on their own or together with other resources that are readily available, or if the various underlying assets are neither highly dependent on nor highly interrelated with other underlying assets in the arrangement, they are considered to be a separate lease component. In the event multiple underlying assets are identified, the lease consideration is allocated to the various components based on each of the component’s relative fair value.

Operating lease assets represent the Company’s right to use an underlying asset for the lease term and operating lease liabilities represent its obligation to make lease payments arising from the leasing arrangement. The right-of-use asset and operating lease liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. The Company uses the implicit rate when readily determinable and uses an estimate of its incremental borrowing rate when the implicit rate is not readily determinable based upon the available information at the commencement date of lease inception. The incremental borrowing rate is determined using a credit rating scoring model to estimate the Company’s credit rating, adjusted for collateralization. The calculation of the right-of-use asset includes any lease payments made and excludes any lease incentives. If a lease includes an option to extend or terminate the lease, the Company reflects the option in the lease term if it is reasonably certain the Company will exercise the option.

The Company’s operating leases are reflected in operating right-of-use assets, accrued expenses and other current liabilities and long-term operating lease liabilities in its consolidated balance sheets.

Derivative Financial Instruments

The Company accounts for derivative financial instruments as either equity or liabilities in accordance with ASC Topic 815, *Derivatives and Hedging*, or ASC 815, based on the characteristics and provisions of each instrument. Embedded derivatives are required to be bifurcated from the host instruments and recorded at fair value if the derivatives are not clearly and closely related to the host instruments on the date of issuance. Derivative instrument liabilities are classified in the consolidated balance sheets as current or non-current based on whether or not net-cash settlement of the derivative instrument could be required within 12 months of the balance sheet date. The embedded derivatives are revalued on each subsequent balance sheet date until such instruments are exercised or expire, with any changes in the fair value between reporting periods recorded as other income or expense in the consolidated statements of operations and comprehensive loss. The derivative liability recorded in connection with the Company’s prior Loan Agreement with Pharmakon was classified as a liability in the Company’s consolidated balance sheets. See Note 3, *Fair Value Measurements*, and Note 7, *Indebtedness*, for more information.

Liability Related to Sale of Future Royalties

The Company accounts for the liability related to sale of future royalties as a debt financing, amortized under the effective interest rate method over the estimated life of the related expected royalty stream. The liability related to sale of future royalties and the debt amortization are based on the Company’s current estimates of future royalties expected to be paid over the life of the arrangement. The Company will periodically assess the expected royalty payments. To the extent the Company’s estimates of future royalty payments are greater or less than previous estimates or the estimated timing of such payments is materially different than previous estimates, the Company will adjust the effective interest rate and recognize related non-cash interest expense on a prospective basis. In the event the Company's estimates of future royalties are less than the proceeds from the sale of future royalties, the Company will not recognize related non-cash interest expense. Non-cash royalty revenue is reflected as royalty revenue within License, collaboration and other revenue, and non-cash amortization of debt is reflected as interest expense in the consolidated statements of operations and comprehensive loss. See Note 8, *Deferred Revenue, Refund Liability and Liability Related to Sale of Future Royalties*, for more information.

Refund Liability to Customer

The Company accounts for the refund liability as a debt arrangement, which is recorded at net present value. When the funds were received from the customer, the Company recorded an initial discount on the refund liability and a corresponding deferred gain to the refund liability. The discount on the refund liability is being amortized to interest expense on the consolidated statement of operations and comprehensive loss and the deferred gain is being amortized to other income on the consolidated statement of operations and comprehensive loss over the expected term of the arrangement. See Note 8, *Deferred Revenue, Refund Liability and Liability Related to Sale of Future Royalties*, for more information.

Excess Firm Purchase Commitment Liabilities

At each reporting period, the Company assesses whether there are excess firm non-cancelable purchase commitment liabilities, resulting from supply agreements with third-party CMOs. The determination of excess firm purchase commitment liabilities requires judgment, including consideration of many factors, such as estimates of future product demand, current and future market conditions, impact of our loss of exclusivity, expiration and utilization of drug substance under firm purchase commitments, and contractual minimums. Inventory receipts, if any, that have been previously identified as excess are recorded as a reduction to the firm purchase commitment liability. Any changes in the firm purchase commitment liability are recorded in cost of product and other revenue in the consolidated statements of operations and comprehensive loss.

Revenue Recognition

The Company recognizes revenue in accordance with ASC Topic 606, *Revenue from Contracts with Customers*, or ASC 606, which applies to all contracts with customers, except for contracts that are within the scope of other standards. Under ASC 606, the Company recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that the Company determines are within the scope of ASC 606, it performs the following five steps:

(i) identify the contract(s) with a customer;
(ii) identify the performance obligations in the contract;
(iii) determine the transaction price;
(iv) allocate the transaction price to the performance obligations in the contract; and
(v) recognize revenue when (or as) the entity satisfies a performance obligation.

The Company only applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the contract is determined to be within the scope of ASC 606, the Company assesses the goods or services promised within each contract and determines those that are performance obligations, and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when, or as, the performance obligation is satisfied.

The Company does not include a financing component to its estimated transaction price at contract inception unless it estimates that certain performance obligations will not be satisfied within one year. Additionally, the Company recognizes the incremental costs of obtaining a contract as an expense when incurred if the amortization period of the asset that the Company otherwise would have recognized is one year or less.

Product Revenue, Net

The Company recognizes product revenues on sales of Auryxia primarily attributable to a limited number of customers, including wholesale distributors as well as certain specialty pharmacy providers, in the U.S., which accounts for the largest portion of the Company's total revenue. These customers resell the Company’s product to health care providers and patients. In addition to distribution agreements with customers, the Company enters into arrangements with health care providers and payors that provide for government-mandated and/or privately-negotiated rebates, chargebacks and discounts with respect to the purchase of the Company’s product. The Company’s payment terms are consistent with prevailing practice in the respective markets in which the Company does business. Most of the Company’s customers make payments based on contract terms, which are not affected by contingent events that could impact the transaction price. Payment terms fall within the one-year guidance for the practical expedient, which allows the Company to forgo adjustment of the contractual payment amount of consideration for the effects of a significant financing component.

The Company recognizes revenue on product sales when the customer obtains control of the Company's product, which occurs at a point in time, typically upon receipt of the product by the Company's customer. The Company expenses incremental costs of obtaining a contract, such as sales commissions, as and when incurred, if the expected amortization period of the asset that it would have recognized is one year or less. Sales commissions are recorded in selling, general and administrative expense in the statements of operations and comprehensive loss.

Revenue from product sales is recorded at the net sales price, or Transaction Price, which includes estimates of variable consideration for which reserves are established and which result from discounts, returns, chargebacks, rebates, co-pay assistance and other allowances offered within contracts between the Company and its customers, health care providers, payors and other indirect customers relating to the Company's sales of its products. When appropriate, these estimates take into consideration a range of possible outcomes which are probability-weighted in accordance with the expected value method in ASC 606 for relevant factors such as the Company's historical experience, current contractual and statutory requirements, specific known market events and trends, industry data and forecasted customer buying and payment patterns.

The amount of variable consideration that is included in the Transaction Price may be constrained, and is included in the net sales price only to the extent that it is probable that a significant reversal in the amount of the cumulative revenue recognized will not occur in a future period. Actual amounts of consideration ultimately received may differ from the Company's estimates. The reserves are classified as reductions to accounts receivable, net of payable, if the trade discount and/or allowance will be credited to the customer or accrued expenses and other current liabilities or other long-term liabilities, if payable to a third-party in the consolidated balance sheets.

Trade Discounts and Allowances—The Company generally provides customers with prompt pay discounts and pay fees for distribution services, such as fees for certain data that customer's provide to the Company. Trade discounts and allowances are recorded as a reduction of revenue within the consolidated statements of operations and comprehensive loss in the period the related product revenue is recognized. The Company estimates that, based on its experience, its customers will earn these discounts and fees, and the Company will deduct the full amount of these discounts and fees from its gross product revenues and accounts receivable at the time such revenues are recognized.

Product Returns—Consistent with industry practice, subject to certain caps for certain customers, the Company generally offers customers a limited right of return which allows for the product to be returned when the product expiry is within an allowable window, when the quantity delivered is different than quantity ordered, the product is damaged in transit prior to receipt by the customer or is subject to a recall. This right of return generally lapses once the product is provided to a patient or generally, if the bottle has been opened. The Company estimates the amount of its product sales that may be returned and records this estimate as a reduction of revenue in the period the related product revenue is recognized. The Company currently estimates product return reserve using available industry data and its own historical return information, including its visibility into the estimated inventory remaining in the distribution channel.

Provider Chargebacks and Discounts—Chargebacks for fees and discounts to providers represent the estimated obligations resulting from contractual commitments to sell products to qualified healthcare providers at prices lower than the list prices charged to customers who directly purchase the product from the Company. Customers charge the Company for the difference between what they pay for the product and the ultimate selling price to the qualified healthcare providers. These reserves are established in the same period that the related revenue is recognized, resulting in a reduction of product revenue and accounts receivable. Chargeback amounts are generally determined at the time of resale to the qualified healthcare provider by customers, and the Company generally issues credits for such amounts within a few weeks of the customer's resale of the product. Reserves for chargebacks consist of credits that the Company expects to issue for units that remain in the distribution channel at each reporting period end that the Company expects will be sold to qualified healthcare providers, and chargebacks that customers have claimed but for which the Company has not yet issued a credit.

Commercial and Medicare Part D Rebates—The Company contracts with various commercial payor organizations, primarily health insurance companies and pharmacy benefit managers, for the payment of rebates with respect to utilization of its products. The Company estimates the rebates for commercial and Medicare Part D payors based upon (i) its contracts with the payors and (ii) information obtained from its customers and other third parties regarding the payor mix for Auryxia. The Company estimates these rebates and records such estimates in the same period the related revenue is recognized, resulting in a reduction of product revenue and the establishment of an accrued liability.

Other Government Rebates—The Company is subject to discount obligations under state Medicaid programs and other government programs. The Company estimates its Medicaid and other government programs rebates based upon a range of possible outcomes that are probability-weighted for the estimated payor mix. These reserves are recorded in the same period the related revenue is recognized, resulting in a reduction of product revenue and the establishment of a current liability which is included in accrued expenses and other current liabilities in the consolidated balance sheets. For Medicare, the Company also estimates the number of patients in the prescription drug coverage gap for whom the Company will owe an additional liability under the Medicare Part D program. The Company's liability for these rebates consists of invoices received for claims from prior quarters that have not been paid or for which an invoice has not yet been received, estimates of claims for the current quarter, and estimated future claims that will be made for product that has been recognized as revenue, but which remains in the distribution channel at the end of each reporting period.

Other Incentives—The Company offers a voluntary patient co-pay assistance program, which provides financial assistance to qualified commercially insured patients with prescription drug co-payments required by payors. The calculation of the accrual for co-pay assistance is based on actual claims processed during a given period plus an estimate of the amount the Company expects to pay based on historical utilization rates for the product that has been recognized as revenue but is estimated to be remaining in in the distribution channel at the end of each reporting period.

License, Collaboration and Other Revenues

The Company enters into license and collaboration agreements within the scope of ASC 606, under which it licenses certain rights to its product candidates to third parties. The terms of these arrangements typically include the following: (i) non-refundable, up front licenses fees associated with the licensing of intellectual property; (ii) development, regulatory and commercial milestone payments; (iii) drug product the Company supplies in connection with certain license and collaboration agreements and (iv) royalties earned on net sales of licensed products.

In determining the appropriate amount of revenue to be recognized as the Company fulfills its obligations under each of its agreements, the Company implements the five-step model noted above. As part of the accounting for these arrangements, the Company develops assumptions that require judgment to determine whether the individual promises should be accounted for as separate performance obligations or as a combined performance obligation, and to determine the stand-alone selling price for each performance obligation identified in the contract. A deliverable represents a separate performance obligation if both of the following criteria are met: (i) the customer can benefit from the good or service either on its own or together with other resources that are readily available to the customer, and (ii) the entity's promise to transfer the good or service to the customer is separately identifiable from other promises in the contract. The Company uses key assumptions to determine the stand-alone selling price, which may include forecasted revenues, development timelines, reimbursement rates for personnel costs, discount rates and probabilities of technical and regulatory success.

Licenses of Intellectual Property

If the license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenue from non-refundable, up-front fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. For licenses that are bundled with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjust the measure of performance and related revenue recognition.

Milestone Payments

At the inception of each arrangement that includes development milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. The Company evaluates factors such as the scientific, clinical, regulatory, commercial and other risks that must be overcome to assess the milestone as probable of being achieved. There is considerable judgement involved in determining whether a milestone is probable of being reached at each specific reporting period. Milestone payments that are not within the control of the Company or the customer, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. The transaction price is then allocated to each performance obligation on a relative stand-alone selling price basis, for which the Company recognizes revenues as, or when, the performance obligations under the contract are satisfied. At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of such development milestones and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect collaboration revenue in the period of adjustment.

Drug Product Supply

Collaboration and license arrangements that include a promise for future supply of drug substance or drug product for either clinical development or commercial supply at the licensee's discretion are generally considered as options. The Company assesses if these options provide a material right to the licensee and if so, they are accounted for as a separate performance obligation. If the Company is entitled to additional payments when the licensee exercises these options, any payments are recorded in license, collaboration and other revenues when the licensee obtains control of the goods, which is generally upon delivery.

Royalties

The Company will recognize sales-based royalties, including milestone payments based on the level of net sales, at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied).

Collaborative Arrangements

The Company records the elements of its collaboration agreements that represent joint operating activities in accordance with ASC Topic 808, *Collaborative Arrangements,* or ASC 808. Accordingly, the elements of the collaboration agreements that represent activities in which both parties are active participants and to which both parties are exposed to the significant risks and rewards that are dependent on the commercial success of the activities are recorded as collaborative arrangements. The Company considers the guidance in ASC 606-10-15, *Revenue from Contracts with Customers – Scope and Scope Exceptions*, in determining the appropriate treatment for the transactions between the Company and its collaborative partners and the transactions between the Company and third parties. Generally, the classification of transactions under the collaborative arrangements is determined based on the nature and contractual terms of the arrangement along with the nature of the operations of the participants. To the extent product revenue is generated from the collaboration, the Company recognizes its share of the net sales on a gross basis if the Company is deemed to be the principal in the transactions with customers, or on a net basis if the Company is instead deemed to be the agent in the transactions with customers, consistent with the guidance in ASC 606.

Cost of Goods Sold

Cost of goods sold, or COGS, includes costs closely correlated or directly related to the costs to manufacture commercial drug product for Auryxia, including costs paid to the Company's contract manufacturing organizations, or CMOs, as well as indirect costs. Direct and indirect costs include fees for packaging, shipping, insurance and quality assurance, idle capacity charges, routine testing costs, routine ongoing efforts to improve existing commercial products, reserves for excess inventory, write-offs for inventory that fails to meet specifications or is otherwise no longer suitable for commercial sale, including scrap, changes in firm purchase commitment liability and royalties due to the licensor of Auryxia related to U.S. and Japan product sales recognized during the period. In addition, COGS includes the amortization of development product rights for the Auryxia intangible asset. The Company also includes personnel-related costs, including salaries and bonuses, employee benefits and stock-based compensation attributable to employees in particular functions and associated directly with the manufacturing of our commercial products.

Further, the Company includes in COGS costs to manufacture drug product provided to customers for which we have a license agreement. Cost of goods sold for a newly launched product may not include the full cost of manufacturing until the initial pre-launch inventory is depleted, and additional inventory is manufactured and sold.

Until the Company receives regulatory approval for vadadustat, the Company records expenses incurred for the manufacture of pre-launch inventory that could potentially support a U.S. launch as R&D expense. The costs associated with the pre-launch inventory for the Medice Territory was expensed to R&D through April 2023 when marketing authorization was received. The costs incurred to manufacturer vadadustat for the Medice Territory after the marketing approval in the Medice Territory is capitalized in inventory.

Therefore, the pre-launch inventory costs are not included in COGS.

Research and Development Expenses

R&D costs are expensed as incurred. Internal R&D expenses are comprised of costs incurred in providing R&D activities, including salaries and bonuses, employee benefits, stock-based compensation for personnel engaged in R&D activities. In addition, they include facility costs, including the laboratory and an allocation of office space for utilization by R&D staff, depreciation expense on the laboratory equipment as well as other direct costs such as lab supplies and equipment.

External R&D costs include development of potential new manufacturing processes and methods for both commercial and non-commercial products, conceptual formulation and design of possible product and process alternatives, research compounds and clinical manufacturing costs, costs incurred for consultants and other outside services, such as data management and statistical analysis support and materials and supplies used in support of the clinical and preclinical programs and costs paid to clinical resource organizations, or CRO, including investigative sites that conduct the Company's clinical trials.

Non-refundable advance payments for goods and services for both Auryxia and vadadustat are recorded in prepaid and other current assets in the consolidated balance sheets and expensed when the activity is performed or when the goods are received. In addition, the costs associated with pre-launch inventory, including the cost of raw materials, costs paid to contract manufacturers for inventory manufacturing, freight and custom charges for vadadustat are expensed as R&D prior to regulatory approval. For the years ended December 31, 2023 and 2022, material and production related costs of pre-approval inventory recorded to R&D was $6.4 million and $7.6 million, respectively.

Selling, General and Administrative Expenses

Selling, general and administrative, or SG&A, expenses consist primarily of compensation for personnel, including stock-based compensation related to commercial, marketing, executive, finance and accounting, information technology, corporate and business development and human resource functions. Other SG&A expenses include costs for marketing initiatives for the Company's commercial products, market research and analysis on the Company's commercial and product and potential product candidates, conferences and trade shows, travel expenses, professional services fees (including legal, patent, accounting, audit, tax, and consulting fees), insurance costs, general corporate expenses and allocated facilities-related expenses, including rent and maintenance of facilities. Costs associated with advertising are expensed in the period incurred and are included in selling, general and administrative expenses. For the years ended December 31, 2023 and 2022, advertising expenses totaled $1.0 million and $6.7 million, respectively, all related to the Company's U.S. sales of its commercial product Auryxia.

Patent Costs

All patent-related costs incurred in connection with the filing and prosecuting patent applications are expensed as incurred due to the uncertainty about the recovery of the expenditure. Such amounts incurred are classified as SG&A expenses in the accompanying consolidated statements of operations and comprehensive loss.

Stock-Based Compensation

The Company’s stock-based compensation program allows for grants of common stock options, restricted stock awards, performance-based restricted stock units, or PSUs, stock appreciation rights, or SARs and restricted stock units. Grants are awarded to employees and non-employees, including directors.

The Company accounts for its stock-based compensation awards in accordance with ASC Topic 718, *Compensation—Stock Compensation*, or ASC 718. ASC 718 requires all stock-based payments to employees and non-employees, including modifications to existing stock awards, to be recognized in the statements of operations and comprehensive loss based on their fair values. The Company estimates the fair value of options granted using the Black-Scholes option pricing model, or Black-Scholes. The Company uses the market price at the time of grant to determine the fair value of restricted stock awards and performance-based restricted stock awards.

The Black-Scholes option pricing model requires the input of certain subjective assumptions, including (a) the expected stock price volatility, (b) the calculation of expected term of the award, (c) the risk-free interest rate and (d) expected dividends. Prior to 2017, due to the lack of company-specific historical and implied volatility data for trading the Company’s stock in the public market, the Company had based its estimate of expected volatility on the historical volatility of a group of similar companies that are publicly traded. The historical volatility was calculated based on a period of time commensurate with the expected term assumption. The Company uses the simplified method as prescribed by the Securities and Exchange Commission, or SEC, Staff Accounting Bulletin No. 107, *Share-Based Payment*, to calculate the expected term for options granted to employees as it does not have sufficient historical exercise data to provide a reasonable basis upon which to estimate the expected term. The expected term is applied to the stock option grant group as a whole, as the Company does not expect substantially different exercise or post-vesting termination behavior among its employee population. For options granted to non-employees, the Company utilizes the contractual term of the arrangement as the basis for the expected term assumption. The risk-free interest rate is based on U.S. Treasury securities with a maturity date commensurate with the expected term of the associated award. The expected dividend yield is assumed to be zero as the Company has never paid dividends and has no current plans to pay any dividends on its common stock. The Company recognizes forfeitures as they occur.

The Company’s stock-based awards are subject to either service or performance-based vesting conditions. Compensation expense related to awards to employees and non-employees with service-based vesting conditions is recognized on a straight-line basis based on the grant date fair value over the associated service period of the award, which is generally the vesting term, and is adjusted for pre-vesting forfeitures in the period in which the forfeitures occur. Compensation expense related to awards to employees and non-employees with performance-based vesting conditions is recognized based on the grant date fair value over the requisite service period using the accelerated attribution method to the extent achievement of the performance condition is probable.

For awards with performance conditions in which the award does not vest unless the performance condition is met, the Company recognizes expense if, and to the extent that, the Company estimates that achievement of the performance condition is probable. If the Company concludes that vesting is probable, it recognizes expense from the date it reaches this conclusion through the estimated vesting date.

Income Taxes

Income taxes are recorded in accordance with FASB Topic 740, *Income Taxes*, or ASC 740, which provides for deferred taxes using an asset and liability approach. The Company recognizes deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns. Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. Valuation allowances are provided, if, based upon the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized. All deferred taxes as of December 31, 2023 and 2022 are classified as non-current within the income tax provision. See Note 15, *Income Taxes*, for further information.

The Company accounts for uncertain tax positions in accordance with the provisions of ASC 740. When uncertain tax positions exist, the Company recognizes the tax benefit of tax positions to the extent that the benefit will more likely than not be realized. The determination as to whether the tax benefit will more likely than not be realized is based upon the technical merits of the tax position, as well as consideration of the available facts and circumstances. As of December 31, 2023 and 2022, the Company does not have any significant uncertain tax positions. The Company recognizes interest and penalties related to uncertain tax positions in income tax expense.

Net Loss per Share

Basic net loss per share is calculated by dividing net loss by the weighted-average shares outstanding during the period, without consideration for common stock equivalents. Diluted net loss per share is calculated by adjusting weighted-average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period, determined using the treasury-stock method. For purposes of the diluted net loss per share calculation common stock options, stock appreciation rights, warrants and RSUs as well as restricted stock, if the Company was to issue any, are considered to be common stock equivalents, but have been excluded from the calculation of diluted net loss per share, as their effect would be anti-dilutive for all periods presented. Therefore, basic and diluted net loss per share were the same for all periods presented. Diluted net income per share is calculated by dividing the net income by the weighted-average common shares outstanding for the period, including any dilutive effect from outstanding options, warrants, restricted stock and RSUs using the treasury stock method.

Segment Information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision maker, or CODM, or decision-making group, in deciding how to allocate resources and in assessing performance. The Company operates its business in a single segment and as one reporting unit, which is how its chief operating decision maker (who is the Company's president and chief executive officer) reviews financial performance and allocates resources. The Company views its operations as and manages its business in one operating segment.

Recent Accounting Pronouncements Not Yet Adopted

In December 2023, the FASB issued ASU 2023-09, *Income Taxes* (Topic 740): *Improvements to Income Tax Disclosures*. ASU 2023-09 requires public companies to annually (i) disclose specific categories in the rate reconciliation and (ii) provide additional information for reconciling items that meet a quantitative threshold (if the effect of those reconciling items is equal to or greater than 5 percent of the amount computed by multiplying pretax income or loss by the applicable statutory income tax rate). ASU 2023-09 will be effective for the annual reporting periods in fiscal years beginning after December 15, 2024. The Company is currently evaluating ASU 2023-09 and does not expect it to have a material effect on the Company’s consolidated financial statements.

In November 2023, the FASB issued ASU 2023-07, *Improvements to Reportable Segment Disclosures*. ASU 2023-07 requires disclosure of significant segment expenses that are regularly provided to the CODM and included within the segment measure of profit or loss, an amount and description of its composition for other segment items to reconcile to segment profit or loss, and the title and position of the entity’s CODM. ASU 2023-07 will be applied retrospectively and is effective for annual reporting periods in fiscal years beginning after December 15, 2023, and interim reporting periods in fiscal years beginning after December 31, 2024. The Company is currently reviewing the impact that the adoption of ASU 2023-07 may have on its consolidated financial statements and disclosure.

3. FAIR VALUE MEASUREMENTS

The tables below present certain assets and liabilities measured at fair value categorized by the level of input used in the valuation of each asset and liability (in thousands):

	December 31, 2023			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market funds	$ 1,504	—	—	$ 1,504

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market funds	$ 52,442	—	—	$ 52,442
Long-term liability:				
Embedded debt derivative	—	—	$ 760	$ 760

Cash and cash equivalents —Money market funds included within cash and cash equivalents are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices in active markets.

Embedded debt derivative —As described in Note 7, *Indebtedness*, the Company's prior Loan Agreement with Pharmakon contained certain provisions that change the underlying cash flows of the debt instrument, including the acceleration of the obligations under the Pharmakon Loan Agreement under certain events of default, and under certain circumstances, the application of a default interest rate on all outstanding obligations during the occurrence and continuance of an event of default. The Company concluded that these features of the Pharmakon Loan Agreement represent a single compound embedded debt derivative required to be bifurcated from the debt host instrument and re-measured at fair value on a quarterly basis. The Company classified the embedded debt derivative as a non-current liability in its consolidated balance sheets.

The estimated fair value of the derivative liability on both December 31, 2023 and 2022 was determined using a scenario-based approach and discounted cash flow model that includes principal and interest payments under various cash flow assumptions. Should the Company's assessment of the probabilities around these scenarios change, including for changes in market conditions, there could be a change to the fair value of the embedded debt derivative. The determination of the fair value of the embedded debt derivative includes inputs not observable in the market and as such, represents Level 3 measurement. The methodology utilized requires inputs based on certain subjective assumptions, specifically, probabilities of acceleration of the obligations under the Pharmakon Loan Agreement by Pharmakon under certain events of default.

The following table reconciles the fair value of the embedded debt derivative (in thousands):

Balance at December 31, 2022	$ 760
Change in fair value, recorded as other income	(760)
Balance at December 31, 2023	$ —

4. INVENTORIES AND PREPAID MANUFACTURING

Inventories consists of the following (in thousands):

	December 31, 2023	December 31, 2022
Inventories, current:		
Work-in-process	$ 4,297	$ 7,892
Finished goods	11,394	13,676
Inventories, current	$ 15,691	$ 21,568
Long-term inventories included in other long-term assets:		
Raw materials	1,143	610
Work-in-process	8,260	—
Inventories, long-term	$ 9,403	$ 610
Total inventories	$ 25,094	$ 22,178

For the period ended December 31, 2023 and 2022, inventories consisted primarily of inventories related to the Company's commercial product, Auryxia. As of December 31, 2023, the Company had $0.5 million of prepaid manufacturing costs for Auryxia drug substance and manufacturing costs. The Company did not have any prepaid manufacturing related to Auryxia as of December 31, 2022.

Inventory written down for Auryxia as a result of excess, obsolescence, scrap or other reasons charged to cost of product and other revenue in the consolidated statements of operations and comprehensive loss totaled approximately $1.6 million and $30.2 million during the years ended December 31, 2023 and 2022, respectively. For the year ended December 31, 2023, the Company recorded $4.3 million of lowered cost of product and other revenue due to the Company's ability to commercially sell inventory previously written down to zero, its then net realizable value. As of December 31, 2023, the Company has an additional $12.3 million of inventory previously written down inventory to its then net realizable value of zero for drug product that may be salable in future periods.

Pre-Launch Inventory

The Company records advance payments for vadadustat active pharmaceutical ingredient, or *API*, or drug substance (raw materials) it expects to use for the potential U.S. launch and Medice Territory as prepaid manufacturing costs. Upon the quality release of the vadadustat batches and transfer of title to the Company from the CMO, the cost of the pre-launch inventory, including the manufacturing costs is expensed to R&D. As of December 31, 2023, the Company had $14.0 million of prepaid manufacturing costs for vadadustat drug substance expected to be used in the potential U.S. launch of vadadustat included in prepaid expenses and other current assets on the consolidated balance sheet. See Note 6, *Additional Balance Sheet Detail*, for further information.

5. INTANGIBLE ASSET AND GOODWILL

Intangible Asset

Intangible asset, net of accumulated amortization, prior impairments and adjustments as of December 31, 2023 and 2022 consisted of the following (in thousands):

	December 31, 2023			December 31, 2022	
Intangible asset:	Gross Carrying Value	Accumulated Amortization	Net Book Value	Net Book Value	Estimated Useful Life
Developed product rights for Auryxia	$ 214,705	$ (178,663)	$ 36,042	$ 72,084	6 years

The Company recorded $36.0 million in amortization expense during each of the years ended December 31, 2023 and 2022 related to the developed product rights for Auryxia.

Goodwill

As of December 31, 2023 and 2022, the Company had goodwill of $59.0 million recorded in connection with the December 2018 merger with Keryx. The Company has not identified any goodwill impairment to date.

6. ADDITIONAL BALANCE SHEET DETAIL

Prepaid expenses and other current assets are as follows (in thousands):

Description		December 31, 2023		2022
Prepaid manufacturing	$	14,489	$	15,615
Other		5,754		17,249
Total prepaid expenses and other current assets	$	20,243	$	32,864

See Note 4, Inventories, for further information on prepaid manufacturing expenses.

Accrued expenses and other current liabilities are as follows (in thousands):

Description		December 31, 2023		2022
Product revenue allowances	$	22,940	$	26,268
Product return reserves, current portion		5,420		7,789
Compensation and related benefits		8,216		11,894
Accrued manufacturing costs		5,555		4,310
BioVectra termination fees, current portion		7,500		—
Operating lease liabilities, current portion		4,491		4,744
Royalties due to Panion		3,989		3,804
Liability related to sale of future royalties, current portion		2,048		—
Professional fees		1,909		1,886
Clinical trial costs		328		5,755
Restructuring costs, current portion		737		2,751
Other		4,602		6,576
Total accrued expenses and other current liabilities	$	67,735	$	75,777

Other long-term assets are as follows (in thousands):

Description		December 31, 2023		2022
Long-term inventories	$	9,403	$	610
Restricted cash		1,654		2,703
Other		1,366		2,059
Total other long-term assets	$	12,423	$	5,372

See Note 4, Inventories, for further information on long-term inventories.

7. INDEBTEDNESS

Entry into BlackRock Loan Facility

On January 29, 2024, the Closing Date, the Company entered into the Agreement for the Provision of a Loan Facility, or the BlackRock Credit Agreement, with Kreos Capital VII (UK) Limited, or Kreos, which are funds and accounts managed by BlackRock Inc., collectively, BlackRock, and provides for a senior secured term loan facility in the aggregate principal amount of up to $55.0 million, or the Term Loan Facility. The Term Loan Facility is available in three tranches (i) Tranche A — $37.0 million was funded on the Closing Date and used to repay the Pharmakon Term Loans; (ii) Tranche B — $8.0 million is available in a single draw through December 31, 2024, and (ii) Tranche C — $10.0 million is available in a single draw through December 31, 2024, collective the Term Loans. Tranche B and C are available subject to certain conditions, including the Company's receipt of marketing approval for vadadustat from the FDA and in the case of Tranche C, receipt of a certain amount of cumulative gross cash proceeds after the Closing Date in the form of equity or equity linked securities in one or more series of transactions.

The BlackRock Term Loan Facility has an initial maturity date of March 31, 2025, which will be automatically extended to January 29, 2028, if Company receives FDA approval for vadadustat on or prior to June 30, 2024, or the BlackRock Maturity Date. The Company is required to make interest-only payments until December 31, 2026, after which the Company will begin paying equal monthly principal on the first calendar day of each month, or the BlackRock Interest Only Period. In the event of certain prespecified events, the repayment schedule will be accelerated. For example, if FDA approval of vadadustat is not obtained on or prior to June 30, 2024, the BlackRock Interest Only Period will automatically terminate on October 1, 2024, and the Company will be required to repay the Term Loans in seven equal monthly payments (comprised of principal and interest), commencing on October 1, 2024 and ending on the BlackRock Maturity Date.

The Term Loan Facility will accrue interest at a floating annual rate equal to the sum of (i) term Secured Overnight Financing Rate, or SOFR, for a tenor of one month (subject to a floor of 4.25% per annum) plus (ii) a margin of 6.75% per annum (subject to an overall cap of 15.00% per annum on the all-in interest rate). During the continuance of any payment event of default under the BlackRock Credit Agreement, the interest rate on such overdue sum will automatically increase by an additional 3.0% per annum, and may be subject to an additional late fee of 2.0% of such overdue sum. The Term Loan Facility also includes transaction fees ranging from 1.00% to 1.25% of the draw down amount as well exit fees of 0.75% of the amount funded to the relevant tranche.

If the Company prepays the outstanding loan prior to maturity, it will be required to pay a prepayment fee ranging from 1.0% to 4.0% of the amount prepaid. If prepayment is made during the first year, the Company also is required to pay the amount of otherwise due interest payments for the twelve-month period following prepayment.

The BlackRock Term Loan Facility is secured by substantially all of the existing and after-acquired assets of the Company, including intellectual property. The BlackRock Credit Agreement requires the Company to (i) maintain a minimum aggregate cash balance of $15.0 million in one or more controlled accounts or (ii) trailing twelve-month revenue of $150.0 million, both of which are measured monthly. The BlackRock Credit Agreement contains various affirmative and negative covenants that limit the Company's ability to enter into certain transactions.

On the Closing Date, Kreos Capital VII Aggregator SCSp, an affiliate of Kreos, or the Warrant Holder, received a warrant to purchase 3,076,923 shares of the Company’s common stock, at an exercise price per share of $1.30, and upon borrowing of Tranche C, the Company will become obligated to issue additional warrants to purchase 1,153,846 shares of the Company’s common stock at an exercise price per share of $1.30 . Each warrant shall be exercisable for eight years from the date of issuance.

The Company's net proceeds from the Tranche A Loan were approximately $34.5 million, after deducting debt issuance costs, fees and expenses. The amounts classified on the consolidated balance sheet as of December 31, 2023, are reflective of the current and long-term portions due under the repayment schedule due to Blackrock.

Other Agreements Accounted for as Debt

The Company has a liability related to the sale of future liabilities which is accounted for as a debt arrangement. See Note 8, *Deferred Revenue, Refund Liability and Liability Related to Sale of Future Royalties*, for further information.

The Company has a refund liability with Vifor (International) Ltd. (now a part of CSL Limited), or CSL Vifor, which is also accounted for as a debt arrangement. See Note 8, *Deferred Revenue, Refund Liability and Liability Related to Sale of Future Royalties*, for further information.

Pharmakon Term Loan (Extinguished January 29, 2024)

On November 11, 2019, the Company, with Keryx as guarantor, entered into a loan agreement, or the Pharmakon Loan Agreement, with BioPharma Credit PLC as collateral agent and a lender, or the Collateral Agent, and BioPharma Credit Investments V (Master) LP as a lender, and a Guaranty and Security Agreement with the Collateral Agent. BioPharma Credit PLC subsequently transferred its interest in the loans, solely in its capacity as a lender, to its affiliate, BPCR Limited Partnership. The Collateral Agent and the lenders are collectively referred to as Pharmakon. The Pharmakon Loan Agreement, as amended, consisted of a secured term loan facility in an aggregate amount of up to $100.0 million, or Pharmakon Term Loans, which was made available under two tranches: (i) Tranche A — $80.0 million and (ii) Tranche B —the second tranche of $20.0 million. On November 25, 2019, the Company drew $77.3 million on Tranche A, net of fees and expenses of $2.7 million. On December 10, 2020, the Company drew $20.0 million on Tranche B, net of immaterial lender expenses and issuance costs.

On July 15, 2022, or Second Amendment Effective Date, the Company prepaid $25.0 million of the then outstanding principal, $5.0 million on Tranche A and $20.0 million on Tranche B as well as a $0.5 million prepayment fee under the terms of the Pharmakon Loan Agreement. During the year ended December 31, 2022, the Company recorded a debt extinguishment loss of $0.9 million. As of December 31, 2023, the Company had $35.0 million of principal outstanding.

The Pharmakon Term Loans, as amended, bore interest through maturity at a variable rate based on the three month SOFR plus a SOFR adjustment of 0.30% plus 7.50%. The SOFR interest rate was capped at 3.35% through October 31, 2023, the date of the Fourth Amendment to the Pharmakon Loan Agreement, or Fourth Amendment. As of December 31, 2023, the three-month SOFR rate was no longer subject to the SOFR cap, therefore, the Company's interest rate was 13.13%. The Company recognized approximately $6.0 million and $9.5 million of interest expense related to the Pharmakon Loan Agreement during the years ended December 31, 2023 and 2022, respectively. Unamortized discount and issuance costs were $0.3 million as of December 31, 2023.

The Company was required to make equal quarterly principal payments that started on the 33rd-month anniversary of the applicable Funding Date until November 25, 2024, or Original Maturity Date. The Fourth Amendment, which the Company entered into on October 31, 2023, extended the maturity date to March 31, 2025, or New Maturity Date, and revised the principal payments to monthly principal payments starting in October 2024 on the remaining principal balance of $35.0 million. During the year ended December 31, 2023, the Company made quarterly principal payments totaling $32.0 million under the Pharmakon Term Loans.

The Pharmakon Loan Agreement was secured by a first priority lien on certain assets of the Company, including Auryxia and certain related assets, cash and certain equity interests held by the Company. The Pharmakon Loan Agreement contained various affirmative and negative covenants, including that limit the Company's ability to engage in specified types of transactions and require the Company to maintain one or more controlled cash accounts. In addition, the Pharmakon Loan Agreement, as amended, required the Company to (i) report quarterly minimum net Auryxia sales for the trailing twelve-month period of $85.0 million, (ii) in certain instances maintain an annual minimum liquidity threshold and (iii) not be subject to any qualification as to going concern in its Annual Reports on Form 10-K. If an event of default occurred, including a qualification as a going concern, and was continuing under the Pharmakon Loan Agreement, the Collateral Agent would have been entitled to take enforcement action, including acceleration of amounts due under the Pharmakon Loan Agreement. Under certain circumstances, a default interest rate would have applied on all outstanding obligations during the occurrence and continuance of an event of default. As of December 31, 2023 and 2022, the Company was in compliance with the covenants under the Pharmakon Loan Agreement.

Future principal payments pursuant to the contractual terms of the Pharmakon Loan Agreement, as amended, as of December 31, 2023 were as follows (in thousands):

Years ended December 31,	**Amounts**
2024	$ 17,500
2025	17,500
Total before unamortized discount and issuance costs	35,000
Less: unamortized discount and issuance costs	(317)
Total term loans	$ 34,683

As it relates to the Pharmakon Loan Agreement, the Company concluded the contingent put and call features that could require mandatory repayment upon the occurrence of an event of default, default interest rates to be payable and certain other events represent an embedded derivative required to be bifurcated from the debt host instrument and accounted for separately and re-measured at fair value on a quarterly basis. The fair value of the derivative liability related to the Company's Pharmakon Loan Agreement was $0 and $0.8 million as of December 31, 2023 and 2022, respectively. During the years ended December 31, 2023 and 2022, the Company recognized a $0.8 million and $1.1 million gain, respectively, in other income in the consolidated statements of operations and comprehensive loss related to the decrease in the fair value of the embedded debt derivative.

On January 29, 2024, using the proceeds from the BlackRock Credit Agreement, the Company paid the then current outstanding principal balance under the Pharmakon Term Loan of $35.0 million, plus the outstanding interest and a prepayment fee of $0.2 million.

8. DEFERRED REVENUE, REFUND LIABILITY AND LIABILITY RELATED TO SALE OF FUTURE ROYALTIES

CSL Vifor License Agreement

Summary of Agreement

On February 18, 2022, the Company entered into a Second Amended and Restated License Agreement, or the Vifor Agreement, with CSL Vifor which amended and restated the License Agreement dated as of May 12, 2017, or the Original License Agreement. The Vifor Agreement grants CSL Vifor an exclusive license to sell vadadustat to Fresenius Kidney Care Group LLC, an affiliate of Fresenius Medical Care North America, or FMCNA, and its affiliates, including Fresenius Kidney Care Group LLC, to certain third-party dialysis organizations approved by the Company, to independent dialysis organizations that are members of certain group purchasing organizations and certain non-retail specialty pharmacies, collectively, the Supply Group, in the U.S., or Vifor Territory. The Company plans to market vadadustat in the U.S., if approved, including to the Supply Group, and sell vadadustat directly to organizations outside the Supply Group. CSL Vifor has agreed that it would not sell or otherwise supply vadadustat until the FDA has granted regulatory approval for vadadustat for the treatment of anemia due to

CKD in adult patients with DD-CKD in the Vifor Territory and until CSL Vifor has entered a supply agreement with the applicable member of the Supply Group.

The Vifor Agreement is structured as a profit share arrangement between the Company and CSL Vifor in which the Company will receive approximately 66% of the profit, net of certain pre-specified costs. In addition, CSL Vifor made an upfront payment to the Company of $25.0 million in February 2022 in connection with the amendment and restatement of the Vifor Agreement, which was recorded as long-term deferred revenue in the accompanying consolidated balance sheet.

Unless earlier terminated, the Vifor Agreement will expire upon the later of the expiration of all patents that claim or cover vadadustat or expiration of marketing or regulatory exclusivity for vadadustat in the Vifor Territory. CSL Vifor may terminate the Vifor Agreement in its entirety upon thirty months' prior written notice after the first anniversary of the receipt of regulatory approval, if approved from the FDA for vadadustat for dialysis-dependent CKD patients. The Company may terminate the Vifor Agreement in its entirety for convenience, following the earlier of a certain period of time elapsing or following certain specified regulatory events, and upon six months' prior written notice. If the Company so terminates for convenience, subject to specified exceptions, the Company will pay a termination fee to CSL Vifor. In addition, either party may, subject to a cure period, terminate the Vifor Agreement in the event of the other party's uncured material breach or bankruptcy.

Investment Agreements

In connection with the Original License Agreement, in May 2017, the Company sold an aggregate of 3,571,429 shares of the Company's common stock, or 2017 Shares, to CSL Vifor at a price per share of $14.00 for a total of $50.0 million.

In February 2022, in connection with the Vifor Agreement, the Company sold an aggregate of 4,000,000 shares of its common stock, or 2022 Shares, to CSL Vifor for a price per share of $5.00 for a total of $20.0 million.

The $18.3 million representing the premium over the closing stock price, or $4.7 million for the 2017 Shares and $13.6 million for the 2022 Shares, represent consideration related to the Vifor Agreement.

CSL Vifor agreed to a lock-up restriction to not sell or otherwise dispose of the 2017 Shares or the 2022 Shares for a period of time, which restrictions have expired with respect to both the 2017 Shares and the 2022 Shares. The 2017 Shares and 2022 Shares are subject to standstill agreement and are subject to voting agreements. The 2017 Shares and 2022 Shares have not been registered pursuant to the Securities Act of 1933, as amended, or the Securities Act, and were issued and sold in reliance upon the exemption from registration contained in Section 4(a)(2) of the Securities Act and Rule 506 promulgated thereunder as the transaction did not involve any public offering within the meaning of Section 4(a)(2) of the Securities Act.

Deferred Revenue Recognition

The Company evaluated the elements of the Vifor Agreement in accordance with the provisions of ASC 606 and concluded that the contract counterparty, CSL Vifor, is a customer. The Company identified one performance obligation under the Vifor Agreement at inception, which is the non-sublicensable, non-transferrable license under certain of the Company's intellectual property to (i) sell vadadustat solely to the Supply Group, (ii) sell vadadustat to Designated Wholesalers solely for resale to members of the Supply Group, (iii) conduct medical affairs with respect to vadadustat in the Vifor Territory in the field during the term of the Vifor Agreement and (iv) use the Akebia Trademark solely in connection with the sale of vadadustat.

The transaction price of $43.3 million was comprised of the up-front payment of $25.0 million and the premiums paid by CSL Vifor on the First Investment Agreement and Second Investment Agreement of $4.7 million and $13.6 million, respectively. Pursuant to the Vifor Agreement, these payments are non-refundable and non-creditable against any other amount due to the Company. However, if the Centers for Medicare & Medicaid Services, or CMS, determines that vadadustat is excluded from the Transitional Drug Add-on Payment Adjustment, or TDAPA, the Company can terminate the Vifor Agreement and will be required to repay the up-front payment and the premiums paid by CSL Vifor on the First Investment Agreement and the Second Investment Agreement. Given the uncertainty associated with a potential future approval of vadadustat by the FDA, and whether, if approved, vadadustat would be included in certain reimbursement bundles by CMS, the Company constrained the entire transaction price at inception. Until the license is delivered, the transaction price of $43.3 million will remain in long-term deferred revenue in the accompanying consolidated balance sheets. (see Note 12, License, collaboration and other revenue for further information)

Refund Liability to Customer/Working Capital Fund

Pursuant to the Vifor Agreement, CSL Vifor contributed $40.0 million to a working capital fund, or Working Capital Fund, established to fund approximately 50% of the Company's costs of purchasing vadadustat from its contract manufacturers for the supply of vadadustat for the Vifor Territory already delivered or to be delivered to the Company through the end of 2023. The amount of the Working Capital Fund will be reviewed at specified intervals and is adjusted based on a number of factors including outstanding supply commitments for vadadustat for the Vifor Territory and agreed upon vadadustat inventory levels held by the Company for the Vifor Territory. Upon termination or expiration of the Vifor Agreement for any reason other than convenience by CSL Vifor (including following receipt of the CRL for vadadustat), the Company will be required to refund the outstanding balance of the Working Capital Fund on the date of termination or expiration.

The Company has determined that the working capital fund does not represent an obligation to transfer goods or services to CSL Vifor in the future and thus under ASC 606 was recorded as a refund liability. The refund liability is considered a debt arrangement with zero coupon interest and the Company imputes interest on the refund liability at a rate of 15.0% per annum, which was determined based on certain factors, including the Company's credit rating, comparable securities yield and the expected repayment period. On March 18, 2022, when the $40.0 million was received from CSL Vifor, the Company recorded an initial discount on the refund liability to the customer and a corresponding deferred gain to the refund liability to customer in the consolidated balance sheet. The discount on the note payable is being amortized to interest expense using the effective interest method over the expected term of the Vifor Agreement. The deferred gain is being amortized to interest income on a straight-line basis over the expected term of the Vifor Agreement. The amortization of the discount was $3.1 million and $3.4 million for the years ended December 31, 2023 and 2022, respectively. The amortization of the deferred gain was $4.0 million and $2.4 million for the years ended December 31, 2023 and 2022, respectively. As of December 31, 2023, the $40.1 million total refund liability is classified as a long-term liability based on management's estimated timing of the repayment of the refund liability to Vifor exceeding one year.

Liability Related to Sale of Future Royalties

In February 2021, the Company entered into a royalty interest acquisition agreement with HealthCare Royalty Partners IV, L.P., or HCR, or Royalty Agreement, pursuant to which the Company sold to HCR its right to receive royalties and sales milestones for vadadustat in Japan and certain other Asian countries, such countries collectively, the MTPC Territory, and such payments collectively the Royalty Interest Payments, in each case, payable to the Company under the MTPC Agreement. The Royalty Interest Payments are subject to an annual maximum “cap” of $13.0 million, after which the Company will receive 85% of the Royalty Interest Payments for the remainder of that year. The Royalty Interest Payments are also subject to an aggregate maximum “cap” of $150.0 million, after which the Royalty Interest Payments will revert back to the Company.

The Company was eligible to receive an additional $5.0 million in each year from 2021 through 2023 under the Royalty Agreement if specified annual sales milestones were achieved for vadadustat in the MTPC Territory, subject to the satisfaction of certain customary conditions. The sales milestones for vadadustat in the MTPC Territory were not achieved for 2023, 2022 or 2021. The Company retains the right to receive all potential future regulatory milestones for vadadustat under the MTPC Agreement. The Royalty Agreement will terminate on the earlier of the date on which HCR has received (i) the last Royalty Interest Payment or (ii) payment by the Company of an amount equal to the Aggregate Cap minus the aggregate amount of all Royalty Interest Payments actually received by HCR.

At the transaction date, the Company recognized the proceeds received from HCR of $44.8 million (net of certain transaction expenses) as a liability and is amortizing it using the effective interest method over the life of the arrangement. The liability related to sale of future royalties and the debt amortization are based on the Company’s current estimates of future royalties expected to be paid over the life of the arrangement. To the extent the Company’s estimates of future royalty payments are greater or less than previous estimates or the estimated timing of such payments is materially different than previous estimates, the Company will adjust the effective interest rate and recognize related non-cash interest expense on a prospective basis. In the event the Company's estimates of future royalties are less than the proceeds from the sale of future royalties, the Company will not recognize related non-cash interest expense. On a quarterly basis, the Company assesses the expected royalty payments. The annual effective interest rate as of December 31, 2023 was 0% and, therefore the Company did not recognize any non-cash interest expense in the consolidated statements of operations and comprehensive loss. As a result of the Company's ongoing involvement in the cash flows related to the royalties and sales milestones in the MTPC Territory, the Company will continue to account for the royalties received as non-cash royalty revenue which is reflected within license, collaboration and other revenue in the consolidated statements of operations and comprehensive loss.

During the year ended December 31, 2023 and 2022, the Company paid $2.0 million and $1.8 million of royalties to HCR and as of year end the balances were is as follows (in thousands):

	December 31,	
Liability related to the sale of future royalties:	**2023**	**2022**
Current portion (included in accrued expenses and other current liabilities)	$ 2,048	$ —
Long-term portion	54,013	57,484
Total liability related to sale of future royalties	$ 56,061	$ 57,484

The Royalty Agreement requires the Company to take certain actions, including actions with respect to the Royalty Interest Payments, the MTPC Agreement, and the Company's intellectual property. The Royalty Agreement also contains certain representations and warranties, covenants, indemnification obligations, events of default and other provisions that are customary for a royalty monetization transaction of this nature. In addition, the Company granted HCR a precautionary security interest in connection with the Royalty Interest Payments.

MTPC Supply Agreement

See Note 12, *License, Collaboration and Other Revenues*, for further information on short-term deferred revenue as of December 31, 2022 that was recognized during the year ended December 31, 2023.

9. LEASES

Cambridge Leases

Under the Cambridge Lease, the Company leases approximately 65,167 square feet of office, storage and laboratory space in Cambridge, Massachusetts, which are non-cancelable operating leases. 5,951 square feet of the laboratory space is set to expire on January 31, 2025, with an extension option for one additional period through September 11, 2026 and 59,216 office and storage space are set to expire on September 11, 2026, with one five-year extension option available. In addition to rent, certain leases require the Company to pay additional amounts for taxes, insurance, maintenance, and other operating expenses.

All of the Company's leases are classified as operating leases. The renewal option in this real estate lease was not included in the calculation of the operating lease asset and operating lease liability as the renewal is not reasonably certain. The lease agreements do not contain residual value guarantees. The components of lease right-of-use assets and lease liabilities are included in the consolidated balance sheets. Operating lease liabilities are based on the net present value of the remaining lease payments over the remaining lease term. In determining the present value of lease payments, the Company used its incremental borrowing rate when measuring operating lease liabilities. In arriving at the operating lease liabilities, the Company applied incremental borrowing rates ranging from 6.65% to 6.94%, which were based on the remaining lease term at either the date of adoption of ASC 842, *Leases*, or the effective date of any subsequent lease term extensions. As of December 31, 2023, the remaining lease term for the Cambridge Leases was 2.70 years.

Operating lease costs were $5.7 million and $7.1 million for the years ended December 31, 2023 and 2022, respectively. Cash paid for amounts included in the measurement of operating lease liabilities were $5.9 million and $7.2 million for the years ended December 31, 2023 and 2022, respectively. The security deposit in connection with the Cambridge Lease is $1.7 million in the form of a letter of credit, which is included as restricted cash in other long-term assets in the Company's consolidated balance sheet as of December 31, 2023.

Sublease and Former Boston Lease

Previously, the Company leased 27,924 square feet of office space in Boston, Massachusetts, or the Boston Lease, under a non-cancelable operating lease that was set to expire in July 2031. The Company subleased the entire Boston Lease, effective October 2019 through February 2023. The Company recorded $0.3 million and $1.8 million in rental income as other income in the consolidated statements of operations and comprehensive loss during the years ended December 31, 2023 and 2022, respectively.

In May 2023, pursuant to a Lease Assignment Agreement, or the Lease Assignment Agreement, the Company assigned all of its rights, title, and interest in, to, and under the Boston Lease to LG Chem Life Sciences Innovation Center, Inc., or LG Chem, and made a payment to LG Chem of $1.3 million. As of May 2023, LG Chem assumed all of the rights and obligations of the Company under the Boston Lease and the Company has no further obligations for rent or other payments under the Boston Lease. In accordance with ASC 842, *Leases*, the Company wrote off the right-of-use asset and lease liability associated with the Boston Lease, and recognized the difference between the right-of-use asset and the lease liability offset by the $1.3 million payment as a loss on lease termination in the consolidated statements of operations and comprehensive loss of $0.5 million. Under the terms of the Lease Assignment Agreement the Company was entitled to, and received back, its security deposit of $1.0 million which had been recorded as restricted cash in other long-term assets in the Company's consolidated balance sheet as of December 31, 2022.

Future Lease Commitments

Future commitments under non-cancelable Cambridge Leases are as follows (in thousands):

		Operating Leases
2024	$	5,261
2025		5,819
2026		3,613
Total lease commitments	$	14,693
Less: present value adjustment		(1,255)
Current and long-term operating lease liabilities	$	13,438

10. COMMITMENTS AND CONTINGENCIES

Manufacturing and Unconditional Purchase Commitment Agreements

Siegfried Manufacturing

The Company's contractual obligations include a commercial supply agreement with Siegfried Evionnaz, or Siegfried, to supply commercial drug substance for Auryxia. The Company and Siegfried entered into a Master Manufacturing Services and Supply Agreement, most recently amended in February 2023, or the Siegfried Agreement, under which the Company has agreed to purchase a minimum quantity of drug substance of Auryxia, annually at a predetermined price. As of December 31, 2023, the Company had a minimum total commitment of approximately $29.6 million through the end of 2026.

The term of the Siegfried Agreement was set to expire on December 31, 2024, subject to the Company’s option to extend the term through December 31, 2026. The Company provided Siegfried with written notice of its election to extend the term of the Siegfried Agreement through December 31, 2026. The Siegfried Agreement provides the Company and Siegfried with certain early termination rights.

In connection with the extension of the Siegfried Agreement and the related increase in contractual purchase commitments, the Company recorded an excess firm purchase commitment liability in other long-term liabilities of $1.5 million and corresponding expense to cost of product and other revenue during the year ended December 31, 2023.

Patheon Manufacturing

In March 2020, the Company entered into a Supply Agreement with Patheon Inc., or Patheon, or the Patheon Agreement, under which Patheon will manufacture vadadustat drug product for commercial use under a volume-based pricing structure through June 30, 2025, renewing annually unless either party gives the other party eighteen months' prior written notice. Under the Patheon Agreement, the Company agreed to purchase from Patheon a certain percentage of the estimated global demand for vadadustat drug product based on certain quarterly and annual forecasts provided by the Company. As of December 31, 2023, the Company had no minimum commitment with Patheon, however, as estimated global demand fluctuates, the Company may have future obligations under the Patheon Agreement.

WuXi STA Manufacturing

In April 2020, the Company entered into a Supply Agreement with STA Pharmaceutical Hong Kong Limited, a subsidiary of WuXi AppTec, or WuXi STA, or, as amended, the WuXi STA DS Agreement. Under the WuXi STA DS Agreement, WuXi STA will manufacture vadadustat drug substance for commercial use under a volume-based pricing structure through April 2, 2024. Pursuant to the WuXi STA DS Agreement, the Company has agreed to purchase a certain percentage of the global demand for vadadustat drug substance from WuXi STA. As of December 31, 2023, the Company has committed to purchase $13.4 million of vadadustat drug substance from WuXi STA through the end of 2024.

On February 10, 2021, the Company entered into a Supply Agreement with WuXi STA, or the WuXi STA DP Agreement, under which WuXi STA will manufacture and supply vadadustat drug product for commercial purposes under a volume-based pricing structure through February 10, 2025. The vadadustat drug product price is reviewed annually by the Company and WuXi STA. The Company also reimburses WuXi STA for certain reasonable expenses. Pursuant to the WuXi STA DP Agreement, the Company has agreed to purchase a certain percentage of global demand for vadadustat drug product from WuXi STA. The WuXi STA DP Agreement may be renewed or extended by mutual agreement of the Company and WuXi STA with at least eighteen months’ prior written notice. The WuXi STA DP Agreement allows the Company to terminate the relationship on 180 calendar days’ prior written notice to WuXi STA for any reason. In addition, each party has the ability to terminate the WuXi STA DP Agreement upon the occurrence of certain conditions.

Esteve - Assigned Supply Agreement

On April 9, 2019, the Company and Esteve Química, S.A., or Esteve, entered into a Supply Agreement, or the Esteve Agreement, which included the terms and conditions under which Esteve would manufacture vadadustat drug substance for commercial use under a volume-based pricing structure. On December 16, 2022, the Company, MTPC, and Esteve executed the Esteve Assignment Agreement, pursuant to which the Esteve Agreement was assigned to MTPC. The Esteve Assignment Agreement transferred the rights and obligations of the Esteve Agreement to MTPC, specifically including the obligations under certain purchase orders issued by the Company and accepted by Esteve. As such, the Company will have no further obligation to take delivery of or pay for product delivered by Esteve under the transferred Esteve Agreement.

BioVectra - Former Manufacturing and Unconditional Purchase Commitments

Under the Manufacture and Supply Agreement with BioVectra and the Amended and Restated Product Manufacture and Supply and Facility Construction Agreement with BioVectra, the Company agreed to purchase minimum quantities of Auryxia drug substance annually at predetermined prices as well as reimburse BioVectra for certain costs in connection with construction of a new facility for the manufacture and supply of Auryxia drug substance.

On December 22, 2022, the Company and BioVectra entered into a termination agreement, under which the parties agreed, among other things, to terminate, effective immediately, any and all existing agreements entered into between the parties in connection with the manufacture and supply, by BioVectra to the Company, of Auryxia drug substance. In the termination agreement, the Company and BioVectra released one another from all existing and future claims and liabilities and the return of certain materials and documents. In addition, the Company agreed to pay BioVectra a total of $32.5 million consisting of (i) an upfront payment of $17.5 million and (ii) six quarterly payments of $2.5 million commencing in April 2024, totaling $15.0 million. The upfront payment of $17.5 million was made during the quarter ended December 31, 2022 and was recorded in cost of product and other revenue. In accordance with ASC 420, *Exit or Disposal Cost Obligations*, the Company recognized a liability and corresponding expense for the remaining termination fees based on estimated fair value as of December 22, 2022. The Company imputed interest on the liability for the remaining termination fees at a rate of 17.0% per annum, which was determined based on certain factors, including the Company's credit rating, comparable securities yield and expected repayment period of the remaining termination fees. The Company recorded an initial discount on the remaining termination fees in the consolidated balance sheet on the date of the termination. This resulted in the recording of a liability and corresponding charge to cost of goods sold of $11.2 million during the quarter ended December 31, 2022. The discount on the liability balance is being amortized to interest expense using the effective interest rate method over the term of the liability. The amortization of the discount was $1.9 million for the year ended December 31, 2023.

In-Licensing - Panion License Agreement

On April 17, 2019, the Company and Panion & BF Biotech, Inc., or Panion, entered into a second amended and restated license agreement, or Panion Amended License Agreement, which amended and restated in full the license agreement between the Company and Panion. The Panion Amended License Agreement provides the Company with an exclusive license under Panion-owned know-how and patents covering the rights to sublicense, develop, make, use, sell, offer for sale, import and export ferric citrate worldwide, excluding certain Asian-Pacific countries, or the Licensor Territory. The Panion Amended License Agreement also provides Panion with an exclusive license under Company-owned patents covering the rights to sublicense (with the Company's written consent), develop, make, use, sell, offer for sale, import and export ferric citrate in certain countries in the Licensor Territory. Under the Panion Amended License Agreement, Panion is eligible to receive from the Company or any sublicensee royalty payments based on a mid-single digit percentage of sales of ferric citrate in the Company's licensed territories. The Company is eligible to receive from Panion or any sublicensee royalty payments based on a mid-single digit percentage of net sales of ferric citrate in Panion's licensed territories.

The Panion Amended License Agreement terminates upon the expiration of each of the Company's and Panion's obligations to pay royalties thereunder. In addition, the Company may terminate the Panion Amended License Agreement (i) in its entirety or (ii) with respect to one or more countries in the Company's licensed territory, in either case upon ninety days' notice. The Company and Panion also each have the right to terminate the Panion Amended License Agreement upon the occurrence of a material breach of the Panion Amended License Agreement by the other party, subject to certain cure provisions, or certain insolvency events. The Panion Amended License Agreement also provides that, on a country-by-country basis, until the second anniversary of the expiration of the obligation of the Company or Panion, as applicable, to pay royalties in a country in which such party has ferric citrate for sale on the date of such expiration, neither the other party nor its affiliates will, directly or indirectly, sell, distribute or otherwise commercialize or supply or cause to supply ferric citrate to a third party for sale or distribution in such country.

The Panion Amended License Agreement includes customary terms relating to, among others, indemnification, confidentiality, remedies, and representations and warranties. In addition, the Panion Amended License Agreement provides that each of the Company and Panion has the right, but not the obligation, to conduct litigation against any infringer of certain patent rights under the Panion Amended License Agreement in certain territories.

During the years ended December 31, 2023 and 2022, the Company incurred approximately $10.0 million and $13.8 million, respectively, in royalty payments due to Panion relating to the Company's sales of Auryxia in the U.S. and JT and Torii's net sales of Riona in Japan.

Other Third Party Contracts

The Company contracts with various organizations to conduct R&D activities with remaining contract costs to the Company of approximately $44.7 million at December 31, 2023. The scope of the services under these R&D contracts can be modified and the contracts cancelled by the Company upon written notice. In some instances, the contracts may be cancelled by the third party upon written notice.

Litigation and Related Matters

The Company is involved from time to time in various legal proceedings arising in the normal course of business. Loss contingency provisions are recorded for probable and estimable losses at our best estimate of a loss or, when a best estimate cannot be made, at our estimate of the minimum loss. These estimates are often developed prior to knowing the amount of the ultimate loss, require the application of significant judgment and are refined as additional information becomes known. Accordingly, we are often initially unable to develop a best estimate of loss and therefore the estimated minimum loss amount, which could be zero, is recorded. Changes in the Company's estimates could have a material impact. Although the outcomes of potential legal proceedings are inherently difficult to predict, the Company does not expect the resolution of current legal proceedings to have a material adverse effect on its financial position, results of operations or cash flows of the Company.

Guarantees and Indemnifications

As permitted under Delaware law, the Company may indemnify its officers, directors and employees for certain events or occurrences that happen by reason of their relationship with, or position held at, the Company. The Company may also be subject to indemnification obligations by law with respect to the actions of its employees under certain circumstances and in certain jurisdictions. The Company maintains director and officer liability insurance coverage that is intended to cover a portion of amounts that may be due with respect to indemnification after a deductible is met. Further, the Company is a party to a variety of agreements in the ordinary course of business under which it may be obligated to indemnify third parties with respect to certain matters. For the years ended December 31, 2023 and 2022, the Company did not experience any losses related to these indemnification obligations, and no claims were outstanding as of December 31, 2023. The Company does not have any claims related to these indemnification obligations and consequently concluded that the fair value of these obligations is negligible and no related accruals were recorded.

11. PRODUCT REVENUE AND RESERVES FOR VARIABLE CONSIDERATION

To date, the Company's only source of product revenue has been from the U.S. sales of Auryxia. Total net product revenue was $170.3 million and $176.9 million for the years ended December 31, 2023 and 2022, respectively. Product revenue allowance and reserve categories were as follows:

(in thousands)	**Chargebacks and Discounts**	**Rebates, Fees and other Deductions**	**Returns**	**Total**
Balance at December 31, 2021	$ 1,047	$ 24,478	$ 10,065	$ 35,590
Current provisions related to sales in current year	11,412	89,095	5,603	106,110
Adjustments related to prior year sales	(9)	401	(26)	366
Credits/payments made	(11,191)	(87,722)	(4,719)	(103,632)
Balance at December 31, 2022	$ 1,259	$ 26,252	$ 10,923	$ 38,434
Current provisions related to sales in current year	11,138	79,648	6,181	96,967
Adjustments related to prior year sales	(304)	(1,506)	1,648	(162)
Credits/payments made	(10,486)	(81,403)	(11,836)	(103,725)
Balance at December 31, 2023	$ 1,607	$ 22,991	$ 6,916	$ 31,514

Chargebacks, discounts and estimated product returns are recorded as a reduction of revenue in the period the related product revenue is recognized in the consolidated statements of operations and comprehensive loss. Chargebacks are recorded as a reduction to accounts receivable while discounts, rebates, fees and other deductions are recorded with a corresponding increase to accrued expenses and other current liabilities or accounts payable in the consolidated balance sheets. Estimated product returns on product sales that are not expected to be returned within one year are recorded as other long-term liabilities in the consolidated balance sheets.

Accounts receivable, net related to product sales was approximately $35.9 million and $37.3 million as of December 31, 2023 and 2022, respectively.

12. LICENSE, COLLABORATION AND OTHER REVENUE

The Company recognized the following revenues from its license, collaboration and other revenue agreements (in thousands):

		Years Ended December 31,	
Entity	**Description**	**2023**	**2022**
Medice	License and Product Supply of Vadadustat in EU	$ 10,968	$ —
MTPC	License and Product Supply of Vadadustat in Japan	5,735	17,968
JT and Torii	License and royalties related to the sale of Riona in Japan	5,394	5,291
Otsuka	Terminated U.S. and International Agreements	2,225	92,276
Total License, Collaboration and Other Revenue		$ 24,322	$ 115,535

The following table presents changes in the Company's contract assets and liabilities related to license, collaboration and other revenue agreements (in thousands):

	Twelve Months Ended December 31, 2023			
	Balance at Beginning of Period	**Additions**	**Deductions**	**Balance at End of Period**
Contract assets:				
Accounts receivable[1]	$ 1,901	$ 10,088	$ (8,656)	$ 3,333
Prepaid expenses and other current assets	$ 781	$ —	$ (781)	$ —
Contract liability:				
Deferred revenue (current and long-term)	$ 47,034	$ —	$ (3,738)	$ 43,296

	Twelve Months Ended December 31, 2022			
	Balance at Beginning of Period	**Additions**	**Deductions**	**Balance at End of Period**
Contract assets:				
Accounts receivable[1]	$ 19,094	$ 94,515	$ (111,708)	$ 1,901
Prepaid expenses and other current assets	$ 4,309	$ 9,550	$ (13,078)	$ 781
Contract liabilities:				
Deferred revenue (current and long-term)	$ 42,380	$ 70,044	$ (65,390)	$ 47,034
Accounts payable	$ 3,171	$ —	$ (3,171)	$ —

(1) Excludes accounts receivable from product sales of Auryxia which are included in the accompanying consolidated balance sheets as of December 31, 2023 and 2022.

During the years ended December 31, 2023 and 2022, the Company recognized the following revenues as a result of changes in the contract asset and contract liability balances in the respective periods (in thousands):

	Years Ended December 31,	
Revenue Recognized in the Period from:	**2023**	**2022**
Deferred revenue - beginning of the period	$ 3,738	$ 29,574
Performance obligations satisfied in previous periods	$ —	$ —

Medice License Agreement

On May 24, 2023, or Medice Effective Date, the Company and MEDICE Arzneimittel Pütter GmbH & Co. KG, or Medice, entered into a License Agreement, or the Medice License Agreement, pursuant to which the Company granted to Medice an exclusive license to develop and commercialize vadadustat for the treatment of anemia in adult patients with chronic kidney disease in European Economic Area, the UK, Switzerland and Australia, or the Medice Territory.

Under the Medice License Agreement, the Company received an up-front payment of $10.0 million and is eligible to receive the following payments:

(i) commercial milestone payments up to an aggregate of $100.0 million, and

(ii) tiered royalties ranging from 10% to 30% of Medice's annual net sales of vadadustat in the Medice Territory, subject to reduction in certain circumstances.

The royalties will expire on a country-by-country basis upon the latest to occur of (a) the date of expiration of the last-to-expire valid claim of any Company, Medice or joint patent that covers vadadustat in such country in the Medice Territory, (b) the date of expiration of data or regulatory exclusivity for vadadustat in such country in the Medice Territory and (c) the date that is twelve years from first commercial sale of vadadustat in such country in the Medice Territory.

Under the Medice License Agreement, the Company retains the right to develop vadadustat for non-dialysis patients with anemia due to chronic kidney disease in the Medice Territory. If the Company develops vadadustat for non-dialysis patients and vadadustat receives marketing approval in the Medice Territory, Medice will commercialize vadadustat for both indications in the Medice Territory. In this instance, the Company would receive 70% of the net product margin of any sales of vadadustat in the non-dialysis patient population, unless Medice requests to share the cost of the development necessary to gain approval to market vadadustat for non-dialysis patients in the Medice Territory and the parties agree on alternative financial terms. If the Company develops vadadustat for non-dialysis patients, the Company has determined that the activities under the Medice License Agreement represent joint operating activities in which both parties are active participants and of which both parties are exposed to significant risks and rewards that are dependent on the success of the activities. Accordingly, if the Company develops vadadustat for non-dialysis patients the Company will account for the joint activities in accordance with ASC No. 808, *Collaborative Arrangements*, or ASC 808. Additionally, the Company has determined that in the context of the development of vadadustat for non-dialysis patients, Medice does not represent a customer as contemplated by ASC 606-10-15, *Revenue from Contracts with Customers – Scope and Scope Exceptions*. As a result, the activities conducted pursuant to development activities for vadadustat for non-dialysis patients will be accounted for as a component of the related expense in the period incurred.

The Medice License Agreement expires on the date of expiration of all payment obligations due thereunder with respect to vadadustat in the last country in the Medice Territory, unless earlier terminated in accordance with the terms of the Medice License Agreement. Either party may, subject to a cure period, terminate the Medice License Agreement in the event of the other party's uncured material breach. Medice has the right to terminate the Medice License Agreement in its entirety for convenience upon twelve months' prior written notice delivered on or after the date that is twelve months after the Medice Effective Date.

The Medice License Agreement provides that the Company and Medice will enter into a supply agreement pursuant to which the Company will supply vadadustat to Medice for commercial use in the Medice Territory. As of December 31, 2023, the Company and Medice have not yet entered into a supply agreement.

The Company evaluated the elements of the Medice License Agreement in accordance with the provisions of ASC 606 and concluded Medice is a customer. The Company identified one performance obligation in connection with its obligations under the Medice License Agreement, which is the license, or License Performance Obligation. The transaction price at inception was comprised of the up-front payment of $10.0 million, of which the Company received $8.6 million during the quarter ended June 30, 2023. The remaining $1.4 million was withheld by the German Federal Tax Office and is included in other long-term assets in the consolidated balance sheet as of December 31, 2023.

Pursuant to the terms of the Medice License Agreement, the up-front payment of $10.0 million is non-refundable and non-creditable against any other amount due to the Company and was allocated to the License Performance Obligation, which was satisfied as of the Medice Effective Date. As such, the Company recognized the $10.0 million up-front payment as License, collaboration and other revenue in the consolidated statement of operations and comprehensive loss during the year ended December 31, 2023.

In accordance with ASC 606, the Company will recognize sales-based royalties and milestone payments at the later of when the performance obligation is satisfied or the related sales occur.

Medice Letter Agreement

On December 6, 2023, the Company and Medice entered into a letter agreement, or the Medice Letter Agreement, pursuant to which the Company agreed to sell to Medice a partial batch of vadadustat in order to achieve packaging validation for the Medice Territory. The Company recognizes revenue under this arrangement when risk of loss passes to Medice and delivery has occurred. During the year ended December 31, 2023, the Company recognized $1.0 million in collaboration revenue under the Medice Side Letter. As of December 31, 2023, there was $0.9 million in accounts receivable and no contract assets, payables or deferred revenue recorded in connection with the Medice Letter Agreement.

MTPC Collaboration Agreement

On December 11, 2015, the Company and Mitsubishi Tanabe Pharma Corporation, or MTPC, entered into the MTPC Agreement, providing MTPC with exclusive development and commercialization rights to vadadustat in Japan and certain other Asian countries, collectively, the MTPC Territory, which was amended effective as of December 2, 2022. In addition, the Company supplies vadadustat to MTPC for both clinical and commercial use in the MTPC Territory. In February 2021, the Company entered into the Royalty Agreement with HCR, whereby the Company sold its right to receive royalties and sales milestones under the MTPC Agreement, subject to certain caps and other terms and conditions. See Note 8, *Deferred Revenue, Refund Liability and Liability Related to Sale of Future Royalties,* for more information.

Unless earlier terminated, the MTPC Agreement will continue in effect on a country-by-country basis until the later of the following: expiration of the last-to-expire patent covering vadadustat in such country in the MTPC Territory; expiration of marketing or regulatory exclusivity in such country in the MTPC Territory; or ten years after the first commercial sale of vadadustat in such country in the MTPC Territory. MTPC may terminate the MTPC Agreement upon twelve months' notice at any time after the second anniversary of the effective date of the MTPC Agreement. Either party may terminate the MTPC Agreement upon the material breach of the other party that is not cured within a specified time period or upon the insolvency of the other party.

Under the MTPC Agreement, MTPC is required to make certain milestone payments to the Company aggregating up to approximately $225.0 million upon the achievement of specified development, regulatory and commercial events. The Company has received $10.0 million in development milestone payments. Of the $40.0 million in regulatory milestone payments the Company is eligible for, the Company received $10.0 million in relation to the Japanese NDA filing in the third quarter of 2019 and $15.0 million following regulatory approval of vadadustat in Japan in the third quarter of 2020. The Company is also entitled to receive up to $175.0 million in commercial milestone payments associated with aggregate sales of all products. In consideration for the exclusive license and other rights contained in the MTPC Agreement, MTPC made a $20.0 million upfront payment as well as a $20.5 million payment for Phase 2 studies in Japanese patients completed by the Company and reimbursed by MTPC. Additionally, the Company is entitled to receive tiered royalty payments ranging from 13% to 20% on annual net sales of vadadustat in the MTPC Territory, subject to reduction in certain circumstances.

The Company evaluated the elements of the MTPC Agreement in accordance with the provisions of ASC 606 and concluded that the contract counterparty, MTPC, is a customer. The Company identified two performance obligations in connection with its material promises under the MTPC Agreement as follows: (i) License, Research and Clinical Supply Performance Obligation and (ii) Rights to Future Know-How Performance Obligation.

The transaction price was comprised of: (i) the up-front payment of $20.0 million, (ii) the cost for the Phase 2 studies of $20.5 million, (iii) the cost of all clinical supply provided to MTPC for the Phase 3 studies, (iv) $10.0 million in development milestones received, (v) $25.0 million in regulatory milestones received and (vi) $5.0 million in royalties from net sales of Vafseo. The Company re-evaluates the transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur. As of December 31, 2023, all development milestones and $25.0 million in regulatory milestones have been achieved. No other regulatory milestones or commercial milestones have been assessed as probable and have been fully constrained until the period in which they are achieved.

The Company allocates the transaction price to each performance obligation based on the Company's best estimate of the relative standalone selling price. The Company developed a best estimate of the standalone selling price for the Rights to Future Know-How Performance Obligation primarily based on the likelihood that additional intellectual property covered by the license conveyed will be developed during the term of the arrangement and determined it is immaterial. As such, the Company did not develop a best estimate of standalone selling price for the License, Research and Clinical Supply Performance Obligation and allocated the entire transaction price to this performance obligation.

Revenue for the License, Research and Clinical Supply Performance Obligation for the MTPC Agreement is being recognized using a proportional performance method, for which all deliverables have been completed. The Company recognizes any revenue from MTPC royalties in the period in which the sales occur. The Company recognized $2.0 million and $1.8 million of revenue for royalties from the net sales of Vafseo during the years ended December 31, 2023 and 2022, respectively. As noted above, in February 2021, the Company entered into the Royalty Agreement, whereby the Company sold its right to receive these royalties and sales milestones under the MTPC Agreement, subject to certain caps and other conditions. See Note 8, *Deferred Revenue, Refund Liability and Liability Related to Sale of Future Royalties*, for more information. The revenue is classified as collaboration revenue in the accompanying consolidated statements of operations and comprehensive loss. As of December 31, 2023, there were no accounts receivable, contract assets, payables or deferred revenue recorded in connection with the MTPC Agreement.

Supply of Drug Product to MTPC

On July 15, 2020, the Company and MTPC entered into a supply agreement, or the MTPC Supply Agreement, under which the Company supplies vadadustat drug product to MTPC for commercial use in Japan and certain other Asian countries, as contemplated by the MTPC Agreement. The term of the MTPC Supply Agreement extends throughout the term of the MTPC Agreement, and the termination provisions of the MTPC Agreement govern termination of the MTPC Supply Agreement. The Company does not recognize revenue under this arrangement until risk of loss on the drug product passes to MTPC and delivery has occurred and MTPC has accepted the product.

On December 16, 2022, the Company, MTPC and Esteve Química, S.A., or Esteve, executed an Assignment of Supply Agreement, or Esteve Assignment Agreement, pursuant to which the Supply Agreement between the Company and Esteve, or Esteve Agreement was assigned to MTPC. The Esteve Assignment Agreement transferred the rights and obligations of the Company under the Esteve Agreement to MTPC. The Company has no further obligation to take delivery of, or pay for, product delivered by Esteve. See Note 10, Commitments and Contingencies, for more information.

During the years ended December 31, 2023 and 2022, the Company recognized $3.7 million and $16.2 million, respectively, of revenue under the MTPC Supply Agreement. Due to the Esteve Agreement, the Company no longer records accounts receivable, deferred revenue or other current liabilities relating to the MTPC Supply Agreement.

JT and Torii Sublicense Agreement

The Company has an Amended and Restated Sublicense Agreement, which was amended in June 2013, with JT and Torii, or JT and Torii Sublicense Agreement, under which JT and Torii obtained the exclusive sublicense rights for the development and commercialization of ferric citrate hydrate in Japan. JT and Torii are responsible for the future development and commercialization costs in Japan.

The Company is eligible to receive royalty payments based on a tiered low double-digit percentage of net sales of Riona in Japan inclusive of amounts that the Company must pay to Panion on JT and Torii's net sales of Riona under the Panion License Agreement subject to certain reductions upon expiration or termination of the Amended and Restated License Agreement between the Company and Panion, pursuant to which Company in-licensed the exclusive worldwide rights, excluding certain Asian-Pacific countries, for the development and commercialization of ferric citrate. The Company is entitled to receive up to an additional $55.0 million upon the achievement of certain annual net sales milestones.

The sublicense under the JT and Torii Sublicense Agreement terminates upon the expiration of all underlying patent rights. Also, JT and Torii may terminate the JT and Torii Sublicense Agreement with or without cause upon at least six months' prior written notice to the Company. Additionally, either party may terminate the JT and Torii Sublicense Agreement for cause upon 60 days’ prior written notice after the breach of any uncured material provision of the JT and Torii Sublicense Agreement, or after certain insolvency events.

The Company evaluated the elements of the JT and Torii Sublicense Agreement in accordance with the provisions of ASC 606 and concluded that the contract counterparty, JT and Torii, is a customer. The Company identified two performance obligations in connection with its obligations under the JT and Torii Sublicense Agreement: (i) License and Supply Performance Obligation and (ii) Rights to Future Know-How Performance Obligation. The Company developed a best estimate of the standalone selling price for the Rights to Future Know-How Performance Obligation primarily based on the likelihood that additional intellectual property covered by the license conveyed will be developed during the term of the arrangement and determined it immaterial. As such, the Company did not develop a best estimate of standalone selling price for the License and Supply Performance Obligation and allocated the entire transaction price to this performance obligation. Additionally, as of the consummation of the Merger, the services associated with the License and Supply Performance Obligation were completed and JT and Torii had secured their own source to manufacture ferric citrate hydrate. As such, any initial license fees as well as any development-based milestones and manufacturing fee revenue were received and recognized prior to the Merger. The Company determined that the remaining consideration that may be payable to the Company under the terms of the sublicense agreement are either quarterly royalties on net sales or payments due upon the achievement of sales-based milestones. In accordance with ASC 606, the Company recognizes sales-based royalties and milestone payments based on the level of sales, when the related sales occur as these amounts have been determined to relate predominantly to the license granted to JT and Torii and therefore are recognized at the later of when the performance obligation is satisfied, or the related sales occur.

During the years ended December 31, 2023 and 2022, the Company recognized $5.4 million and $5.3 million, respectively, in license revenue related to royalties earned on net sales of Riona in Japan. The Company records the associated mid-single digit percentage of net sales royalty expense due to Panion, the licensor of Riona, in the same period as the royalty revenue from JT and Torii is recorded.

Prior Collaboration and License Agreements

U.S. Collaboration and License Agreement with Otsuka Pharmaceutical Co. Ltd.

On December 18, 2016, the Company entered into a collaboration and license agreement, or Otsuka U.S. Agreement, with Otsuka Pharmaceutical Co. Ltd, or Otsuka. The collaboration was focused on the development and commercialization of vadadustat in the U.S. The Company was responsible for leading the development of vadadustat, for which it submitted an NDA to the FDA in March 2021, and for which it received the CRL in March 2022.

Under the terms of the Otsuka U.S. Agreement, the Company granted to Otsuka a co-exclusive, non-sublicensable license under certain intellectual property controlled by the Company solely to perform medical affairs activities and to conduct non-promotional and commercialization activities related to vadadustat in accordance with the associated plans. The co-exclusive license related to activities that would be jointly conducted by the Company and Otsuka under the Otsuka U.S. Agreement.

The Company evaluated the elements of the Otsuka U.S. Agreement in accordance with the provisions of ASC 606 and concluded that the contract counterparty, Otsuka, was a customer. The Company identified three performance obligations in connection with its obligations under the Otsuka U.S. Agreement as follows: (i) License and Development Services Combined (License Performance Obligation); (ii) Rights to Future Intellectual Property (Future IP Performance Obligation) and (iii) Joint Committee Services (Committee Performance Obligation). The Company allocated the transaction price to each performance obligation based on the Company's best estimate of the relative standalone selling price. No amounts were allocated to the Future IP Performance Obligation because the associated best estimate of standalone selling price was determined to be immaterial. Due to the similar performance period and recognition pattern between the License Performance Obligation and the Committee Performance Obligation, the transaction price was allocated to the License Performance Obligation and the Committee Performance Obligation on a combined basis. The Company recognized revenue on a proportional performance basis as the underlying services were performed.

Pursuant to the Otsuka U.S. Agreement, the Company received: (i) the up-front payment of $125.0 million, (ii) the cost share payment with respect to amounts incurred by the Company through December 31, 2016 of $33.8 million, and (iii) the net cost share consideration received with respect to amounts incurred by the Company under the global development plan of approximately $319.2 million with respect to amounts incurred by the Company subsequent to December 31, 2016.

On May 12, 2022, the Company received notice from Otsuka that Otsuka had elected to terminate the Otsuka U.S. Agreement and the April 25, 2017 collaboration and license agreement with Otsuka, or Otsuka International Agreement. On June 30, 2022, the Company and Otsuka entered into the Termination and Settlement Agreement, or Otsuka Termination Agreement, pursuant to which, among other things, the Company and Otsuka agreed to terminate the Otsuka U.S. Agreement and the Otsuka International Agreement as of June 30, 2022.

During the year ended December 31, 2023, the Company recognized $2.2 million in collaboration revenue in connection with the Packaging Validation Transfer Agreement entered into with Otsuka on April 20, 2023. Under the Packaging Validation Transfer Agreement, the parties agreed that responsibility for all remaining packaging validation activities would be transferred from Otsuka to the Company in consideration of payments made by Otsuka to the Company. The Company evaluated the agreement under ASC 606 and concluded it was closely tied to the prior collaboration revenue agreements and under ASC 606 recognized collaboration revenue in the current year. During the year ended December 31, 2022, the Company recognized collaboration revenue totaling approximately $86.8 million with respect to the Otsuka U.S. Agreement.

The Company accounted for the joint medical affairs, commercialization and non-promotional activities elements of the Otsuka U.S. Agreement in accordance with ASC No. 808, *Collaborative Arrangements* (ASC 808). Furthermore, these activities were recognized for as a component of the related expense in the period incurred. During the year ended December 31, 2023, the Company incurred no costs related to the cost-sharing provisions of the Otsuka U.S. Agreement. During the year ended December 31, 2022, the Company incurred approximately $7.6 million of costs related to the cost-sharing provisions of the Otsuka U.S. Agreement of which approximately $3.8 million were reimbursable by Otsuka and recorded as a reduction to R&D expense during the year ended December 31, 2022.

International Collaboration and License Agreement with Otsuka Pharmaceutical Co. Ltd.

On April 25, 2017, the Company entered into a collaboration and license agreement with Otsuka, or the Otsuka International Agreement. The collaboration was focused on the development and commercialization of vadadustat in Europe, Russia, China, Canada, Australia, the Middle East and certain other territories, collectively, the Otsuka International Territory. As discussed above, the Otsuka International Agreement was terminated on June 30, 2022 pursuant to the Otsuka Termination Agreement.

The Company has accounted for the Otsuka International Agreement separately from the collaboration arrangement with Otsuka with respect to the U.S. due to the lack of interrelationship and interdependence of the elements and payment terms within each of the contracts as they related to the respective territories. Accordingly, the Company applied the guidance in ASC 606 solely in reference to the terms and conditions of the Otsuka International Agreement, while the Otsuka U.S.

Agreement continued to be accounted for as a discrete agreement in its own right. The Company evaluated the Otsuka International Agreement in accordance with the provisions of ASC 606 and concluded that the contract counterparty, Otsuka, was a customer. The Company identified three performance obligations in connection with its obligations under the Otsuka International Agreement as follows: (i) License and Development Services Combined (License Performance Obligation); (ii) Rights to Future Intellectual Property (Future IP Performance Obligation) and (iii) Joint Committee Services (Committee Performance Obligation). The Company allocated the transaction price to each performance obligation based on the Company’s best estimate of the relative standalone selling price. No amounts were allocated to the Future IP Performance Obligation because the associated best estimate of standalone selling price was determined to be immaterial. Due to the similar performance period and recognition pattern between the License Performance Obligation and the Committee Performance Obligation, the transaction price was allocated to the License Performance Obligation and the Committee Performance Obligation on a combined basis. The Company recognized revenue on a proportional performance basis as the underlying services were performed.

Pursuant to the Otsuka International Agreement, the Company received: (i) the up-front payment of $73.0 million, (ii) the cost share payment with respect to amounts incurred by the Company during the quarter ended March 31, 2017 of $0.2 million, and (iii) the net cost share consideration received with respect to amounts incurred by the Company subsequent to March 31, 2017 of $216.7 million.

During the year ended December 31, 2023, the Company recognized no revenue with respect to the Otsuka International Agreement. During the year ended December 31, 2022, the Company recognized revenue totaling approximately $5.5 million with respect to the Otsuka International Agreement. The revenue is classified as collaboration revenue in the accompanying consolidated statements of operations and comprehensive loss.

13. CAPITAL STOCK

Authorized and Outstanding Capital Stock

On June 5, 2020, the Company filed a Certificate of Amendment to its Ninth Amended and Restated Certificate of Incorporation, or its Charter, to increase the number of authorized shares of common stock from 175,000,000 to 350,000,000. As of December 31, 2023, the authorized capital stock of the Company included 350,000,000 shares of common stock, par value $0.00001 per share, of which 194,582,539 and 184,135,714 shares were issued and outstanding at December 31, 2023 and 2022, respectively; and 25,000,000 shares of undesignated preferred stock, par value $0.00001 per share, of which no shares were issued and outstanding at December 31, 2023 and 2022.

At-the-Market Facility

On April 7, 2022, the Company entered into an at-the-market, or ATM, sales agreement with Jefferies LLC, or Jefferies, as the Company's sales agent, under which the Company may offer and sell from time to time up to $26.0 million of shares of the Company's common stock in negotiated transactions or transactions that are deemed to be an ATM offering. During the year ended December 31, 2023, the Company sold 6,189,974 shares of common stock under this program for gross proceeds of $6.8 million ($6.7 million, net of offering expenses). During January and February 2024, the Company sold 13,261,311 shares of its common stock under the ATM sales agreement with gross proceeds of $19.2 million, ($18.7 million, net of offering expenses). The Company paid the Agent commissions for its services of acting as agent of up to 3.0% of the gross proceeds from the sale of the common stock pursuant to the ATM.

Prior At-the-Market Facility

On March 1, 2022, the Company filed a prospectus supplement relating to the Company's sales agreement with Cantor Fitzgerald & Co., or Prior Sales Agreement, pursuant to which it was authorized to offer and sell up to $25.3 million of its common stock at current market prices from time to time. On March 16, 2022, the Company terminated the Prior Sales Agreement. During the year ended December 31, 2022, the Company sold 404,600 shares of common stock under this program with net proceeds (after deducting commissions and other offering expenses) of $0.8 million.

Unregistered Common Stock

In connection with the Vifor Agreement, CSL Vifor owns 7,571,429 shares of common stock that are unregistered under the Securities Act. See Note 8, *Deferred Revenue, Refund Liability and Liability Related to Sale of Future Royalties*, for more information.

Warrants to Purchase Common Stock

In connection with the BlackRock Credit Agreement, described in more detail in Note 7, *Indebtedness*, the Company issued a warrant to purchase 3,076,923 shares of the Company’s common stock, at an exercise price per share of $1.30, and upon borrowing of Tranche C, the Company will become obligated to issue additional warrants to purchase 1,153,846 shares of the Company’s common stock at an exercise price per share of $1.30. Each warrant shall be exercisable for eight years from date of issuance. The warrants and the common stock issuable upon the exercise of such warrants were not registered under the Securities Act of 1933. Accordingly, the holder thereof may only sell common stock issued upon exercise of such warrants pursuant to an effective registration statement under the Securities Act covering the resale of those shares, an exemption under Rule 144 under the Securities Act or another applicable exemption under the Securities Act.

14. STOCK-BASED COMPENSATION AND EMPLOYEE RETIREMENT PLANS

Stock-Based Compensation Plans

The Company incurred stock-based compensation expenses of $9.3 million and $17.8 million for the years ended December 31, 2023 and 2022, respectively.

Equity Incentive Plans

The following table contains information about the Company's equity incentive plans:

			December 31, 2023		December 31, 2022	
Title of Plan	**Group Eligible**	**Type of Award Granted (or to be Granted)**	**Awards Outstanding**	**Additional Awards Available for Grant**	**Awards Outstanding**	**Additional Awards Available for Grant**
Keryx Equity Plans[1][2]	Employees, directors and consultants	Common stock options and RSUs	232,203	—	387,976	—
Akebia Therapeutics, Inc. Amended and Restated 2008 Equity Incentive Plan (the 2008 Plan)[2]	Employees, directors and consultants	Common stock options and RSUs	—	—	419	—
Akebia Therapeutics, Inc. 2014 Incentive Plan, as amended [2] [3] (the 2014 Plan) *(replaces 2008 Plan)*	Employees, directors, consultants and advisors	Common stock options, RSUs, SARs and performance awards	15,311,501	—	17,018,832	5,498,984
Akebia Therapeutics, Inc. 2023 Stock Incentive Plan[3] (the 2023 Plan) *(replaces 2014 Plan)*	Employees, officers, directors, consultants and advisors	Common stock options, SARs, restricted stock, unrestricted stock, RSUs, performance awards, other share-based awards and dividend equivalents	1,712,400	17,382,722	—	—

(1) The Keryx Equity Plans consist of the Keryx Biopharmaceuticals, Inc. 1999 Share Option Plan, Keryx Biopharmaceuticals, Inc., as amended, the 2004 Long-Term Incentive Plan, as amended, the Keryx Biopharmaceuticals, Inc. 2007 Incentive Plan, the Keryx Biopharmaceuticals Inc. Amended and Restated 2013 Incentive Plan and the Keryx Biopharmaceuticals, Inc. 2018 Equity Incentive Plan.

(2) New awards are no longer being granted under these plans.

(3) This table includes the following inducement awards that are subject to the terms and conditions of the applicable plan but were granted as inducement awards consistent with Nasdaq Listing Rule 5635(c)(4) and not under the applicable plan: 1,616,019 options outstanding under the 2014 Plan and 794,000 options outstanding under the 2023 Plan as of December 31, 2023 and 2,513,512 options outstanding under the 2014 Plan as of December 31, 2022.

Common Stock Options and Stock Appreciation Rights

During the year ended December 31, 2023, the Company granted 2,489,500 options to employees under the 2014 Plan and 315,000 options to directors under the 2023 Plan. During the year ended December 31, 2023, the Company granted 635,313 stock appreciate rights, or SARs, to one executive under the 2014 Plan. Options and SARs granted by the Company generally vest over periods of between 12 and 48 months, subject, in each case, to the individual's continued service through the applicable vesting date. Options and SARs generally vest either 100% on the first anniversary of the grant date or in installments of (i) 25% at the one year anniversary and (ii) 12 equal quarterly installments beginning after the one year anniversary of the grant date, subject to the individual's continuous service with the Company. Options and SARs generally expire ten years after the date of grant.

The Company also maintains an inducement award program with a share pool that is separate from the Company's equity plans under which inducement awards may be granted consistent with Nasdaq Listing Rule 5635(c)(4). During the year ended December 31, 2023, the Company granted 845,000 options to purchase shares of the Company's common stock to new hires as inducements to such employees entering into employment with the Company, of which 842,000 options remained outstanding at December 31, 2023.

The Company grants annual service-based stock options to employees and directors and SARs to certain executives under the 2023 and 2014 Plans. In addition, the Company issues common stock options to directors, new hires and occasionally to other employees not in connection with the annual grant process.

Finally, the Company grants performance-based stock options which generally vest in connection with the achievement of specified commercial, regulatory and corporate milestones. The performance-based stock options also generally feature a time-based vesting component. The expense recognized for these awards is based on the grant date fair value of the Company's common stock multiplied by the number of options granted and recognized over time based on the probability of meeting such commercial, regulatory and corporate milestones. The Company did not grant any performance-based stock options under the 2023 Plan or the 2014 Plan during the year ended December 31, 2023. The Company granted 400,000 performance-based options during the year ended December 31, 2022. The Company had 400,000 performance-based options outstanding at December 31, 2023 and 2022.

The combined stock option activity for the year ended December 31, 2023, is as follows:

	Stock Options	Weighted-Average Exercise Price	Weighted-Average Contractual Life (years)	Aggregate Intrinsic Value (in thousands)
Outstanding, December 31, 2022	11,775,411	$ 5.82	7.26 years	$ 180
Granted	4,284,813	$ 0.84		
Exercised	(2,250)	$ 0.37		
Expired	(528,099)	$ 5.16		
Canceled and forfeited	(2,217,040)	$ 6.06		
Outstanding at December 31, 2023	13,312,835	$ 4.20	7.27 years	$ 2,680
Exercisable at December 31, 2023	7,354,561	$ 6.37	6.05 years	$ 792
Vested and expected to vest at December 31, 2023	13,312,835	$ 4.20		$ 2,680

There was immaterial intrinsic value of options exercised during the years ended December 31, 2023 and 2022, as the value of options exercised in 2023 and 2022 was immaterial. The fair value of options that vested during the years ended December 31, 2023 and 2022 were $6.4 million and $8.4 million, respectively. As of December 31, 2023, there was approximately $5.2 million of unrecognized compensation cost related to common stock options outstanding under the Company's 2023 Plan or the 2014 Plan or made pursuant to the Company's inducement award program, which is expected to be recognized over a weighted average period of 2.19 years.

Restricted Stock Units

Generally, RSUs, granted by the Company vest in one of the following ways: (i) 100% of each RSU grant vests on the first anniversary of the grant date, (ii) one third of each RSU grant vests on the first, second and third anniversaries of the grant date, (iii) 50% of each RSU grant vests on the first anniversary and 25% of each RSU grant vests every six months after the one year anniversary of the grant date, or (iv) one third of each RSU grant vests on the first anniversary of the grant date and the remaining two thirds vests in eight substantially equal quarterly installments beginning after the one year anniversary, subject, in each case, to the individual's continued service through the applicable vesting date. The grant-date fair value of the RSUs is recognized as expense on a straight-line basis. The Company determines the fair value of the RSUs based on the closing price of the common stock on the date of the grants.

The Company also periodically grants performance-based restricted stock units, or PSUs, to employees under the 2023 Plan and previously granted PSUs under the 2014 Plan. The PSUs granted by the Company generally vest in connection with the achievement of specified commercial, regulatory and corporate milestones. The PSUs also generally feature a time-based vesting component. The expense recognized for these awards is based on the grant date fair value of the Company's common stock multiplied by the number of units granted and recognized over time based on the probability of meeting such commercial, regulatory and corporate milestones. The Company did not grant any PSUs under the 2023 Plan or the 2014 Plan during the year ended December 31, 2023. The Company granted 400,000 PSUs during the year ended December 31, 2022.

RSU and PSU activity is as follows:

	2014 Plan		2023 Plan	
	Number of Shares	Weighted Average Grant Date Fair Value	Number of Shares	Weighted Average Grant Date Fair Value
Unvested as of December 31, 2022	5,674,406	$2.10	—	$—
Granted	2,759,675	$0.68	603,400	$1.48
Vested	(4,047,676)	$2.06	—	$—
Forfeited and canceled	(1,046,536)	$1.06	—	$—
Unvested as of December 31, 2023	3,339,869	$1.30	603,400	$1.48

The total fair value of RSUs and PSUs that vested during 2023 and 2022 (measured on the date of vesting) was $8.4 million and $11.2 million, respectively. As of December 31, 2023, there was approximately $3.0 million of unrecognized compensation cost related to RSUs and PSUs, which is expected to be recognized over a weighted average period of 1.65 years.

Employee Stock Purchase Plan

On June 6, 2019, the Company's stockholders approved the Amended and Restated 2014 Employee Stock Purchase Plan, or ESPP. Under the ESPP substantially all employees may voluntarily enroll to purchase shares of the Company's common stock through payroll deductions at a price equal to 85% of the lower of the fair market values of the stock as of the beginning or the end of the six-month offering period. An employee's payroll deductions under the ESPP are limited to 15% of the employee's compensation, and an employee may not purchase more than $25,000 worth of stock during any calendar year. In addition, an employee may not purchase more than 1,500 shares in any six-month offering period. As of December 31, 2023 and 2022, a total of 4,637,801 and 4,837,995 shares of the Company's common stock were available for future issuance under the ESPP, respectively. The Company issued 200,194 shares during the year ended December 31, 2023.

Stock-Based Compensation Expense

The Black-Scholes option pricing model is used to estimate the fair value of the common stock options. The weighted-average assumptions used in calculating the fair values of the rights to acquire stock under the 2023 Plan, the 2014 Plan and inducement awards were as follows:

	Years ended December 31,	
Common Stock Options	2023	2022
Risk-free interest rate	3.54% - 4.81%	1.69% - 4.17%
Expected volatility	100.97% - 111.71%	79.77% - 91.57%
Expected term (years)	5.51 - 6.25	5.51 - 6.25
Expected dividend yield	—%	—%
Weighted average grant date fair value	$0.69	$1.27

The Company has classified stock-based compensation in its consolidated statements of operations and comprehensive loss as follows (in thousands):

	Years ended December 31,	
	2023	2022
Cost of goods sold	$ 267	$ 448
Research and development	1,964	3,378
Selling, general and administrative	6,456	10,826
Restructuring	630	3,197
Total	$ 9,317	$ 17,849

Stock-based compensation by type of award was as follows (in thousands):

	Years ended December 31,	
	2023	2022
Stock options	$ 5,310	$ 8,968
Restricted stock units	3,637	8,619
Performance RSUs	297	116
Employee stock purchase plan	73	146
Total	$ 9,317	$ 17,849

Employee Retirement Plan

In 2008, the Company established a retirement plan, or the Plan, authorized by Section 401(k) of the Internal Revenue Code, or IRC. In accordance with the Plan, all employees who have attained the age of 21 are eligible to participate in the Plan as of the first Entry Date, as defined, following their date of employment. Each employee can contribute a percentage of compensation up to a maximum of the statutory limits per year. Company contributions are discretionary and contributions in the amount of approximately $1.7 million and $2.6 million were made during the years ended December 31, 2023 and 2022, respectively.

15. INCOME TAXES

The Company's income tax provision was computed based on the federal statutory rate and the state statutory rates, net of the related federal benefit. There was no current or deferred income tax expense or benefit for the years ended December 31, 2023 and 2022 due to the Company's net losses and increases in its valuation allowance against its deferred tax assets.

The Company's effective income tax rate differs from the statutory federal income tax rate as follows for the years ended December 31, 2023 and 2022:

	Years Ended December 31,	
	2023	2022
Federal tax at statutory rate	21.0 %	21.0 %
State and local tax at statutory rate	2.7	2.5
Research and development tax credits	0.3	—
Change in valuation allowance	(9.1)	(19.3)
Other permanent differences	(2.0)	(1.0)
Stock option cancellations	(3.7)	(2.5)
Stock option shortfalls	(1.7)	(1.6)
Effect of rate changes	(7.7)	0.6
Provision to return adjustment	(0.3)	0.3
Other	0.5	—
Effective tax rate	— %	— %

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. When realization of the deferred tax asset is more likely than not to occur, the benefit related to the deductible temporary differences attributable to operations is recognized as a reduction of income tax expense. A valuation allowance is recorded against deferred tax assets if it is more likely than not that some or all of the deferred tax assets will not be realized. The Company cannot be certain that future taxable income will be sufficient to realize its deferred tax assets. Accordingly, the Company has recorded a valuation allowance against the Company's otherwise recognizable net deferred tax assets. The Company continues to maintain the underlying tax benefits to offset future taxable income and to monitor the need for a valuation allowance based on the profitability of its future operations. The valuation allowance increased by approximately $4.7 million and $18.2 million during the years ended December 31, 2023 and 2022, respectively. Significant components of the Company's deferred tax assets and liabilities are as follows (in thousands):

	December 31, 2023	December 31, 2022
Deferred tax assets:		
Accrued expenses and other current liabilities	$ 1,411	$ 2,924
Deferred revenue	9,534	1,250
Sale of royalty	12,346	13,291
Stock-based compensation	6,183	8,317
R&D credits	4,843	4,827
Capitalized R&D costs	18,295	13,825
Other non-current liabilities	3,434	2,754
Net operating loss carryforward	288,939	288,842
ASC 842 lease liability	2,959	8,032
Inventories reserve	4,537	17,411
Return reserve	1,624	—
Refund liability	8,829	9,478
Other	14,036	13,159
Total deferred tax assets	376,970	384,110
Less valuation allowance	(365,330)	(360,621)
Total deferred tax assets, net of valuation allowance	11,640	23,489
Deferred tax liabilities:		
Intangible assets	(6,868)	(15,981)
481(a) adjustments	(1,924)	—
ROU asset (ASC 842)	(2,734)	(7,426)
Other	(114)	(82)
Total deferred tax liabilities	(11,640)	(23,489)
Net deferred tax liability	$ —	$ —

At December 31, 2023 and 2022, the Company had no start-up expenses capitalized for income tax purposes (after amortization of $1.9 million) and $0.1 million of start-up expenses capitalized for income tax purposes (after amortization of $1.7 million), respectively, with amortization available to offset future federal, state and local income tax.

As of December 31, 2023 and 2022, the Company had approximately $1,230.4 million and $1,230.7 million, respectively, of federal net operating losses, or NOLs, carry-forwards which expire through 2037. Included in the $1,230.4 million of federal NOLs are losses of $648.3 million that will carry forward indefinitely as a result of the Tax Cuts and Jobs Act. Additionally, at December 31, 2023 and 2022, the Company had approximately $1,807.8 million and $1,808.5 million, respectively, of state NOL carry-forwards, which expire through 2043. The Company also has approximately $2.7 million of federal research and development tax credit carryforwards which expire through 2040 and $2.7 million of state R&D tax credit carryforwards which expire through 2036.

Under the provisions of the IRC, the NOLs and tax credit carry-forwards are subject to review and possible adjustment by the Internal Revenue Service and state tax authorities. NOLs and tax credit carryforwards may become subject to an annual limitation under IRC Sections 382 and 383 if there is more than a 50% change in ownership of the stockholders that own 5% or more of the Company's outstanding stock over a three-year period. The Company completed an evaluation of its ownership changes and concluded that an ownership change did occur on December 12, 2018 for both Akebia and Keryx in connection with the Merger. As a consequence of this ownership change, the Company's NOLs and tax credit carryforwards allocable to the tax periods preceding the ownership change became subject to limitation under Section 382 of the IRC. The Company reduced its associated deferred tax assets by $44.9 million as a result of the limitation. The Company completed an evaluation of its ownership changes as of March 31, 2022 and concluded that an ownership change had not occur since the previous evaluation done through December 12, 2018. The Company may experience ownership changes in the future as a result of subsequent shifts in our stock ownership, some of which may be outside the Company's control. As a result, the Company's ability to utilize these attributes to offset taxable income may be subject to limitations.

The Company has not conducted a full study of it's research and development credit carryforwards. A study may result in an adjustment to the Company's research and development credit carryforwards; however, until a study is completed, and any adjustment is known, no amounts will be presented as an uncertain tax position. A full valuation allowance has been provided against the Company's research and development credit carryforwards and, if an adjustment is required, this adjustment would be offset by an adjustment to the valuation allowance. Thus, there would be no impact to the balance sheet or statement of operations at this time, if an adjustment were required.

The Company files income tax returns in the U.S. federal and various state and local jurisdictions. For federal and state income tax purposes, the 2022, 2021 and 2020 tax years remain open for examination under the normal three-year statute of limitations. The statute of limitations for income tax audits in the U.S. will commence upon utilization of NOLs and will expire three years from the filing of the tax return the loss was utilized on.

A reconciliation of the beginning and ending amounts of unrecognized tax benefits for the years ending December 31, 2023 and 2022 are as follows (in thousands):

Balance at December 31, 2021	$	2,513
Additions based on tax positions of current years		184
Balance at December 31, 2022		2,697
Reductions based on tax positions of current years		(2,697)
Balance at December 31, 2023	$	—

The Company does not believe there will be a material change in its unrecognized tax positions over the next twelve months. All of the unrecognized tax benefits, if recognized, would be offset by the valuation allowance.

16. NET LOSS PER SHARE

Potentially dilutive securities, common stock options, RSUs and SARs have been excluded from the calculation of diluted net loss per share as their effects would be anti-dilutive. For periods in which the Company reports a net loss, the weighted average number of shares outstanding used to calculate both basic and diluted net loss per share were the same. The shares in the table below were excluded from the calculation of diluted net loss per share, prior to the use of the treasury stock method, due to their anti-dilutive effect:

	Years Ended December 31,	
	2023	2022
Outstanding common stock options	12,690,624	11,726,090
Unvested restricted stock units	3,930,167	5,681,137
Stock appreciation rights	635,313	—
Total	17,256,104	17,407,227

17. RESTRUCTURING

On April 4, 2022, the Company restructured its operations and executed a Board approved reduction of workforce by approximately 42% across all areas of the Company (47% inclusive of the closing of the majority of open positions) following the receipt of the CRL from the FDA to the Company's NDA for vadadustat for the treatment of anemia due to CKD in adult patients. On May 5, 2022, the Company laid off several members of management. As a result of the restructuring, during the year ended December 31, 2022, the Company recognized $14.5 million of restructuring charges in the consolidated statement of operations and comprehensive loss, including $11.3 million of one-time termination benefits and contractual termination benefits for severance, healthcare and related benefits and $3.2 million of non-cash stock-based compensation expense.

On November 7, 2022, the Company further reduced its workforce by approximately 14% of the then current headcount primarily focused on the commercial organization as a result of the Company's decision to shift to a strategic account management focused model for its commercial efforts. This shift in approach supported the Company's strategic pillars to drive Auryxia revenue while also continuing to decrease operating costs. During the year ended December 31, 2022, the Company recognized $1.4 million of restructuring charges in the consolidated statement of operations and comprehensive loss, including one-time termination benefits and contractual termination benefits for severance, healthcare and related benefits and non-cash stock-based compensation expense.

The workforce reductions were completed as of December 31, 2022, and the Company has incurred all related charges.

The following table is a reconciliation of the beginning and ending restructuring liability for the year ended December 31, 2023 and 2022 respectively (in thousands):

	December 31,	
	2023	2022
Beginning balance	$ 3,758	$ —
Restructuring accrual and adjustments	(521)	12,735
Cash payments	(2,230)	(8,977)
Ending balance	$ 1,007	$ 3,758

As of December 31, 2023, $0.7 million and $0.3 million of the accrued severance, benefits and associated costs are reflected in accrued expenses and other current liabilities and other non-current liabilities, respectively. As of December 31, 2022, $2.8 million and $1.0 million of the accrued severance, benefits and associated costs are reflected in accrued expenses and other current liabilities and other non-current liabilities, respectively.

18. SUBSEQUENT EVENTS

The Company has evaluated events and transactions occurring after the balance sheet date through the date of the Company's consolidated financial statements were issued and concluded that there were no events or transactions occurring during this period that required recognition or disclosure in the Company's consolidated financial statements, except for matters described in Note 7, *Indebtedness*, related to the entering into the BlackRock Credit Agreement and the termination of the Pharmakon Term Loans and Note 13, *Capital Stock*, related to warrants issued in connection with the BlackRock Credit Agreement and the offerings under the At-the-Market facility.

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

None.

Item 9A. Controls and Procedures

Management's Evaluation of our Disclosure Controls and Procedures

"Disclosure controls and procedures", as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, are controls and other procedures that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the U.S. Securities and Exchange Commission, or the SEC, rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in company reports filed or submitted under the Exchange Act is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

As required by Rules 13a-15 and 15d-15 under the Exchange Act, our management, with the participation of our principal executive officer and principal financial officer, carried out an evaluation of our disclosure controls and procedures as of December 31, 2023. Based upon their evaluation, our principal executive officer and principal financial officer concluded that as of December 31, 2023, our disclosure controls and procedures were not effective because of a material weakness in the design of our internal control over financial reporting related to our accounting for inventories and inventory related transactions which is described in more detail below.

Management's Annual Report on Internal Control Over Financial Reporting

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

Our management conducted the assessment of the effectiveness of our internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control— Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013. As a result of this assessment, our management has concluded that, as of December 31, 2023, our internal control over financial reporting was ineffective due to the material weakness described below.

Material Weakness - Inventories

As of December 31, 2023, our management concluded that we did not design and maintain effective controls over the completeness and accuracy of accounting for inventory and inventory related transactions, including inventory reconciliations, calculation of overheads, presentation of inventories in our balance sheet between short-term and long-term and our liabilities related to the calculation of firm purchase commitment liability. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual or interim consolidated financial statements will not be prevented or detected on a timely basis. Specifically, we did not maintain effective controls related to (i) the review of inventory reconciliations, (ii) the validation of the inventory costing, (iii) the classification of inventory within the balance sheet and cost of product and other revenue related costs in the statement of operations, (iv) the calculation of estimated excess firm purchase commitment liability and (v) the verification that the existence of all inventories subject to physical inventory counts were accurately counted.

Remediation Efforts of the Material Weakness - Inventories

The control deficiencies described above resulted in certain accounting errors, including in our internal preliminary consolidated financial statements for the year ended December 31, 2023, that were corrected prior to the issuance of such annual consolidated financial statements.

Our management has taken, plans to continue to take, actions to remediate the deficiency in our internal control over financial reporting and has implemented new processes, procedures and controls designed to address the underlying causes associated with the material weakness.

For example, we are in the process of:

(i) implementing and documenting new processes and controls to help ensure the completeness and accuracy of our inventory reconciliations,

(ii) engaging additional third-party subject matter experts and accounting personnel with U.S. GAAP experience specific to inventory accounting,

(iii) enhancing the accuracy of key reports used to calculate the firm purchase commitment liability; and

(iv) establishing effective monitoring and oversight controls to help to ensure the completeness and accuracy of inventory included in our financial statements and related disclosures.

These control deficiencies did not have any material impact on our current or prior period consolidated annual or interim financial statements, but could have resulted in material misstatements of our annual or interim financial statements that would not have been prevented or detected on a timely basis. Accordingly, our management has concluded that the control deficiencies were a material weakness in the Company's internal control over financial reporting.

As management continues to evaluate and work to improve our internal control over financial reporting, management may determine it is necessary to take additional measures to address the material weakness. Until the controls have been operating for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively, the material weakness described above will continue to exist.

Remediation of Previously Identified Material Weakness - Product Return Reserves

As disclosed in our 2022 Annual Report on Form 10-K/A, our management identified a material weakness in our internal control over financial reporting relating to product return reserves. Management is committed to maintaining a strong internal control environment. In response to the material weakness previously identified, management, with the oversight of the Audit Committee of the Board of Directors, took comprehensive actions to remediate the material weakness in internal control over financial reporting relating to our product return reserves, including; (i) designed controls to address the completeness and accuracy of key reports utilized in the execution of internal controls related product return reserve calculations, (ii) engaged additional third party subject matter experts with U.S. GAAP experience specific to product returns accounting and (iii) established effective monitoring and oversight controls to help to ensure the completeness and accuracy of our accrued product returns included in our financial statements and related disclosures as well as continued to engage an outside firm to assist management with performing sufficient testing throughout the year to validate the operating effectiveness of certain controls over financial reporting. These remediation efforts also enhanced our overall financial reporting control environment related to product return reserves. As of December 31, 2023, we determined that our previously reported material weakness related to product return reserves has been remediated.

Changes in Internal Control over Financial Reporting

Except for the remediation efforts as noted "—Remediation Efforts of the Material Weakness – Inventory" and "—Remediation of Previously Identified Material Weakness – Returns" above, there have been no changes in our internal control over financial reporting during the year ended December 31, 2023, as defined in Rules 13a-15(f) and 15(d)-15(f) promulgated under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations of Effectiveness of Controls and Procedures

In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Akebia Therapeutics, Inc.

Opinion on Internal Control Over Financial Reporting

We have audited Akebia Therapeutics, Inc.'s internal control over financial reporting as of December 31, 2023, 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, because of the effect of the material weakness described below on the achievement of the objectives of the control criteria, Akebia Therapeutics, Inc. (the "Company") has not maintained effective internal control over financial reporting as of December 31, 2023, based on the COSO criteria.

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The following material weakness has been identified and included in management's assessment. Management has identified a material weakness in controls related to the Company's inventory process.

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, 2023 and 2022, the related consolidated statements of operations and comprehensive loss, stockholders' (deficit) equity and cash flows for each of the two years in the period ended December 31, 2023, and the related notes. This material weakness was considered in determining the nature, timing and extent of audit tests applied in our audit of the 2023 consolidated financial statements, and this report does not affect our report dated March 14, 2024, which 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 Annual 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

Boston, Massachusetts
March 14, 2024

Item 9B. Other Information

Rule 10b5-1 - Director and Officer Trading Arrangements

From time to time, the Company's directors and officers (as defined in Rule 16a-1(f) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, engage in open-market transactions with respect to Company securities, including to satisfy tax withholding obligations when equity awards vest or are exercised, and for diversification or other personal reasons.

Transactions in Company securities by directors and officers are required to be made in accordance with the Company's insider trading policy, which requires that the transactions be in accordance with applicable U.S. federal securities laws that prohibit trading while in possession of material nonpublic information. Rule 10b5-1 under the Exchange Act provides an affirmative defense that enables directors and officers to prearrange transactions in the Company's securities in a manner that avoids concerns about initiating transactions while in possession of material nonpublic information.

The following table describes, for the fourth quarter of 2023, each trading arrangement for the sale or purchase of Company securities adopted or terminated by our directors and officers that is either (1) a contract, instruction or written plan intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) (a "Rule 10b5-1 trading arrangement") or (2) a "non-Rule 10b5-1 trading arrangement" (as defined in Item 408(c) of Regulation S-K):

Name (Title)	Action Taken (Date of Action)	Type of Trading Arrangement	Nature of Trading Arrangement	Duration of Trading Arrangement	Aggregate Number of Securities
John P. Butler (President and Chief Executive Officer)	December 1, 2023	Durable Rule 10b5-1 trading arrangement for sell-to-cover transactions relating to all equity awards that have or may be granted	Sale	Until final settlement of any RSUs	Indeterminable [1]
Ellen Snow (Senior Vice President, Chief Financial Officer and Treasurer)	November 20, 2023	Durable Rule 10b5-1 trading arrangement for sell-to-cover transactions relating to all equity awards that have or may be granted	Sale	Until final settlement of any RSUs	Indeterminable [1]
Steven K. Burke, M.D. (Senior Vice President, Research & Development and Chief Medical Officer)	November 17, 2023	Durable Rule 10b5-1 trading arrangement for sell-to-cover transactions relating to all equity awards that have or may be granted	Sale	Until final settlement of any RSUs	Indeterminable [1]

Michel Dahan (Senior Vice President, Chief Operating Officer)	December 3, 2023	Durable Rule 10b5-1 trading arrangement for sell-to-cover transactions relating to all equity awards that have or may be granted	Sale	Until final settlement of any RSUs	Indeterminable [1]
Nicole R. Hadas (Senior Vice President, Chief Legal Officer and Corporate Secretary)	November 14, 2023	Durable Rule 10b5-1 trading arrangement for sell-to-cover transactions relating to all equity awards that have or may be granted	Sale	Until final settlement of any RSUs	Indeterminable [1]

(1) The number of shares subject to RSUs that will be sold to satisfy applicable tax withholding obligations upon vesting is unknown as the number will vary based on the extent to which vesting conditions are satisfied, the market price of the Company's common stock at the time of settlement and the potential future grant of additional RSUs subject to this arrangement. This trading arrangement, which applies to RSUs whether vesting is based on the passage of time and/or the achievement of performance goals, provides for the automatic sale of shares that would otherwise be issuable on each settlement date of a RSU in an amount sufficient to satisfy the applicable tax withholding obligation, with the proceeds of the sale delivered to the Company in satisfaction of the applicable tax withholding obligation.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Director, Executive Officers and Corporate Governance

The information required by this Item 10 will be included in our Definitive Proxy Statement to be filed with the Securities and Exchange Commission, or SEC, with respect to our 2024 Annual Meeting of Stockholders and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by this Item 11 will be included in our Definitive Proxy Statement to be filed with the SEC with respect to our 2024 Annual Meeting of Stockholders and, other than the information required by Item 402(v) of Regulation S-K, is incorporated herein by reference.

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

The information required by this Item 12 will be included in our Definitive Proxy Statement to be filed with the SEC with respect to our 2024 Annual Meeting of Stockholders and is incorporated herein by reference.

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

The information required by this Item 13 will be included in our Definitive Proxy Statement to be filed with the SEC with respect to our 2024 Annual Meeting of Stockholders and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information required by this Item 14 will be included in our Definitive Proxy Statement to be filed with the SEC with respect to our 2024 Annual Meeting of Stockholders and is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) Documents filed as part of this Annual Report on Form 10-K.

(b) Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets

Consolidated Statements of Operations and Comprehensive Loss

Consolidated Statements of Stockholders' (Deficit) Equity

Consolidated Statements of Cash Flows

Notes to Consolidated Financial Statements

(2) Schedules

Schedules have been omitted as all required information has been disclosed in the consolidated financial statements and related footnotes.

(3) Exhibits

The Exhibits listed below are filed as part of this Annual Report on Form 10-K.

Exhibit Number	Description of Exhibit	Incorporated by Reference			
		Schedule/ Form	File No.	Exhibit	Filed Date/ Period End Date
2.1**	Agreement and Plan of Merger, dated as of June 28, 2018, by and among Akebia Therapeutics, Inc., Alpha Therapeutics Merger Sub, Inc., and Keryx Biopharmaceuticals, Inc.	8-K	001-36352	2.1	June 28, 2018
2.2	First Amendment to Agreement and Plan of Merger, dated as of October 1, 2018, by and among Akebia Therapeutics, Inc., Alpha Therapeutics Merger Sub, Inc. and Keryx Biopharmaceuticals, Inc.	8-K	001-36352	2.1	October 1, 2018
3.1	Ninth Amended and Restated Certificate of Incorporation	8-K	001-36352	3.1	March 28, 2014
3.2	Certificate of Amendment of Ninth Amended and Restated Certificate of Incorporation of Akebia Therapeutics, Inc.	8-K	001-36352	3.1	June 9, 2020
3.3	Second Amended and Restated Bylaws of Akebia Therapeutics, Inc.	8-K	001-36352	3.1	April 28, 2023
4.1	Form of Common Stock Certificate	S-1/A	333-193969	4.1	March 4, 2014
4.2	Fourth Amended and Restated Investors' Rights Agreement, dated March 5, 2014	10-K	001-36352	4.4	March 4, 2015
4.3#	Amendment No. 1 to Fourth Amended and Restated Investors' Rights Agreement, dated June 28, 2017	10-K	001-36352	4.5	March 12, 2018
4.4#	Investment Agreement between Akebia Therapeutics, Inc. and Vifor (International) Ltd., dated May 12, 2017	10-Q	001-36352	4.1	August 8, 2017
4.5!	Investment Agreement between Akebia Therapeutics, Inc. and Vifor (International) Ltd., dated February 18, 2022	10-K	001-36352	4.5	March 1, 2022
4.6	Description of Registrant's Securities	10-K	001-36352	4.6	February 25, 2021
4.7*	Form of Warrant				
10.1†	Form of Director and Officer Indemnification Agreement	10-K	001-36352	10.1	March 12, 2018
10.2	Office Lease Agreement Between MA-Riverview/245 First Street, L.L.C. and Akebia Therapeutics, Inc., dated December 3, 2013	S-1	333-193969	10.2	February 14, 2014
10.3	First Amendment to Office Lease Agreement Between Jamestown Premier 245 First, LLC and Akebia Therapeutics, Inc., dated December 15, 2014	10-K	001-36352	10.3	March 4, 2015
10.4	Second Amendment to Office Lease Agreement Between Jamestown Premier 245 First, LLC and Akebia Therapeutics, Inc., dated November 23, 2015	10-K	001-36352	10.4	March 14, 2016

Exhibit Number	Description of Exhibit	Incorporated by Reference			
		Schedule/ Form	File No.	Exhibit	Filed Date/ Period End Date
10.5	Third Amendment to Office Lease Agreement Between Jamestown Premier 245 First, LLC and Akebia Therapeutics, Inc., dated July 25, 2016	10-Q	001-36352	10.1	November 9, 2016
10.6	Fourth Amendment to Office Lease Agreement Between CLPF-Cambridge Science Center, LLC and Akebia Therapeutics, Inc., dated May 1, 2017	10-K	001-36352	10.6	March 12, 2018
10.7	Fifth Amendment to Office Lease Agreement Between CLPF-Cambridge Science Center, LLC and Akebia Therapeutics, Inc. dated April 9, 2018	10-Q	001-36352	10.1	August 8, 2018
10.8	Sixth Amendment to Office Lease Agreement Between CLPF-Cambridge Science Center, LLC and Akebia Therapeutics, Inc. dated November 30, 2020	10-K	001-36352	10.8	February 25, 2021
10.9	One Marina Park Drive Office Lease dated April 29, 2015, by and between Keryx Biopharmaceuticals, Inc. and Fallon Cornerstone One MPD LLC	10-K	000-30929	10.29	March 1, 2017
10.10	First Amendment to One Marina Park Drive Office Lease, dated February 24, 2022, by and between Keryx Biopharmaceuticals, Inc. and CLPF One Marina Park Drive LLC (successor-in-interest to Fallon Cornerstone One MPD LLC)	10-K	001-36352	10.10	March 1, 2022
10.11	Assignment and Assumption Agreement, dated February 24, 2022, by and between Keryx Biopharmaceuticals, Inc. and Akebia Therapeutics, Inc.	10-K	001-36352	10.11	March 1, 2022
10.12	Sublease, dated as of September 9, 2019, by and between Keryx Biopharmaceuticals, Inc. and Foundation Medicine, Inc.	10-Q	001-36352	10.1	November 12, 2019
10.13†	Amended and Restated 2008 Equity Incentive Plan	S-1	333-193969	10.5	February 14, 2014
10.14†	Amendment No. 1 to Amended and Restated 2008 Equity Incentive Plan	S-1	333-193969	10.6	February 14, 2014
10.15†	Executive Employment Agreement with John P. Butler, dated September 16, 2013	S-1	333-193969	10.7	February 14, 2014
10.16†	Offer Letter to David Spellman, dated as of June 13, 2020	10-Q	001-36352	10.1	August 10, 2020
10.17†	Form of Non-Statutory Stock Option Agreement for Officers	S-1/A	333-193969	10.24	March 4, 2014
10.18†	Form of Non-Statutory Stock Option Agreement for Non-Employee Directors	S-1/A	333-193969	10.25	March 4, 2014
10.19†	Amended and Restated Non-Employee Director Compensation Program, effective April 27, 2023	10-Q	001-36352	10.1	May 8, 2023
10.20†	Second Amended and Restated Non-Employee Director Compensation Program, effective June 6, 2023	10-Q	001-36352	10.8	August 28, 2023

Exhibit Number	Description of Exhibit	Incorporated by Reference			
		Schedule/ Form	File No.	Exhibit	Filed Date/ Period End Date
10.21†*	Third Amended and Restated Non-Employee Director Compensation Program, effective January 1, 2024				
10.22†	Form of Executive Severance Agreement for Officers	S-1/A	333-193969	10.27	March 4, 2014
10.23†	2014 Incentive Plan	S-1	333-193969	10.29	March 4, 2014
10.24†	Amendment No. 1 to the Akebia Therapeutics, Inc. 2014 Incentive Plan	S-8	333-229366	4.4	January 25, 2019
10.25†	Amended and Restated 2014 Employee Stock Purchase Plan	DEF 14A	001-36352	Appendix A	April 26, 2019
10.26†	Amended and Restated Cash Incentive Plan, effective January 19, 2022	10-K	001-36352	10.28	March 1, 2022
10.27†	Form of Officer Restricted Stock Unit Award Agreement under 2014 Incentive Plan	10-K	001-36352	10.18	March 12, 2018
10.28†	Form of Officer Restricted Stock Unit Award Agreement under 2014 Incentive Plan	10-K	001-36352	10.29	March 26, 2019
10.29†	Form of Officer Inducement Award Non-Statutory Stock Option Agreement	S-8	333-222728	4.4	January 26, 2018
10.30†	Form of Inducement Award Non-Statutory Stock Option Agreement for Non-Officers	S-8	333-222728	4.5	January 26, 2018
10.31†	Form of Officer Performance-Based Stock Option Award, under the Company's 2014 Incentive Plan, as amended	10-Q	001-36352	10.1	November 4, 2021
10.32†	Form of Officer Performance-Based Stock Restricted Stock Unit Award, under the Company's 2014 Incentive Plan, as amended	10-Q	001-36352	10.2	November 4, 2021
10.33†	Form of Officer Restricted Stock Unit Award Agreement under 2014 Incentive Plan (Retention Awards)	10-Q	001-36352	10.6	August 4, 2022
10.34†	Form of Officer Non-Statutory Stock Option Agreement under 2014 Incentive Plan (Retention Awards)	10-Q	001-36352	10.7	August 4, 2022
10.35†!	Form of Officer Cash Bonus Letter Agreement	10-Q	001-36352	10.3	November 4, 2021
10.36†	Form of Officer Stock Appreciation Rights Award Agreement under 2014 Incentive Plan	10-Q	001-36352	10.3	May 8, 2023
10.37†	Akebia Therapeutics, Inc. 2023 Stock Incentive Plan	S-8	333-272453	99.1	June 6, 2023
10.38†	Form of Non-Employee Director Stock Option Agreement under 2023 Stock Incentive Plan	10-Q	001-36352	10.10	August 28, 2023

Exhibit Number	Description of Exhibit	Incorporated by Reference Schedule/ Form	File No.	Exhibit	Filed Date/ Period End Date
10.39†	Form of Non-Employee Director Restricted Stock Unit Agreement under 2023 Stock Incentive Plan	10-Q	001-36352	10.12	August 28, 2023
10.40†	Form of Officer Stock Option Agreement under 2023 Stock Incentive Plan	10-Q	001-36352	10.11	August 28, 2023
10.41†	Form of Officer Restricted Stock Unit Agreement under 2023 Stock Incentive Plan	10-Q	001-36352	10.13	August 28, 2023
10.42†	Form of Officer Inducement Award Stock Option Agreement under 2023 Stock Incentive Plan	10-Q	001-36352	10.14	August 28, 2023
10.43*†	Form of Officer Executive Severance Agreement (Reflecting Clawback Policy)				
10.44*†	Form of Officer Cash Bonus Agreement (Reflecting Clawback Policy)				
10.45*†	Form of Officer Stock Option Agreement under 2023 Stock Incentive Plan (Reflecting Clawback Policy)				
10.46*†	Form of Officer Restricted Stock Unit Agreement under 2023 Stock Incentive Plan (Reflecting Clawback Policy)				
10.47*†	Form of Officer Inducement Award Stock Option Agreement under 2023 Stock Incentive Plan (Reflecting Clawback Policy)				
10.48†	Keryx Biopharmaceuticals, Inc. 1999 Stock Option Plan	10-Q	001-30929	10.2	March 21, 2003
10.49†	Keryx Biopharmaceuticals, Inc. 2004 Long-Term Incentive Plan	DEF 14A	000-30929	Annex C	April 29, 2004
10.50†	Amendment to the Keryx Biopharmaceuticals, Inc. 2004 Long-Term Incentive Plan dated April 11, 2006	10-Q	000-30929	10.1	August 9, 2006
10.51†	Keryx Biopharmaceuticals, Inc. 2007 Incentive Plan	DEF 14A	000-30929	Annex D	April 30, 2007
10.52†	Keryx Biopharmaceuticals, Inc. Amended and Restated 2013 Incentive Plan	8-K	000-30929	10.1	May 27, 2016
10.53†	Keryx Biopharmaceuticals, Inc. 2018 Equity Incentive Plan	S-8	333-226005	99.1	June 29, 2018
10.54†	Form of Indemnification Agreement between Keryx Biopharmaceuticals, Inc. and its Directors and Officers	10-Q	000-30929	10.1	November 9, 2016
10.55†	Form of Employee Agreement (Confidentiality, Non-Competition, Non-Solicitation and Development Agreement) applicable to Officers	10-K	001-36352	10.56	March 26, 2019

Exhibit Number	Description of Exhibit	Incorporated by Reference Schedule/ Form	File No.	Exhibit	Filed Date/ Period End Date
10.56†	Keryx Biopharmaceuticals, Inc. Fourth Amended and Restated Directors Equity Compensation Plan	8-K	000-30929	10.2	May 27, 2016
10.57†	Keryx Biopharmaceuticals, Inc. Third Amended and Restated Directors Equity Compensation Plan	10-Q	000-30929	10.1	August 7, 2014
10.58†	Keryx Biopharmaceuticals, Inc. Director Non-Statutory Stock Option Award Terms and Conditions under the Third Amended and Restated Directors Equity Compensation Plan	10-K	001-36352	10.59	March 26, 2019
10.59†	Form of Officer Retention Letter Agreement	10-Q	001-36352	10.6	May 9, 2022
10.60†!	Form of Retention and Separation Agreement for Michel Dahan and Nicole R. Hadas	10-Q	001-36352	10.7	May 9, 2022
10.61†!	Form of Amendment to Retention and Separation Agreement for Michel Dahan and Nicole R. Hadas	10-Q	001-36352	10.2	November 3, 2022
10.62†!	Form of May 2023 Amendment to Retention and Separation Agreement for Michel Dahan and Nicole R. Hadas	10-Q	001-36352	10.4	August 28, 2023
10.63†!	July 2023 Amendment to Retention and Separation Agreement for Michel Dahan	10-Q	001-36352	10.5	August 28, 2023
10.64†!	July 2023 Amendment to Retention and Separation Agreement for Nicole R. Hadas	10-Q	001-36352	10.6	August 28, 2023
10.65†!	October 2023 Amendment to Retention and Separation Agreement for Nicole R. Hadas	10-Q	001-36352	10.3	November 8, 2023
10.66*†!	February 2024 Amendment to Retention and Separation Agreement for Nicole R. Hadas				
10.67*†!	February 2024 Amendment to Retention and Separation Agreement for Michel Dahan				
10.68†	Retention Agreement with David Spellman, dated June 22, 2022	10-Q	001-36352	10.5	August 4, 2022
10.69†	Separation Agreement with David Spellman, dated June 9, 2023 and Amendment to Separation Agreement dated July 6, 2023	10-Q	001-36352	10.7	August 28, 2023
10.70!	Collaboration Agreement between Akebia Therapeutics, Inc. and Mitsubishi Tanabe Pharma Corporation, dated December 11, 2015	10-K	001-36352	10.49	March 1, 2022
10.71#	Letter Agreement between Akebia Therapeutics, Inc. and Mitsubishi Tanabe Pharma Corporation, dated September 26, 2017	10-Q	001-36352	10.1	November 8, 2017

Exhibit Number	Description of Exhibit	Incorporated by Reference Schedule/ Form	File No.	Exhibit	Filed Date/ Period End Date
10.72!	Amendment No. 1 to Collaboration Agreement, dated December 2, 2022, by and between Akebia Therapeutics, Inc. and Mitsubishi Tanabe Pharma Corporation	10-K	001-36352	10.53	March 10, 2022
10.73!	Termination and Settlement Agreement, dated June 30, 2022, by and between the Company and Otsuka Pharmaceutical Co. Ltd.	10-Q	001-36352	10.8	August 4, 2022
10.74!	Packaging Validation Transfer Agreement, dated April 20, 2023, by and between the Company and Otsuka Pharmaceutical Co. Ltd.	10-Q	001-36352	10.3	August 28, 2023
10.75!	Second Amended and Restated License Agreement, dated February 18, 2022, by and between Akebia Therapeutics, Inc. and Vifor (International) Ltd.	10-K	001-36352	10.54	March 1, 2022
10.76	Open Market Sale Agreement[SM], dated April 7, 2022, by and between Akebia Therapeutics, Inc. and Jefferies LLC	8-K	001-36352	1.1	April 7, 2022
10.77!	Second Amended and Restated License Agreement dated April 17, 2019, by and between Akebia Therapeutics, Inc. and Panion & BF Biotech, Inc.	10-Q	001-36352	10.1	August 8, 2019
10.78#	Amended and Restated Sub-License Agreement, dated June 8, 2009, as amended by the First Amendment thereto, dated June 12, 2013, by and between Keryx Biopharmaceuticals, Inc., Japan Tobacco, Inc. and Torii Pharmaceutical Co., Ltd	10-Q	000-30929	10.1	November 7, 2017
10.79!	Master Manufacturing Services Agreement by and between Keryx Biopharmaceuticals, Inc. and Patheon Manufacturing Services LLC and certain of its affiliates, dated September 27, 2016, and related Product Agreement dated September 27, 2016, and related Product Agreement dated October 12, 2016	10-K	001-36352	10.58	March 1, 2022
10.80#	Product Agreement, dated August 29, 2017, by and between Keryx Biopharmaceuticals, Inc. and Patheon Inc. (an affiliate of Patheon Manufacturing Services LLC) related to the Master Manufacturing Services Agreement by and between Keryx Biopharmaceuticals, Inc. and Patheon Manufacturing Services LLC and certain of its affiliates dated November 12, 2016	10-Q	000-30929	10.2	November 7, 2017
10.81#	Master Manufacturing Services and Supply Agreement, dated December 20, 2017, by and between Keryx Biopharmaceuticals, Inc. and Siegfried Evionnaz SA	10-K	000-30929	10.13	February 21, 2018
10.82	Amendment No. 1 to Master Manufacturing Services and Supply Agreement, dated as of December 21, 2020, by and between Siegfried Evionnaz SA and Keryx Biopharmaceuticals, Inc.	10-K	001-36352	10.57	February 25, 2021
10.83	Amendment No. 2 to Master Manufacturing Services and Supply Agreement, dated as of January 29, 2021, by and between Siegfried Evionnaz SA and Keryx Biopharmaceuticals, Inc.	10-K	001-36352	10.58	February 25, 2021

Exhibit Number	Description of Exhibit	Incorporated by Reference Schedule/ Form	File No.	Exhibit	Filed Date/ Period End Date
10.84!	Amendment No. 3 to Master Manufacturing Services and Supply Agreement, dated as of February 11, 2021, by and between Siegfried Evionnaz SA and Keryx Biopharmaceuticals, Inc.	10-K	001-36352	10.59	February 25, 2021
10.85	Amendment No. 4 to Master Manufacturing Services and Supply Agreement, dated as of December 17, 2021, by and between Siegfried Evionnaz SA and Keryx Biopharmaceuticals, Inc.	10-K	001-36352	10.64	March 1, 2022
10.86!	Amendment No. 5 to Master Manufacturing Services and Supply Agreement, dated February 28, 2023, by and between Keryx Biopharmaceuticals, Inc. and Siegfried Evionnaz SA	10-Q	001-36352	10.2	May 8, 2023
10.87#	Exclusive Distribution Agreement between Keryx Biopharmaceuticals, Inc. and Cardinal Health 105, Inc., dated October 16, 2014 and First Amendment to Exclusive Distribution Agreement between Keryx Biopharmaceuticals, Inc. and Cardinal Health 105, Inc., dated April 14, 2015	10-K	001-36352	10.60	March 26, 2019
10.88!	Termination and Settlement Agreement, dated December 22, 2022, by and between Keryx Biopharmaceuticals, Inc. and BioVectra Inc.	10-K	001-36352	10.70	March 10, 2023
10.89!	Loan Agreement, dated November 11, 2019, by and among the Company, Keryx Biopharmaceuticals, Inc., Biopharma Credit plc and Biopharma Credit Investments V (Master) LP	10-K	001-36352	10.62	March 12, 2020
10.90!	First Amendment and Waiver, dated February 18, 2022, by and among the Company, Biopharma Credit plc, BPCR Limited Partnership and Biopharma Credit Investments V (Master) LP	10-K	001-36352	10.69	March 1, 2022
10.91!	Second Amendment and Waiver, dated July 15, 2022, by and among the Company, Biopharma Credit plc, BPCR Limited Partnership and Biopharma Credit Investments V (Master) LP	10-Q	001-36352	10.9	August 4, 2022
10.92!	Third Amendment to Loan Agreement, dated as of June 30, 2023, by and among the Company, Biopharma Credit plc, BPCR Limited Partnership and Biopharma Credit Investments V (Master) LP	10-Q	001-36352	10.2	August 28, 2023
10.93*!	Fourth Amendment to Loan Agreement dated as of October 31, 2023, by and among the Company, BioPharma Credit PLC, BPCR Limted Partnership, and BioPharma Credit Investments V (Master) LP				
10.94!	Guaranty and Security Agreement, dated November 25, 2019, by and between the Company, Keryx Biopharmaceuticals, Inc. and Biopharma Credit plc	10-K	001-36352	10.63	March 12, 2022
10.95!	Supply Agreement, dated as of March 11, 2020, by and between Akebia Therapeutics, Inc. and Patheon, Inc.	10-Q	001-36352	10.1	May 5, 2020

Exhibit Number	Description of Exhibit	Incorporated by Reference			
		Schedule/ Form	File No.	Exhibit	Filed Date/ Period End Date
10.96!	Supply Agreement, dated as of April 2, 2020, by and between Akebia Therapeutics, Inc. and STA Pharmaceutical Hong Kong Limited	10-Q	001-36352	10.2	August 10, 2020
10.97!	Amendment No. 1 to the Supply Agreement, dated as of April 15, 2021, by and between Akebia Therapeutics, Inc, and STA Pharmaceutical Hong Kong Limited	10-Q	001-36352	10.1	August 5, 2021
10.98!	Supply Agreement, dated February 10, 2021, by and between the Company and STA Pharmaceutical Hong Kong Limited	10-Q	001-36352	10.4	May 10, 2021
10.99!	Royalty Interest Acquisition Agreement, dated February 25, 2021, by and between the Company and HealthCare Royalty Partners IV, L.P.	10-Q	001-36352	10.5	May 10, 2021
10.100!	License Agreement, dated December 22, 2022, by and among Akebia Therapeutics, Inc., Keryx Biopharmaceuticals, Inc. and Averoa SAS	10-K	001-36352	10.81	March 10, 2023
10.101!	License Agreement, dated May 24, 2023, by and between the Company and MEDICE Arzneimittel Pütter GmbH & Co. KG	10-Q	001-36352	10.1	August 28, 2023
10.102*!	Agreement for the Provision of a Loan Facility dated January 29, 2024 between the Company and Kreos Capital VII (UK) Limited				
10.103*	Warrant Agreement dated January 29, 2024 by and between the Company and Kreos Capital VII Aggregator SCSp				
21.1	List of Subsidiaries	10-K	001-36352	21.1	February 25, 2021
23.1*	Consent of Ernst & Young LLP				
31.1*	Certification of Principal Executive Officer Required Under Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended				
31.2*	Certification of Principal Financial Officer Required Under Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended				
32.1*	Certification of Principal Executive Officer and Principal Financial Officer Required Under Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. 1350				
97.1†*	Akebia Therapeutics, Inc. Dodd-Frank Compensation Recovery Policy				
101.INS*	Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document)				

Exhibit Number	Description of Exhibit	Incorporated by Reference			
		Schedule/ Form	File No.	Exhibit	Filed Date/ Period End Date
101.SCH*	Inline XBRL Taxonomy Extension Schema Document				
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document				
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document				
101.LAB*	Inline XBRL Taxonomy Extension Labels Linkbase Document				
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document				
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)				

* Filed, or submitted electronically, herewith

† Indicates management contract or compensatory plan

# Indicates portions of the exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment

! Indicates portions of the exhibit (indicated by asterisks) have been omitted pursuant to Item 601(b)(10)(iv) of Regulation S-K

** The schedules to the Agreement and Plan of Merger have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The Company will furnish copies of such schedules to the Securities and Exchange Commission upon request by the Commission

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.

		AKEBIA THERAPEUTICS, INC.
Date: March 14, 2024	By:	/s/ John P. Butler
		John P. Butler
		President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report was signed by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Date: March 14, 2024	By:	/s/ John P. Butler John P. Butler *Director, President and Chief Executive Officer (Principal Executive Officer)*
Date: March 14, 2024	By:	/s/ Ellen E. Snow Ellen E. Snow *Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer)*
Date: March 14, 2024		/s/ Richard C. Malabre Richard C. Malabre *Chief Accounting Officer (Principal Accounting Officer)*
Date: March 14, 2024	By:	/s/ Adrian Adams Adrian Adams *Chairperson and Director*
Date: March 14, 2024	By:	/s/ Ron Frieson Ron Frieson *Director*
Date: March 14, 2024	By:	/s/ Steven C. Gilman Steven C. Gilman *Director*
Date: March 14, 2024	By:	/s/ Michael Rogers Michael Rogers *Director*
Date: March 14, 2024	By:	/s/ Cynthia Smith Cynthia Smith *Director*
Date: March 14, 2024	By:	/s/ Myles Wolf Myles Wolf *Director*
Date: March 14, 2024	By:	/s/ LeAnne M. Zumwalt LeAnne M. Zumwalt *Director*

Exhibit 4.7

THE SECURITIES REPRESENTED HEREBY AND THE SECURITIES ISSUABLE UPON EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH TRANSFER MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933.

WARRANT

AKEBIA THERAPEUTICS, INC.

Warrant Shares: [_________][1]

Issue Date: [_________]
Initial Exercise Date: [____________]

THIS WARRANT (the "Warrant") certifies that, for value received, Kreos Capital VII Aggregator SCSp or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after [________][2] (the "Initial Exercise Date") and on or prior to 5:00 p.m. (New York City time) on [________][3] (the "Termination Date") but not thereafter, to subscribe for and purchase from Akebia Therapeutics, Inc., a Delaware corporation (the "Company"), up to the number of Warrant Shares set forth above (as subject to adjustment hereunder, the "Warrant Shares") of Common Stock. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. In addition to the terms defined elsewhere in this Warrant, the following terms have the meanings indicated in this Section 1:

"Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act.

"Bid Price" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of a share of Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average per share price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Warrants then outstanding and reasonably acceptable to the Company, the reasonable fees and expenses of which shall be paid by the Company.

"Board of Directors" means the board of directors of the Company.

"Business Day" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed; provided, however, for clarification, commercial banks shall not be deemed to be authorized or required by law to remain closed due to "stay at home," "shelter-in-place," "non-essential employee" or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds

[1] To be determined pursuant to Section 2(a) of the Warrant Agreement for the Initial Warrant and Section 2(b) of the Warrant Agreement for the Tranche C Warrant.
[2] To be the Issue Date.
[3] To be eight years from Issue Date.

transfer systems (including for wire transfers) of commercial banks in The City of New York generally are open for use by customers on such day.

"Commission" means the United States Securities and Exchange Commission.

"Common Stock" means the common stock of the Company, par value $0.00001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

"Common Stock Equivalents" means any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"Person" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

"Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

"Subsidiaries" means any direct or indirect subsidiary of the Company.

"Trading Day" means a day on which the Common Stock is traded on a Trading Market.

"Trading Market" means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: The Nasdaq Capital Market, The Nasdaq Global Market, The Nasdaq Global Select Market, the New York Stock Exchange or the NYSE American (or any successors to any of the foregoing).

"Transfer Agent" means Continental Stock Transfer and Trust Company, the current transfer agent of the Company, and any successor transfer agent of the Company.

"VWAP" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price per share of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price per share of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Warrants then outstanding and reasonably acceptable to the Company, the reasonable fees and expenses of which shall be paid by the Company.

"Warrants" means this Warrant and other Common Stock purchase warrants issued by the Company pursuant in the event this Warrant is subdivided.

Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form attached hereto as Annex A (the "Notice of Exercise"). Within the earlier of (i) two Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise

Price for the Warrant Shares specified in the applicable Notice of Exercise by wire transfer or cashier's check drawn on a United States bank, in either case in immediately available funds, unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. The Company shall have no obligation to inquire with respect to or otherwise confirm the authenticity of the signature(s) contained on any Notice of Exercise nor the authority of the person so executing such Notice of Exercise. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one Trading Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

b) Exercise Price. The exercise price per share of Common Stock under this Warrant shall be $1.30, subject to adjustment hereunder (the "Exercise Price").

c) Cashless Exercise. If at the time of exercise hereof there is no effective registration statement registering, or the prospectus contained therein is not available for the issuance of the Warrant Shares by the Holder, or if otherwise elected by the Holder at any time, then this Warrant may also be exercised, in whole or in part, at such time by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

(A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b) of Regulation NMS promulgated under the Exchange Act) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. ("Bloomberg") as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two hours thereafter (including until two hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of "regular trading hours" on such Trading Day;

(B) = the Exercise Price of this Warrant, as adjusted hereunder; and

(X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

d) Mechanics of Exercise.

i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company's transfer agent is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder, (B) the Warrant Shares are eligible for resale by the Holder without volume or manner-of-sale limitations or the requirement for current public information, in each case, pursuant to Rule 144 (assuming cashless exercise of the Warrant), or (C) pursuant to a resale on a case-by-case basis by the Holder without volume or manner-of-sale limitations pursuant to Rule 144 (assuming cashless exercise of the Warrant), and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earliest of (i) two Trading Days after the delivery to the Company of the Notice of Exercise, (ii) one Trading Day after delivery of the aggregate Exercise Price to the Company and (iii) the number of Trading Days comprising the Standard Settlement Period after the delivery to the Company of the Notice of Exercise (such date, the "Warrant Share Delivery Date"); provided that the Company shall have received payment of the aggregate Exercise Price (other than in the case of a cashless exercise) prior to such applicable date. Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that the Company shall have received payment of the aggregate Exercise Price (other than in the case of a cashless exercise) within the earlier of (i) two Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period following delivery of the Notice of Exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Trading Market with respect to the Common Stock as in effect on the date of the delivery of the Notice of Exercise.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares remaining available under this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise; provided, however, that the Holder shall be required to return any Warrant Shares subject to any such rescinded exercise notice concurrently with the return to Holder of the aggregate Exercise Price paid to the Company for such Warrant Shares and the restoration of Holder's right to acquire such Warrant Shares pursuant to this Warrant (including, issuance of a replacement warrant certificate evidencing such restored right).

iv. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

v. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the assignment form attached hereto as Annex B (the "Assignment Form") duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vi. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

e) Beneficial Ownership Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith and the calculations required under this Section 2(e). To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within one Trading Day confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% (or, upon election by a Holder prior to the issuance of any Warrants, 9.99% or 19.99%) of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 19.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this Section 2(e) shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this Section 2(e) (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this Section 2(e) shall apply to a successor holder of this Warrant. This provision shall not restrict the number of shares of Common Stock which the holder of this Warrant may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction. This restriction may not be waived without stockholder approval.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time while this Warrant is outstanding the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership

Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation); provided, that such Purchase Right shall terminate on, and shall not be held in abeyance for any period subsequent to the Termination Date.

c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation); provided, that such Purchase Right shall terminate on, and shall not be held in abeyance for any period subsequent to the Termination Date.

d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company (and all of its Subsidiaries, taken as a whole), directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person (other than for the purpose of changing the Company's name and/or the jurisdiction of incorporation of the Company or a holding company for the Company), (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock or 50% or more of the voting power of the common equity of the Company, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires 50% or more of the outstanding shares of Common Stock or 50% or more of the voting power of the common equity of the Company (each a "Fundamental Transaction"), then this Warrant shall be deemed to have been automatically converted pursuant to Section 2(c), and thereafter the Holder shall be entitled to participate in the Fundamental Transaction on the same terms as other holders of the same class of securities of the Company; *provided, however*, that if the VWAP of the Warrant Shares on the date of the closing of such Fundamental Transaction is less than the aggregate Exercise Price, then this Warrant shall terminate without exercise or conversion immediately prior, and subject, to the closing of such Fundamental Transaction.

e) Calculations. All calculations under this Section 3 shall be made by the Company to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

f) Notice to Holder.

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company (and all of its Subsidiaries, taken as a whole) is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by email to the Holder at its last email or other address as it shall appear upon the Warrant Register of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 4. Transfer of Warrant.

a) Restricted Securities. The Holder understands that neither this Warrant nor the Warrant Shares have been registered under the Securities Act, by reason of a specific exemption from the registration provisions of the Securities Act. The Holder understands that the Warrant and the Warrant Shares are “restricted securities” under applicable U.S. federal and state securities laws and that, pursuant to these laws, the Holder must hold the Warrant or the Warrant Shares indefinitely unless they are registered with the Commission and qualified by state authorities, or an exemption from such registration and qualification requirements is available. The Holder understands that this Warrant and the Warrant Shares and any securities issued in respect of or exchange for such securities, may bear one or all of the following legends (in substantially the form set forth below):

"THE SECURITIES REPRESENTED HEREBY AND THE SECURITIES ISSUABLE UPON CONVERSION HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH TRANSFER MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT."

and, any legend required by the securities laws of any state to the extent such laws are applicable to the Securities represented by the certificate so legended.

b) Transferability. Subject to the restrictions of Section 4(a), this Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three Trading Days of the date on which the Holder delivers a duly executed Assignment Form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

c) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

d) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Piggyback Registration Rights. If during the six-month period following the date of this Warrant the Company proposes to file a registration statement on Form S-1 or Form S-3 under the Securities Act providing for shelf registration of the Common Stock of any other person pursuant to "piggyback" registration rights of such other person, the Company shall promptly give notice to the Holder of this Warrant and, upon the request of such Holder, use its reasonable best efforts to also cause to be registered for the resale thereof the Warrant Shares on such registration statement for any remaining portion of the six-month period following the date of this Warrant. It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 5 with respect to the Warrant Shares that the Holder shall furnish to the Company such information regarding itself, the Warrant Shares held by it, the intended method of disposition of such securities and any other information as is reasonably required to effect the registration of such Warrant Shares.

Section 6. Miscellaneous.

a) No Rights as Stockholder Until Exercise; No Settlement in Cash. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3. Without limiting any rights of a Holder to receive Warrant Shares on a "cashless exercise" pursuant to Section 2(c) or to receive cash payments pursuant to Section 2(d)(i) and Section 2(d)(iv) herein, including if the Company is for any reason unable to issue and deliver Warrant Shares upon exercise of this Warrant as required pursuant to the terms hereof, in no event shall the Company be required to net cash settle an exercise of this Warrant or cash settle in any other form.

b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Trading Day, then such action may be taken or such right may be exercised on the next succeeding Trading Day.

d) Authorized Shares. The Company covenants that during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

e) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. The Company and, by accepting this Warrant, the Holder each agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Warrant (whether brought against the Company or the Holder or their respective affiliates, directors, officers, stockholders, partners, members, employees, or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. The Company and, by accepting this Warrant, the Holder each hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. The Company and, by accepting this Warrant, the Holder each hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to it at the address in effect for notices to it under this Warrant and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If the Company or the Holder shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies. Without limiting any other provision of this Warrant, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any and all notices or other communications or deliveries to be provided by the Holder hereunder including, without limitation, any Notice of Exercise, shall be in writing and delivered personally, by email or sent by a nationally recognized overnight courier service, addressed to the Company, at 245 First Street, Cambridge, MA 02142, Attention: Chief Financial Officer and Chief Legal Officer, email address: legal@akebia.com or such other email address or address as the Company may specify for such purposes by notice to the Holder with a copy (which shall not constitute notice) to Latham & Watkins LLP, 200 Clarendon Street, Boston, MA 02116, Attention: Wesley C. Holmes, email address: Wesley.Holmes@LW.com. Any and all notices or other communications or deliveries to be provided by the Company hereunder shall be in writing and delivered personally, by email, or sent by a nationally recognized overnight courier service addressed to the Holder at the email address or address of the Holder appearing on the books of the Company with a copy (which shall not constitute notice) to 1 Boulevard de la Foire, 1528, Luxembourg, Attention: Sonia Benhamida, Guy Arbib, Alexander Babulevich, email address: Sonia.Benhamida@blackrock.com, Guy.Arbib@blackrock.com, Alexander.Babulevich@blackr ock.com. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the time of transmission, if such notice or communication is delivered via email at the email address set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the time of transmission, if such notice or communication is delivered via email at the email address set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given. To the extent that any notice provided by the Company hereunder constitutes, or contains, material, non-public information regarding the Company or any subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K.

i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by such Holder.

l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the holders of at least a majority of the Common Stock issuable upon the exercise of the then outstanding Warrants (determined without giving effect to Section 2(e) of the Warrants); provided such modification, amendment or waiver applies to all of the then outstanding Warrants.

m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

o) Electronic Signatures. Electronically scanned and transmitted signatures, including by email attachment, shall be deemed originals for all purposes of this Warrant.

p) Withholding. The Company shall be entitled to deduct and withhold, or cause to be deducted and withheld, taxes on all payments and distributions (or deemed distributions) with respect to this Warrant (or upon the exercise thereof) to the extent required by applicable law; provided, however, prior to deducting or withholding any such amounts, the Company shall use commercially reasonable efforts to inform the Holder in writing of its intent to withhold or deduct such amounts and to cooperate with the Holder to reduce or eliminate the requirement to withhold or deduct such amounts. To the extent that any amounts are so deducted or withheld, such amounts shall be treated for all purposes of this Warrant as having been paid to the Person in respect of which such deduction or withholding was made. In the event the Company previously remitted any amounts to a governmental authority on account of taxes required to be deducted or withheld in respect of any payment or distribution (or deemed distribution) with respect to this Warrant or upon the exercise thereof, the Company shall be entitled (i) to offset any such amounts against any amounts otherwise payable in respect of this Warrant, any Warrant Shares otherwise required to be issued upon the exercise of this Warrant or any amounts otherwise payable in respect of Warrant Shares received upon the exercise of this Warrant, or (ii) to require the Person in respect of whom such deduction or withholding was made to reimburse the Company for such amounts (and such Person shall promptly so reimburse the Company upon demand).

(Remainder of page left blank | Signature page follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

AKEBIA THERAPEUTICS, INC.

By:____________________________________
Name:
Title:

Annex A

NOTICE OF EXERCISE

TO: **AKEBIA THERAPEUTICS, INC.**

(1) The undersigned hereby elects to purchase ________ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

____

The Warrant Shares shall be delivered to the following DWAC Account Number:

____

____

____

[SIGNATURE OF HOLDER]

Name of Investing Entity: ____
Signature of Authorized Signatory of Investing Entity: ____
Name of Authorized Signatory: ____
Title of Authorized Signatory: ____
Date: ____

Annex B

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to exercise the Warrant to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant to purchase shares of Akebia Therapeutics, Inc., a Delaware corporation, and all rights evidenced thereby are hereby assigned to

Name:

(Please Print)

Address:

(Please Print)

Phone Number: ____

Email Address: ____

Dated: _______________ __, ______

Holder’s Signature:

Holder’s Address:

AKEBIA THERAPEUTICS, INC.
THIRD AMENDED AND RESTATED NON-EMPLOYEE DIRECTOR COMPENSATION PROGRAM

Effective January 1, 2024

Non-employee members of the Board of Directors (the "***Board***") of Akebia Therapeutics, Inc. (the "***Company***") shall be eligible to receive cash and equity compensation as set forth in this Third Amended and Restated Non-Employee Director Compensation Program (this "***Program***"). The cash and equity compensation described in this Program shall be paid or be made, as applicable, automatically and without further action of the Board, to each member of the Board who is not an employee of the Company or any parent or subsidiary of the Company (each, a "***Non-Employee Director***") who is eligible to receive such cash or equity compensation, unless such Non-Employee Director declines the receipt of such cash or equity compensation by written notice to the Company. This Program shall remain in effect until it is revised or rescinded by further action of the Board. This Program shall be reviewed by the Board periodically and may be amended, modified or terminated by the Board at any time in its sole discretion and nothing herein should be construed as a guarantee to any Non-Employee Director of any particular level of cash or equity compensation. The terms and conditions of this Program shall supersede any prior cash and/or equity compensation arrangements for service as a member of the Board between the Company and any of its Non-Employee Directors. This Program shall become effective on the date set forth above (the "***Effective Date***").

1. Cash Compensation.

(a) Annual Retainers. Each Non-Employee Director shall be eligible to receive an annual retainer of $50,000 for service on the Board, effective as of January 1, 2024.

(b) Additional Annual Retainers. In addition to the annual retainer payable pursuant to Section 1(a) above, a Non-Employee Director shall be eligible to receive the following annual retainers:

(i) Chairperson of the Board. A Non-Employee Director serving as Chairperson of the Board shall be eligible to receive an additional annual retainer of $35,000 for such service; provided, that, in the event that a Non-Employee Director is one of two concurrently serving Chairpersons of the Board, the additional annual retainer payable to such Non-Employee Director pursuant to this Section 1(b)(i) shall be $17,500.

(ii) Audit Committee. A Non-Employee Director serving as Chairperson of the Audit Committee of the Board (the "***Audit Committee***") shall be eligible to receive an additional annual retainer of $20,000 for such service. A Non-Employee Director serving as a member of the Audit Committee (other than the Chairperson of the Audit Committee) shall be eligible to receive an additional annual retainer of $10,000 for such service.

(iii) Compensation Committee. A Non-Employee Director serving as Chairperson of the Compensation Committee of the Board (the "***Compensation Committee***") shall be eligible to receive an additional annual retainer of $15,000 for such service. A Non-Employee Director serving as a member of the Compensation Committee (other than the Chairperson of the Compensation Committee) shall be eligible to receive an additional annual retainer of $7,500 for such service.

(iv) Nominating and Corporate Governance Committee. A Non-Employee Director serving as Chairperson of the Nominating and Corporate Governance Committee of the Board (the "***NCG Committee***") shall be eligible to receive an additional annual retainer of $10,000 for such service. A Non-Employee Director serving as a member of the NCG Committee (other than the Chairperson of the NCG Committee) shall be eligible to receive an additional annual retainer of $5,000 for such service.

(v) Research and Development Committee. A Non-Employee Director serving as Chairperson of the Research and Development Committee of the Board (the "***R&D Committee***") shall be eligible to receive an additional annual retainer of $10,000 for such service. A Non-Employee Director serving as a member of the R&D Committee (other than the Chairperson of the R&D Committee) shall be eligible to receive an additional annual retainer of $5,000 for such service.

(c) Payment of Retainers. The annual retainers described in Sections 1(a) and 1(b) shall be earned on a quarterly basis based on a calendar quarter and shall be paid in cash by the Company in arrears not later than the fifteenth day following the end of each calendar quarter. In the event a Non-Employee Director does not serve as a Non-Employee Director, or in the applicable positions described in Section 1(b), for an entire calendar quarter, the retainer paid to such Non-Employee Director shall be prorated for the portion of such calendar quarter actually served as a Non-Employee Director, or in such position, as applicable.

2. Equity Compensation. Non-Employee Directors shall be granted the equity awards described below. Each award described below shall be granted under and shall be subject to the terms and provisions of the Company's 2023 Stock Incentive Plan, as amended, or any other successor Company equity incentive plan under which awards are permitted to be made to Non-Employee Directors (the "***Equity Plan***") and (i) for option awards, a non-qualified stock option award agreement, including attached exhibits, in substantially the form of award agreement applicable to Non-Employee Directors most recently approved by the Board and/or the Compensation Committee, as applicable, and (ii) for restricted stock unit awards, a restricted stock unit award agreement, including attached exhibits, in substantially the form of award agreement applicable to Non-Employee Directors most recently approved by the Board and/or the Compensation Committee, as applicable. All applicable terms of the Equity Plan apply to this Program as if fully set forth herein. For the avoidance of doubt, if there is any conflict between the terms of the Equity Plan (including the applicable award agreements thereunder) and this Program, the Equity Plan (including the applicable award agreements thereunder) shall control.

(a) Initial Awards. Each Non-Employee Director who is initially elected or appointed to the Board after the Effective Date shall be eligible to receive, on the date of such initial election or appointment, an option to purchase 180,000 shares of the Company's common stock (subject to adjustment as provided in the Equity Plan). The awards described in this Section 2(a) shall be referred to as "***Initial Awards***." No Non-Employee Director shall be granted more than one Initial Award.

(b) Subsequent Awards. A Non-Employee Director who (i) has been serving on the Board for at least six months as of the date of any annual meeting of the Company's stockholders after the Effective Date and (ii) will continue to serve as a Non-Employee Director immediately following such meeting, shall be automatically granted, on the date of such annual meeting, an option to purchase 45,000 shares of the Company's common stock (subject to adjustment as provided in the Equity Plan) and 30,000 restricted stock units of the Company. The option awards described in this Section 2(b) shall be referred to as "***Subsequent Options***", the restricted stock unit awards described in this Section 2(b) shall be referred to as "***Subsequent RSUs***", and the Subsequent Options and Subsequent RSUs shall together be referred to as the "***Subsequent Awards***." For the avoidance of doubt, a Non-Employee Director elected for the first time to the Board at an annual meeting of the Company's stockholders shall only receive an Initial Award in connection with such election, and shall not receive any Subsequent Awards on the date of such meeting as well.

(c) Termination of Service of Employee Directors. Members of the Board who are employees of the Company or any parent or subsidiary of the Company who subsequently terminate their service with the Company and any parent or subsidiary of the Company and remain on the Board will not receive an Initial Award pursuant to Section 2(a) above, but to the extent that they are otherwise eligible, will be eligible to receive, after termination from service with the Company and any parent or subsidiary of the Company, Subsequent Awards as described in Section 2(b) above.

(d) Terms of Awards Granted to Non-Employee Directors.

(i) Purchase Price. The per share exercise price of each option granted to a Non-Employee Director shall equal the fair market value (as determined pursuant to the Equity Plan) of a share of the Company's common stock on the date the option is granted.

(ii) Vesting. Each Initial Award shall vest and become exercisable in accordance with the following schedule, subject to the Non-Employee Director remaining in continuous employment or other service relationship with the Company ("***Service***") through each such vesting date: 33 1/3% of the Initial Award shall vest on the one-year anniversary of the date of grant and 66 2/3% shall vest ratably on the first day of each calendar quarter between the one-year anniversary of the date of grant and the third anniversary of the date of grant. Each Subsequent Option shall vest and become exercisable in full on the first anniversary of the date of grant (or, if earlier, immediately prior to the first annual meeting of the Company's stockholders occurring after the date of grant), subject to the Non-Employee Director remaining in continuous Service through such vesting date. Each Subsequent RSU shall vest in full on the first anniversary of the date of grant (or, if earlier, immediately prior to the first annual meeting of the Company's stockholders occurring after the date of grant), subject to the Non-Employee Director remaining in continuous Service through such vesting date. Each Initial Award and Subsequent Award that is then-outstanding shall vest and become exercisable in full upon a change in control of the Company or termination of the Non-Employee Director's Service due to the Non-Employee Director's death or Disability. For purposes of the Program, "***Disability***" means Executive's inability by reason of physical or mental impairment to perform his/her job duties for a period exceeding twelve (12) consecutive weeks.

(iii) Term. The term of each option granted to a Non-Employee Director shall be ten (10) years from the date the option is granted.

3. Non-Employee Director Compensation Limit. Notwithstanding anything herein to the contrary, the cash compensation and equity compensation that each Non-Employee Director is entitled to receive under this Program shall be subject to any limits set forth in the applicable Equity Plan with respect to limits on awards to Non-Employee Directors.

4. Reimbursements. The Company shall reimburse each Non-Employee Director for all reasonable, documented, out-of-pocket travel and other business expenses incurred by such Non-Employee Director in the performance of such Non-Employee Director's duties to the Company in accordance with the Company's applicable expense reimbursement policies and procedures, as in effect from time to time. To the extent that any reimbursement under this Program provides for a deferral of compensation under Section 409A of the Internal Revenue Code of 1986, as amended: (a) the amount eligible for reimbursement in one calendar year may not affect the amount eligible for reimbursement in any other calendar year; (b) the right to

reimbursement is not subject to liquidation or exchange for another benefit; and (c) any such reimbursement of an expense must be made on or before the last day of the calendar year following the calendar year in which the expense was incurred.

Exhibit 10.43

EXECUTIVE SEVERANCE AGREEMENT

This **EXECUTIVE SEVERANCE AGREEMENT** (the "***Agreement***") is entered into by and between **Akebia Therapeutics, Inc.**, a Delaware corporation ("***Akebia***" or the "***Company***"), and __________________, a resident of ____________________________________ (the "***Executive***"), and is effective as of ____________ (the "***Effective Date***").

WHEREAS, Executive is a valued employee of the Company; and

WHEREAS, the Company desires to provide certain severance benefits to Executive according to, and contingent upon, the terms and conditions stated herein (the **"*Severance Benefits*"**).

NOW, THEREFORE, in consideration of the foregoing and the mutual promises contained herein, and of other good and valuable consideration, including the compensation to be received by Executive from the Company from time to time, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending legally to be bound, hereby agree as follows:

1. Definitions.

(a) Cause. For purposes of this Agreement, and in each case as determined by the Compensation Committee of the Company's Board of Directors (the "***Compensation Committee***") in its sole and reasonable discretion, the following will constitute "***Cause***":

(i) indictment or conviction for either any felony offense or any other crime involving dishonesty;

(ii) participation in any fraud, theft, embezzlement or other misconduct or act of dishonesty involving the Company or any of its subsidiaries;

(iii) intentional damage to any property of the Company or any of its subsidiaries;

(iv) breach of the holder's duties of good faith and fair dealing that are owed to the Company or any of its subsidiaries;

(v) breach or violation of any agreement between Executive and the Company or any of its subsidiaries, including, without limitation, any employment, confidentiality, non-competition, non-solicitation or assignment of inventions agreement;

(vi) conduct which in the good faith and reasonable determination of the Board of Directors demonstrates gross unfitness to serve;

(vii) failure to comply with the code of conduct of the Company or any of its subsidiaries or any other policies of the Company that have been approved by the Board of Directors or its authorized delegate,

(viii) insubordination or failure to follow the directions of the Board of Directors or of the Chief Executive Officer or President of the Company; or

(ix) any other conduct by Executive that could be expected to be harmful to the business, interests or reputation of the Company or any of its subsidiaries.

Executive shall have thirty (30) days after notice from the Company to cure the deficiency leading to the Cause determination (except with respect to Sections 1(a)(i) and 1(a)(ii) above, for which no notice is required) if, in the sole and reasonable discretion of the Compensation Committee, such deficiency is curable.

(b) Good Reason. For purposes of this Agreement the following will constitute "***Good Reason***" for Executive to terminate his/her employment with the Company. For the avoidance of doubt, Executive shall not be considered to have terminated his/her employment for Good Reason unless Executive has (A) reasonably determined in good faith that a Good Reason condition has occurred; (B) not consented to the occurrence that s/he alleges constitutes Good Reason; (C) given the Company written Notice of Termination for Good Reason not more than sixty (60) days after the initial existence of the alleged condition giving rise to Good Reason; (D) given the Company at least thirty (30) days after receipt of such notice to cure the alleged deficiency; and (E) terminated his/her employment within sixty (60) days following the Company's receipt of such notice:

(i) a material reduction in the nature or status of Executive's responsibilities, authority, position or duties (unless arising directly or indirectly in connection with a documented and significant performance issue in Executive's then-current position, as determined by the Compensation Committee in its sole and reasonable discretion). Notwithstanding the foregoing, neither of the following shall constitute Good Reason: (A) a reassignment of Executive to a position within the Company of substantially equivalent level or status with respect to Executive's responsibilities and duties existing immediately prior to such reassignment, or (B) a change in reporting structure;

(ii) a material adverse reduction in the amount of aggregate cash compensation provided to Executive or failure by the Company to pay such compensation, except where such reduction occurs contemporaneously with the implementation of a firm-wide cost-reduction program affecting comparable executives (a "***Reduction Program***");

(iii) the failure by the Company to continue in effect any incentive compensation plan in which Executive participates, unless an equitable alternative compensation arrangement has been provided, except that to the extent that participation in such plans has been reduced or eliminated for all other eligible executives, in which case the failure to continue Executive in any such plan shall not constitute Good Reason; or

(iv) establishment of the Company's primary operations in any place beyond a fifty (50) mile radius of Cambridge, Massachusetts; provided, that Executive primarily provides services in Cambridge at the time of such establishment.

In all respects, the definition of Good Reason shall be interpreted to comply with Code Section 409A, and any successor statute, regulation and guidance thereto.

(c) Change in Control. For purposes of this Agreement, a "***Change in Control***" means the occurrence of any of the following events other than in connection with the consummation of an initial public offering of the Company's securities:

(i) any "person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended) who is not a shareholder of the Company as of the date of this Agreement or an affiliate thereof is or becomes the "beneficial owner" (as defined in Rule 13d-3 under said Act), directly or indirectly, of securities of the Company representing 50% or more of the total voting power represented by the Company's then outstanding voting securities;

(ii) a change in the composition of the Board occurring within a two-year period, as a result of which less than a majority of the directors are Incumbent Directors. "Incumbent Directors" will mean directors who either (A) are directors of the Company as of the date hereof, or (B) are elected, or nominated for election, to the Board with the affirmative votes of at least a majority of the remaining Incumbent Directors at the time of such election or nomination (but will not include an individual whose election or nomination is in connection with an actual or threatened proxy contest relating to the election of directors to the Company);

(iii) the date of the consummation of a merger, scheme of arrangement or consolidation of the Company with any other corporation that has been approved by the stockholders of the Company, other than a merger, scheme of arrangement or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity) more than fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity outstanding immediately after such merger or consolidation; or

(iv) the date of the consummation of the sale or disposition by the Company of all or substantially all the Company's assets.

Notwithstanding the foregoing, a transaction will not constitute a Change in Control if: (a) its sole purpose is to change the domicile of the Company's incorporation; or (b) its sole purpose is to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transaction.

In all respects, the definition of Change in Control shall be interpreted to comply with Code Section 409A, and any successor statute, regulation and guidance thereto.

(d) Notice of Termination. For purposes of this Agreement, a "***Notice of Termination***" means a notice which, if applicable, sets forth the specific "cause" or "good reason" provision of this Section 1 and sets forth the effective date of termination.

(e) Disability. For purposes of this Agreement, "***Disability***" means Executive's inability by reason of physical or mental impairment to perform his/her job duties for a period exceeding twelve (12) consecutive weeks.

2. Termination of Agreement. This Agreement will terminate automatically upon (a) Executive's termination for Cause; (b) mutual agreement between the Company and Executive; (c) Executive's death, or (d) Executive's Disability. Upon termination of this Agreement, Executive or his/her heirs or estate (as applicable) only will be entitled to payments required by law or agreement and benefits afforded under the Company's employee benefit plans existing at the time of termination and in which the Executive participates.

3. Severance Benefits Upon Termination of Executive's Employment. If Executive's employment is terminated, then s/he may be entitled to certain monetary and non-monetary compensation and benefits as set forth below (the "***Severance Benefits***"):

(a) Termination by the Company for Cause; Executive's Death or Disability. If Executive's employment is terminated by the Company for Cause or on account of the Executive's Disability, or if Executive's employment is terminated due to the Executive's death, then the Company shall pay Executive all amounts earned or accrued but not paid as of the effective date of such termination, including (i) Executive's then-current base salary; (ii) legitimate business expenses incurred by Executive in the performance of his/her duties to the Company in accordance with the Company's normal policies and practices; (iii) vacation pay in accordance with applicable law and the Company's normal policies and practices; and (iv) any earned or accrued bonus or incentive compensation with respect to the calendar year ended prior to the year in which the termination became effective (collectively, "***Accrued Compensation***").

(b) Termination by Executive without Good Reason. If Executive terminates his/her employment without Good Reason, then the Company will pay Executive all Accrued Compensation earned through the date of such resignation. Nothing herein shall prohibit the Company, in its discretion, from effectuating Executive's resignation sooner than the date set forth in Executive's Notice of Termination.

(c) Termination by the Company without Cause or by Executive for Good Reason (No Change in Control). If Executive's employment is terminated by the Company without Cause or by the Executive for Good Reason where there has not been a Change in Control, and provided that the Executive has satisfied all conditions precedent as set forth herein, then the Company shall:

(i) pay Executive all Accrued Compensation;

(ii) continue paying Executive's then-base salary for a period of twelve (12) months payable in accordance with the normal payroll practices of the Company for its executives generally, with the first such payment to be made on the first payroll date that occurs after the day that is sixty (60) days after the date of termination, retroactive to the date of Executive's termination, or such other method of payment as determined by the Company; and

(iii) provided that Executive appropriately and timely completes all required elections, the Company shall reimburse (on a taxable basis) premiums paid by Executive for health and dental insurance premiums (for himself/herself and all eligible dependents) under the Consolidated Omnibus Budget Reconciliation Act ("***COBRA***") at the same amount and to the same extent it would if Executive still was employed by the Company until the earliest of (A) the last day of the month which falls twelve (12) months from the date of Executive's termination (or such other period as required by applicable law); (B) the date that Executive and eligible dependents are no longer eligible to receive continuation coverage under COBRA; or (C) the date Executive becomes eligible to receive health or dental care coverage pursuant to the health or dental care plan of a new employer.

In the event that the Company terminates Executive's employment without Cause as set forth in this Section 3(c), but the Company determines within one (1) year of such termination that the Company had the right to terminate Executive's employment for Cause pursuant to Sections 1(a) and 3(a) above, the Company may terminate the payment of any amounts still owed to Executive pursuant to this Section 3(c).

(d) Termination by the Company without Cause or by Executive for Good Reason (Change in Control). If Executive's employment is terminated by the Company without Cause or by Executive for Good Reason, and provided that such termination occurs within twelve (12) months after the occurrence of such qualifying event giving rise to the Change in Control; then the Company shall:

(i) pay Executive all Accrued Compensation;

(ii) continue paying Executive's then-base salary for a period of twelve (12) months payable in accordance with the normal payroll practices of the Company for its executives generally, with the first such payment to be made on the first payroll date that occurs after the day that is sixty (60) days after the date of termination, retroactive to the date of Executive's termination, or such other method of payment as determined by the Company;

(iii) pay Executive an amount equal to fifty percent (50%) of his/her annual target bonus for the year in which the termination occurs, pro-rated to reflect the month in which the termination occurs, such amount to be payable in a lump-sum on the date that is the day that is sixty (60) days after the date of termination; and

(iv) provided that Executive appropriately and timely completes all required elections, the Company shall reimburse (on a taxable basis) premiums paid by Executive for health and dental insurance premiums (for himself/herself and all eligible dependents) under COBRA at the same amount and to the same extent it would if Executive still was employed by the Company until the earliest of (A) the last day of the month which falls twelve (12) months from the date of Executive's termination (or such other period as required by applicable law); (B) the date that Executive and eligible dependents are no longer eligible to receive continuation coverage under COBRA; or (C) the date Executive becomes eligible to receive health or dental care coverage pursuant to the health or dental care plan of a new employer.

In the event that the Company terminates Executive's employment without Cause as set forth in this Section 3(d), but the Company determines within one (1) year of such termination that the Company had the right to terminate Executive's employment for Cause pursuant to Sections 1(a) and 3(a) above, the Company may terminate the payment of any amounts still owed to Executive pursuant to this Section 3(d).

(e) Notice of Termination Required. Any purported termination by the Company or by Executive must be communicated by a written Notice of Termination to the other party. For purposes of this Agreement, no purported termination of employment will be effective without a Notice of Termination.

(f) Timing of Payments. The Accrued Compensation payable to Executive as provided in this Section 3 will be paid pursuant to applicable state law or within ten (10) business days after the effective date of Executive's employment termination, whichever period is shorter. Any other compensation provided for in this Section 3 will be paid as set forth above, subject to Section 9 below.

(g) Payroll Taxes and Withholdings. All Severance Benefits provided for in this Section 3 shall, to the extent required, be subject to ordinary and required payroll taxes, deductions and income tax withholding.

(h) Reemployment. If Executive becomes reemployed by the Company prior to the end of the period in which Executive is entitled to receive Severance Benefits, Executive will no longer be entitled to receive such Severance Benefits (except for any Accrued Compensation) as of the effective date of such reemployment.

(i) Benefit Plans. Executive's entitlement to any other compensation or benefits upon termination of his/her employment shall be determined in accordance with the Company's employee benefit plans and other applicable programs and practices then in effect.

4. Conditions Precedent to Receipt of Severance Benefits. Executive shall not be entitled to receive (or continue to receive) any Severance Benefits, except for Accrued Compensation, and shall not be entitled to any continued vesting of outstanding equity awards pursuant to Section 5(b) below unless:

(a) Executive executes (prior to the deadline established by the Company), does not revoke and complies with a general release of all claims against the Company and its officers, directors and employees upon terms and in a form reasonably acceptable to the Company;

(b) Executive executes (and does not rescind such acceptance within seven (7) business days after such execution) and complies fully with a new agreement to be entered into between Executive and the Company containing post-termination restrictive covenants (including, without limitation, covenants of non-disclosure, non-solicitation and non-competition, and covenants regarding the assignment of intellectual property) with the same scope, duration and conditions as any post-termination restrictive covenants previously agreed to between Executive and the Company at any time during Executive's employment with the Company; and

(c) Executive complies fully with Section 7 hereof.

5. Accelerated Vesting of Equity.

(a) Upon a Change in Control. One hundred percent (100%) of Executive's outstanding unvested options, restricted shares, restricted stock units or other equity-based awards shall immediately vest upon a Change in Control. The exercisability of stock options (or other awards requiring exercise) shall be extended, to the extent feasible and to the extent consistent with applicable law and the terms of the Company's equity plans or programs (each, as in effect from time to time, a "***Company Equity Plan***" and, together, the "***Company Equity Plans***") and the award agreements issued thereunder, beyond any lockup or similar restrictive period set forth in any documents executed in connection with a Change in Control. The Compensation Committee may determine in its reasonable discretion whether it is advisable or feasible to amend a Company Equity Plan or Plans and/or any equity agreements issued thereunder between the Company and Executive in order to effect the extended period of exercise contemplated by this Section 5(a). For the avoidance of doubt, no amendment shall be made by the Compensation Committee in furtherance of this Section 5(a) other than in accordance with Section 409A of Internal Revenue Code of 1986, as amended (the "***Code***") and the regulations and guidance issued thereunder.

(b) Upon Termination by the Company without Cause or by Executive for Good Reason. Executive's outstanding unvested options, restricted shares, restricted stock units or other equity-based awards shall remain outstanding and continue to vest in accordance with the terms of the applicable equity agreement(s) for the period of time during which Executive continues to receive Severance

Benefits, as if he or she remained employed during such time, in accordance with Section 3(c)(ii) hereof. The Compensation Committee may determine in its reasonable discretion whether it is advisable or feasible to amend a Company Equity Plan or Plans and/or any equity agreements issued thereunder existing between the Company and Executive in order to effect the extended period of vesting contemplated by this Section 5(b). For the avoidance of doubt, no amendment shall be made by the Compensation Committee in furtherance of this Section 5(b) other than in accordance with Code Section 409A and the regulations and guidance issued thereunder.

6. Cooperation. During employment and after the termination of Executive's employment for any reason, Executive agrees to cooperate with, and at the request of, the Company in the defense or prosecution of any legal matter or claim in which the Company, any of its affiliates, or any of their past or present employees, agents, officers, directors, attorneys, successors or assigns, may be or become involved and which arises or arose during Executive's employment, to the extent such cooperation does not unreasonably interfere with Executive's personal or professional schedule. Executive will be reimbursed for any reasonable out-of-pocket expenses incurred thereby.

7. Non-Disparagement. Executive agrees that during his/her employment and for the greater of (A) one (1) year following the termination of his/her employment (regardless of the reason for termination) or (B) the period during which Executive receives Severance Benefits hereunder, Executive will not make any statements that are disparaging about or adverse to the business interests of the Company or which are intended to harm the reputation of the Company including, but not limited to, any statements that disparage any product, service, finances, employees, officers, directors, capabilities or any other aspect of the Company's business, products or services.

8. Successors and Assigns.

(a) Assignment by Company. The Company may, without the consent of Executive, assign this Agreement or delegate its obligations hereunder to any firm, entity, company or person (collectively, a "***Person***") in the event that the Company shall hereafter effect a reorganization, consolidate with, or merge into, such Person or transfer all or substantially all of its properties or assets to such Person.

(b) Assignment by Executive. Neither this Agreement nor any right or interest hereunder will be assignable or transferable by Executive, his/her beneficiaries or legal representatives, except by will or by the laws of descent and distribution. All payments under this Agreement will inure to the benefit of and be enforceable by Executive's legal personal representative(s).

9. Tax Consequences.

(a) The Company does not guarantee the tax treatment or tax consequences associated with Severance Benefits received by Executive hereunder.

(b) Parachute Payments. To the extent consistent with applicable law, the payment of any amounts or the provision of any benefits under this Agreement including, without limitation, the payment of Severance Benefits pursuant to Section 3 above or the accelerated vesting of equity pursuant to Section 5 above, will be reduced or adjusted to avoid triggering the excise tax imposed by Section 4999 of the Code, if such adjustment would result in the provision of a greater total benefit, on a net after-tax basis (after taking into account taking any applicable federal, state and local income taxes and the excise tax imposed by Section 4999), to Executive.

(c) Section 409A. The provisions of this Agreement are intended to comply with the requirements of Code Section 409A or with the conditions for an exemption from such requirements, and shall be construed accordingly. Notwithstanding any provision of this Agreement to the contrary, if at the time of Executive's separation from service (as defined below) Executive is a specified employee (as defined below), as determined by the Company, any and all amounts payable in connection with such separation from service that constitute deferred compensation subject to Code Section 409A, as determined by the Company, and that would otherwise be payable within six (6) months following such separation from service, shall instead be paid on the date that follows the date of such separation from service by six (6) months (or, if earlier, upon the Executive's death). For purposes of this Agreement, all references to "termination of employment" and correlative phrases shall be construed to require a "separation from service" (as defined in Section 1.409A-1(h) of the Treasury regulations after giving effect to the presumptions contained therein), and the term “specified employee” means an individual determined by the Company to be a specified employee under Treasury regulation Section 1.409A-1(i).

Each payment made under this Agreement shall be treated as a separate payment and the right to a series of installment payments under this Agreement is to be treated as a right to a series of separate payments.

Any reimbursement for expenses that would constitute nonqualified deferred compensation subject to Section 409A shall be subject to the following additional rules: (i) no reimbursement of any such expense shall affect Executive’s right to reimbursement of any such expense in any other taxable year; (ii) reimbursement of the expense shall be made, if at all, promptly, but not later than the end of the calendar year following the calendar year in which the expense was incurred; and (iii) the right to reimbursement shall not be subject to liquidation or exchange for any other benefit.

10. Notices. All notices, requests, demands, and other communications called for hereunder will be in writing and will be deemed given (a) on the date of delivery if delivered personally, (b) one (1) day after being sent overnight by a well-established commercial overnight service, or (c) four (4) days after being mailed by registered or certified mail, return receipt requested, prepaid and addressed to the parties or their successors at the following addresses, or at such other addresses as the parties may later designate in writing:

If to the Company:

Akebia Therapeutics, Inc.
Attention: Chief Legal Officer
245 First Street
Cambridge, Massachusetts 02142

If to Executive:

at the last residential address known by the Company

11. Non-Exclusivity of Rights. Nothing in this Agreement will prevent or limit Executive’s continuing or future participation in any benefit, bonus, incentive or other plan or program provided by the Company or any of its subsidiaries and for which Executive may qualify, nor will anything herein limit or reduce such rights as Executive may have under any other agreements with the Company or any of its subsidiaries. Amounts which are vested benefits or which Executive is otherwise entitled to receive under any plan or program of the Company or any of its subsidiaries will be payable in accordance with such plan or program, except as explicitly modified by this Agreement.

12. Amendments. No provision of this Agreement may be modified, waived or discharged unless such waiver, modification or discharge is agreed to in writing and signed by Executive and the Chief Executive Officer of the Company.

13. No Waiver. No waiver by either party hereto at any time of any breach by the other party hereto of, or compliance with, any condition or provision of this Agreement to be performed by such other party will be deemed a waiver of similar or dissimilar provisions or conditions at the same or at any prior or subsequent time.

14. Governing Law. This Agreement will be governed by and construed and enforced in accordance with the laws of the Commonwealth of Massachusetts, without giving effect to the conflict of law principles thereof.

15. Dispute Resolution/Jurisdiction/Venue. Any dispute concerning this Agreement shall be heard by a court of competent jurisdiction within Massachusetts. The parties hereby acknowledge that they are subject to the personal jurisdiction of the Massachusetts courts in any county where the Company has operations or facilities and/or Executive resides.

16. **Expenses**. To the extent Executive elects to have independent legal counsel review and or negotiate the terms of this Agreement or any release required by this Agreement, Executive shall be solely responsible for all associated costs and fees, including but not limited to attorneys' fees.

17. **Severability**. The provisions of this Agreement will be deemed severable and the invalidity or unenforceability of any provision will not affect the validity or enforceability of the other provisions hereof.

18. **Effect on Other Agreements**. The terms of this Agreement replace and supersede the terms in all other and prior agreements between Executive and the Company that relate to (i) post-separation severance and other post-separation benefits and (ii) equity acceleration in connection with a change of control, whether written or oral or express or implied, and no representations, promises, assurances or agreements have been made regarding the subject matter of this Agreement, except such as has been stated in this Agreement. For the avoidance of doubt, (a) the terms of any existing employment agreement or other agreement between Executive and the Company regarding assignment of intellectual property, confidentiality and non-disclosure, non-competition and non-solicitation between Executive and the Company shall remain in full force and effect and (b) all other terms in offer letters, employment agreements or any other agreements between Executive and the Company that do not relate to (1) post-separation severance or other post-separation benefits or (2) equity acceleration in connection with a change of control, will remain in full force and effect.

19. **Clawback Policy**. Notwithstanding any other provision of this Agreement, Executive agrees and acknowledges that they are and remain subject to, and bound by, the terms and conditions of Akebia Therapeutic Inc.'s Compensation Recovery Policy (as it may be amended, restated, supplemented or otherwise modified from time to time, the "Policy"). In the event it is determined in accordance with the Policy that any compensation or compensatory award granted, earned or paid to Executive must be forfeited or reimbursed to the Company, Executive will promptly take any action necessary to effectuate such forfeiture and/or reimbursement as determined by the Company.

THE COMPANY AND EXECUTIVE ACKNOWLEDGE THAT (A) EACH HAS CAREFULLY READ THIS AGREEMENT, (B) EACH UNDERSTANDS ITS TERMS, (C) ALL UNDERSTANDINGS AND AGREEMENTS BETWEEN THE COMPANY AND EXECUTIVE RELATING TO THE SUBJECTS COVERED IN THIS AGREEMENT ARE CONTAINED IN IT, AND (D) EACH HAS ENTERED INTO THIS AGREEMENT VOLUNTARILY AND NOT IN RELIANCE ON ANY PROMISES OR REPRESENTATIONS BY THE OTHER, OTHER THAN THOSE CONTAINED IN THIS AGREEMENT ITSELF.

IN WITNESS WHEREOF, the Company has caused this Agreement to be executed by its duly authorized person and Executive has executed this Agreement effective as of the day and year first above written.

EXECUTIVE	**AKEBIA THERAPEUTICS, INC.**
By: ______________________	By: ______________________
Name:	John P. Butler, Chief Executive Officer
Title:	

Exhibit 10.44

[Date]

Personal and Confidential

[First Name Last name]
[Address]

Re: ELT Special Bonus Program

Dear [First Name Last name]:

I am pleased to offer you the opportunity to earn additional bonus payments related to your important work on the vadadustat program (the "ELT Special Bonus Program") in recognition of your significant value to Akebia Therapeutics, Inc. ("Akebia" or the "Company") and in anticipation of the important contributions you will make in the next year and beyond. The purpose of this letter agreement (the "Agreement") is to outline the terms and conditions associated with the bonus payments ("Bonus Payments") offered to you by Akebia. These Bonus Payments are in addition to your annual bonus payment. If you accept the terms of this Agreement, please return a signed Agreement to [Name] no later than [Date].

1. Special Bonus Payment. Subject to the terms and conditions set forth below, and in recognition of your contributions to the vadadustat program to date, the Company will provide you with a lump sum payment of $[●], less all required taxes, withholdings and deductions, payable within fifteen (15) days of the date hereof (the "Special Bonus Payment").

2. Retention Cash Incentive Award. Subject to the terms and conditions set forth below and the terms of the Company's Cash Incentive Plan, the Company will provide you with the following:

(a) lump sum payment of $[●], less all required taxes, withholdings and deductions ("Incentive Payment 1") upon [●] ("Event 1"), payable within fifteen (15) days of Event 1.

(b) lump sum payment of $[●], less all required taxes, withholdings and deductions ("Incentive Payment 2" and together with Incentive Payment 1, the "Incentive Payments") upon [●] ("Event 2"), payable within fifteen (15) days of Event 2.

In order to be eligible for any Incentive Payment, you must remain an employee of the Company in good standing (i.e., meeting the requirements of your position) through the date of the corresponding event.

3. Repayment of Special Bonus Payment Upon Termination. If you voluntarily terminate your employment with the Company within twelve (12) months after you receive the Special Bonus Payment, then you shall repay $[●] within thirty (30) days after the effective date of such termination. Should you become obligated to repay to the Company the Special Bonus Payment as set forth herein, you hereby authorize the Company to deduct any owed amount from your final, accrued wages (including, without limitation, any accrued but unused paid time off). You acknowledge and agree that any such deductions would constitute permissible, valid offsets under the Massachusetts

Payment of Wages Act, M.G.L. c. 149 § 148 et seq. You further agree that should your final, accrued wages be insufficient to satisfy your entire repayment obligation, you will repay any outstanding amount by personal check. You agree that you will be responsible for paying the Company's costs of collection, if any (including attorneys' fees and other expenses), should the Company be required to resort to legal action to collect any such then-outstanding amount.

4. Prior Agreements. Upon your acceptance of the terms and conditions of this Agreement, the Employee Agreement (Confidentiality, Non-Solicitation, Non-Competition and Developments Agreement) last executed by you in connection with your employment with Akebia and the Executive Severance Agreement between you and the Company will remain in full force and effect in accordance with their terms, and by your signature below are confirmed, ratified and incorporated herein.

5. At-Will Employment. Nothing in this Agreement should be taken as a guarantee of continued employment, a specific term of employment and/or a contract of employment, and at all times you will be expected to meet Company performance standards and abide by all Company policies and procedures. Your employment remains at will and you and the Company agree that this Agreement does not in any way modify the at-will nature of your employment by the Company. Accordingly, your employment, as well as the terms and conditions thereof (except for this Agreement), may be modified or terminated with or without Cause or notice. For purposes of this Agreement, the definition of "Cause" shall be the same definition of "Cause" included in your Executive Severance Agreement.

6. Confidentiality. The terms and conditions of this Agreement, the existence of the ELT Special Bonus Program, and the Bonus Payments are strictly confidential except as required by applicable law. To the extent permitted by applicable law, you shall not discuss or reveal any information concerning this Agreement to any past or present employee of the Company or any third person or entity other than the individual who presented you with this Agreement, an Akebia Human Resources representative, counsel and members of your immediate family.

7. Complete Agreement; Miscellaneous. This Agreement, together with the Cash Incentive Plan and the Executive Severance Agreement, sets forth the complete agreement between you and the Company with respect to your eligibility for, and the payment to you of, the Bonus Payments. The provisions of this Agreement will not supersede or modify the provisions of the Employee Agreement, and nothing herein shall preclude the continued validity of the Employee Agreement which shall remain in full force and effect. You agree that each provision and the subparts of each provision in this Agreement shall be treated as separate and independent clauses, and the unenforceability of any one clause shall in no way impair the enforceability of any of the other clauses of this Agreement. In the event of any dispute, this Agreement will be construed as a whole, will be interpreted in accordance with its fair meaning, and will not be construed strictly for or against either you or the Company. This Agreement may not be changed, amended, modified, altered or rescinded except upon the express written consent of both you and an authorized Company officer, subject to the terms of the Cash Incentive Plan, as applicable. Any waiver of any provision of this Agreement by the Company shall not constitute a waiver of any other provision of this Agreement unless the Company expressly so indicates otherwise. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts without regard to conflicts of laws principles thereof. Both parties agree that any dispute under this Agreement shall be heard by a court of competent jurisdiction within Massachusetts. The parties hereby acknowledge that they are subject to the personal jurisdiction of the

Massachusetts courts in any county where the Company has operations or facilities and/or you reside.

8. Assignment. Except as otherwise provided herein, this Agreement shall be binding upon, inure to the benefit of and be enforceable by the Company and you and their respective heirs, legal representatives, successors and assigns. If the Company shall be merged into or consolidated with another entity, the provisions of this Agreement shall be binding upon and inure to the benefit of the entity surviving such merger or resulting from such consolidation.

9. Clawback Policy. In accepting these payments, you agree and acknowledge that you are subject to, and bound by, the terms of any clawback policy that the Company has in place or may adopt in the future, including without limitation Akebia Therapeutic Inc.'s Compensation Recovery Policy adopted in accordance with stock exchange listing requirements. You agree that in the event it is determined in accordance with any such policy that any compensation or compensatory award granted, earned or paid to you including these payments or pursuant to any other compensation arrangement must be forfeited or reimbursed to the Company, you will promptly take any action necessary to effectuate such forfeiture and/or reimbursement as determined by the Company.

We are pleased to be able to offer you participation in the ELT Special Bonus Program, and we look forward to your continuing commitment and focus on fulfilling your responsibilities. Please feel free to reach out to me should you have any questions.

Sincerely,

[First Name, Last name]
[Title]

AGREED AND ACCEPTED:

I acknowledge and agree that I have read the foregoing Agreement and the Cash Incentive Plan, have had the opportunity to consult with counsel and that I have freely and voluntarily entered into this Agreement.

____
[First Name, Last name]
Dated: _______________

Exhibit 10.45

AKEBIA THERAPEUTICS, INC.
STOCK OPTION AGREEMENT FOR OFFICERS

2023 STOCK INCENTIVE PLAN

Akebia Therapeutics, Inc. (the "Company") hereby grants the following stock option pursuant to its 2023 Stock Incentive Plan (the "Plan"). The terms and conditions attached hereto are also a part hereof.

Notice of Grant

Name of optionee (the "Participant"):	
Grant Date:	
Incentive Stock Option or Nonstatutory Stock Option:	
Number of shares of the Company's Common Stock subject to this option ("Shares"):	
Option exercise price per Share:[1]	
Number, if any, of Shares that vest immediately on the grant date:	
Shares that are subject to vesting schedule:	
Vesting Start Date:	
Final Exercise Date: [2]	

Vesting Schedule:

Vesting Date:	Number of Options that Vest:
All vesting is dependent on the Participant remaining an Eligible Participant, as provided herein.	

This option satisfies in full all commitments that the Company has to the Participant with respect to the issuance of stock, stock options or other equity securities.

1 This must be at least 100% of the Grant Date Fair Market Value (as defined in the Plan) of the Common Stock on the date of grant (110% in the case of a Participant that owns more than 10% of the total combined voting power of all classes of stock of the Company or its parent or subsidiary (a "10% Shareholder") when the option is intended to qualify as an incentive stock option (an "ISO") under Section 422 of the Internal Revenue Code).

2 The Final Exercise Date must be no more than 10 years (5 years in the case of a 10% Shareholder for an option intended to qualify as an ISO) from the date of grant. The correct approach to calculate the final exercise date is to use the day immediately prior to the date ten years out from the date of the stock option award grant (or 5 years, as applicable).

Akebia Therapeutics, Inc.

____
Signature of Participant

____
Street Address

____
City/State/Zip Code

By:__________
Name of Officer
Title:

Akebia Therapeutics, Inc.

Stock Option Agreement for Officers
Incorporated Terms and Conditions

1. Grant of Option.

This agreement evidences the grant by the Company, on the grant date (the "Grant Date") set forth in the Notice of Grant that forms part of this agreement (the "Notice of Grant"), to the Participant of an option to purchase, in whole or in part, on the terms provided herein and in the Company's 2023 Stock Incentive Plan (the "Plan"), the number of Shares set forth in the Notice of Grant of common stock, $0.00001 par value per share, of the Company ("Common Stock"), at the exercise price per Share set forth in the Notice of Grant. Unless earlier terminated, this option shall expire at 5:00 p.m., Eastern time, on the Final Exercise Date set forth in the Notice of Grant (the "Final Exercise Date").

The option evidenced by this agreement is intended to be an incentive stock option as defined in Section 422 of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the "Code") to the maximum extent permitted by law, solely to the extent designated as an incentive stock option in the Notice of Grant. Except as otherwise indicated by the context, the term "Participant", as used in this option, shall be deemed to include any person who acquires the right to exercise this option validly under its terms.

2. Vesting Schedule.

(a) General. Subject to this Agreement and the terms of any Executive Severance Agreement or other written agreement between the Participant and the Company, this option will become exercisable ("vest") in accordance with the vesting schedule set forth in the Notice of Grant.

(b) Change in Control.

(1) Treatment of Option in a Change in Control. The option, to the extent outstanding immediately prior to a Change in Control but not then vested in full, shall automatically become fully vested and exercisable upon such Change in Control.

(2) Definitions.

(i) "Change in Control" means the occurrence of any of the following events other than in connection with the consummation of an initial public offering of the Company's securities: (A) any "person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended) who is not a shareholder of the Company as of the date of this Agreement or an affiliate thereof is or becomes the "beneficial owner" (as defined in Rule 13d-3 under said Act), directly or indirectly, of securities of the Company representing 50% or more of the total voting power represented by the Company's then outstanding voting securities; (B) a change in the composition of the Board occurring within a two-year period, as a result of which less than a majority of the directors are Incumbent Directors; (C) the date of the consummation of a merger, scheme of arrangement or consolidation of the Company with any other corporation that has been approved by the stockholders of the Company, other than a merger, scheme of arrangement or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity) more than fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity outstanding immediately after such merger or consolidation; or (D) the date of the consummation of the sale or disposition by the Company of all or substantially all the Company's assets. Notwithstanding the foregoing, a transaction will not constitute a Change in Control if: (I) its sole purpose is to change the domicile of the Company's incorporation; or (II) its sole purpose is to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transaction. In all respects, the definition of Change in Control shall be interpreted to comply with Section 409A of the Code, and any successor statute, regulation and guidance thereto.

(ii) "Incumbent Directors" means directors who either (A) are directors of the Company as of the date hereof, or (B) are elected, or nominated for election, to the Board with the affirmative votes of at least a majority of the remaining Incumbent Directors at the time of such election or nomination (but will not include an individual whose election or nomination is in connection with an actual or threatened proxy contest relating to the election of directors to the Company).

(c) Exercisability. The right of exercise shall be cumulative so that to the extent the option is not exercised in any period to the maximum extent permissible it shall continue to be exercisable, in whole or in part, with respect to all Shares for which it is vested until the earlier of the Final Exercise Date or the termination of this option under Section 3 hereof or the Plan.

3. Exercise of Option.

(a) Form of Exercise. Each election to exercise this option shall be in writing, in the form of the Stock Option Exercise Notice attached as Annex A, signed by the Participant, and received by the Company at its principal office, accompanied by this agreement, or in such other form (which may be electronic) as is approved by the Company, together with payment in full in the manner provided in the Plan. The Participant may purchase less than the number of shares covered hereby, provided that no partial exercise of this option may be for any fractional share or for fewer than ten whole shares.

(b) Continuous Relationship with the Company Required. Except as otherwise provided in this Section 3, this option may not be exercised unless the Participant, at the time he or she exercises this option, is, and has been at all times since the Grant Date, an employee, officer, or director of, or consultant or advisor to, the Company or any other entity the employees, officers, directors, consultants, or advisors of which are eligible to receive option grants under the Plan (an "Eligible Participant").

(c) Termination of Relationship with the Company. If the Participant ceases to be an Eligible Participant for any reason, then, except as provided in this paragraph or in paragraphs (d) and (e) below, the right to exercise this option shall terminate three months after such cessation (but in no event after the Final Exercise Date), provided that this option shall be exercisable only to the extent that the Participant was entitled to exercise this option on the date of such cessation; and, provided, further, that to the extent the Participant is a party to an Executive Severance Agreement or other written agreement with the Company that provides for the option to remain outstanding and continue to vest during a specified period of time following the Participant's cessation of status as an Eligible Participant (such period, the "Severance

Period”), the option shall remain outstanding and shall continue to vest in accordance with the terms of this Agreement during the Severance Period as if the Participant had remained an Eligible Participant during such period, subject to any conditions on continued vesting as may be contained in such Executive Severance Agreement or other written agreement. Any portion of this option that vests during such Severance Period will remain exercisable until the earlier of (A) the date that is three (3) months following the date that is the last day of such Severance Period, or (B) the Final Exercise Date, and except to the extent previously exercised as permitted by this Section 3(c) will thereupon immediately terminate. For the avoidance of doubt, any portion of the option that fails to vest during the Severance Period will immediately be forfeited on the last day of such period. Notwithstanding the foregoing, if the Participant, prior to the Final Exercise Date, violates the restrictive covenants (including, without limitation, the non-competition, non-solicitation, or confidentiality provisions) of any employment contract, any non-competition, non-solicitation, confidentiality or assignment agreement to which the Participant is a party, or any other agreement between the Participant and the Company, the right to exercise this option shall terminate immediately upon such violation.

(d) Exercise Period Upon Death. If the Participant dies prior to the Final Exercise Date while he or she is an Eligible Participant and the Company has not terminated such relationship for “cause” as specified in paragraph (e) below, this option shall be exercisable, within the period of one year following the date of death of the Participant, by an authorized transferee of the Participant, provided that this option shall be exercisable only to the extent that this option was exercisable by the Participant on the date of his or her death, and further provided that this option shall not be exercisable after the Final Exercise Date.

(e) Termination for Cause. If, prior to the Final Exercise Date, the Participant’s employment, consulting, director or advisor relationship with the Company is terminated by the Company for Cause (as defined below), the right to exercise this option shall terminate immediately upon the effective date of such termination. If, prior to the Final Exercise Date, the Participant is given notice by the Company of the termination of his or her service by the Company for Cause, and the effective date of such termination is subsequent to the date of delivery of such notice, the right to exercise this option shall be suspended from the time of the delivery of such notice until the earlier of (i) such time as it is determined or otherwise agreed that the Participant’s service shall not be terminated for Cause as provided in such notice or (ii) the effective date of such termination (in which case the right to exercise this option shall, pursuant to the preceding sentence, terminate upon the effective date of such termination). If the Participant is a party to an Executive Severance Agreement or other written agreement with the Company, in any case which agreement contains a definition of “cause” for termination of service, “Cause” shall have the meaning ascribed to such term in such agreement. Otherwise, “Cause” shall mean willful misconduct by the Participant or willful failure by the Participant to perform his or her responsibilities to the Company (including, without limitation, breach by the Participant of any fiduciary duty or of any provision of any employment, consulting, advisory, nondisclosure, non-competition or other similar agreement between the Participant and the Company), as determined by the Company, which determination shall be conclusive. The Participant shall be considered to have been terminated for Cause if the Company determines, within 30 days after the Participant’s resignation, that termination for Cause was warranted.

4. Tax Matters.

(a) Withholding. No Shares will be issued pursuant to the exercise of this option unless and until the Participant pays to the Company, or makes provision satisfactory to the Company for payment of, any federal, state or local withholding taxes required by law to be withheld in respect of this option.

(b) Disqualifying Disposition. If this option is an incentive stock option and the Participant disposes of Shares acquired upon exercise of this option within two years from the Grant Date or one year after such Shares were acquired pursuant to exercise of this option, the Participant shall notify the Company in writing of such disposition.

5. Transfer Restrictions; Clawback.

(a) This option may not be sold, assigned, transferred, pledged, encumbered or otherwise disposed of by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and, during the lifetime of the Participant, this option shall be exercisable only by the Participant.

(b) In accepting this option, the Participant agrees to be bound by any clawback policy that the Company has in place or may adopt in the future.

6. Provisions of the Plan.

This option is subject to the provisions of the Plan (including the provisions relating to amendments to the Plan), a copy of which is furnished to the Participant with this option. Notwithstanding the foregoing, to the extent the Participant has entered in to an Executive Severance Agreement with the Company, for so long as such Executive Severance Agreement remains in effect, the terms of such Executive Severance Agreement as they relate to the option shall control in the event of a conflict with this Agreement or the Plan.

7. Clawback Policy.

In accepting this option, the Participant agrees and acknowledges that the Participant is subject to, and bound by, the terms of any clawback policy that the Company has in place or may adopt in the future, including without limitation Akebia Therapeutic Inc.'s Compensation Recovery Policy adopted in accordance with stock exchange listing requirements. The Participant agrees that in the event it is determined in accordance with any such policy that any compensation or compensatory award granted, earned or paid to the Participant including this option or pursuant to any other compensation arrangement must be forfeited or reimbursed to the Company, the Participant will promptly take any action necessary to effectuate such forfeiture and/or reimbursement as determined by the Company.

ANNEX A

Akebia Therapeutics, Inc.

Stock Option Exercise Notice

Akebia Therapeutics, Inc.
245 First Street
Cambridge, MA 02142

Dear Sir or Madam:

I, ________(the "Participant"), hereby irrevocably exercise the right to purchase ____ shares of the Common Stock, $0.00001 par value per share (the "Shares"), of Akebia Therapeutics, Inc. (the "Company") at $___per share pursuant to the Company's 2023 Stock Incentive Plan and a stock option agreement with the Company dated ____ (the "Option Agreement"). Enclosed herewith is a payment of $____, the aggregate purchase price for the Shares. The Shares should be registered in my name as it appears below or, if so indicated below, jointly in my name and the name of the person designated below, with right of survivorship.

Dated: __________

____
Signature
Print Name:

Address:
____
____

Name and address of persons in whose name the Shares are to be jointly registered (if applicable):

____

Exhibit 10.46

AKEBIA THERAPEUTICS, INC.

RESTRICTED STOCK UNIT AGREEMENT FOR OFFICERS
2023 STOCK INCENTIVE PLAN

Akebia Therapeutics, Inc. (the "Company") hereby grants the following restricted stock units pursuant to its 2023 Stock Incentive Plan (the "Plan"). The terms and conditions attached hereto are also a part hereof.

Notice of Grant

Name of recipient (the "Participant"):	
Grant Date:	
Number of restricted stock units ("RSUs") granted:	
Vesting Start Date:	

Vesting Schedule:

Vesting Date:	Number of RSUs that Vest:
All vesting is dependent on the Participant remaining an Eligible Participant, as provided herein.	

This grant of RSUs satisfies in full all commitments that the Company has to the Participant with respect to the issuance of stock, stock options or other equity securities.

Akebia Therapeutics, Inc.

____
Signature of Participant

____
Street Address

____
City/State/Zip Code

By:__________
Name of Officer
Title:

Akebia Therapeutics, Inc.

Restricted Stock Unit Agreement for Officers
Incorporated Terms and Conditions

For valuable consideration, receipt of which is acknowledged, the parties hereto agree as follows:

1. Award of Restricted Stock Units.

The Company has granted to the Participant, subject to the terms and conditions set forth in this Restricted Stock Unit Agreement (this "Agreement") and in the Company's 2023 Stock Incentive Plan (the "Plan"), an award with respect to the number of RSUs set forth in the Notice of Grant that forms part of this Agreement (the "Notice of Grant"). Each RSU represents the right to receive one share of common stock, $0.00001 par value per share, of the Company (the "Common Stock") upon vesting of the RSU, subject to the terms and conditions set forth herein.

2. Vesting; Delivery.

(a) General. The RSUs shall vest in accordance with the Vesting Schedule set forth in the Notice of Grant (the "Vesting Schedule"), subject to the terms of any Executive Severance Agreement or other written agreement between the Participant and the Company. Any fractional shares resulting from the application of any percentages used in the Vesting Schedule shall be rounded down to the nearest whole number of RSUs.

(b) Change in Control.

i. Treatment of RSUs in a Change in Control. The RSUs, to the extent outstanding immediately prior to a Change in Control but not then vested in full, will automatically and immediately become fully vested upon such Change in Control.

ii. Definitions.

(A) "Change in Control" means the occurrence of any of the following events other than in connection with the consummation of an initial public offering of the Company's securities: (A) any "person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended) who is not a shareholder of the Company as of the date of this Agreement or an affiliate thereof is or becomes the "beneficial owner" (as defined in Rule 13d-3 under said Act), directly or indirectly, of securities of the Company representing 50% or more of the total voting power represented by the Company's then outstanding voting securities; (B) a change in the composition of the Board occurring within a two-year period, as a result of which less than a majority of the directors are Incumbent Directors; (C) the date of the consummation of a merger, scheme of arrangement or consolidation of the Company with any other corporation that has been approved by the stockholders of the Company, other than a merger, scheme of arrangement or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity) more than fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity outstanding immediately after such merger or consolidation; or (D) the date of the consummation of the sale or disposition by the Company of all or substantially all the Company's assets. Notwithstanding the foregoing, a transaction will not constitute a Change in Control if: (I) its sole purpose is to change the domicile of the Company's incorporation; or (II) its sole purpose is to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transaction. In all respects, the definition of Change in Control shall be interpreted to comply with Section 409A of the Code, and any successor statute, regulation and guidance thereto.

(B) "Incumbent Directors" means directors who either (A) are directors of the Company as of the date hereof, or (B) are elected, or nominated for election, to the Board with the affirmative votes of at least a majority of the remaining Incumbent Directors at the time of such election or nomination (but will not include an individual whose election or nomination is in connection with an actual or threatened proxy contest relating to the election of directors to the Company).

(c) Delivery. Upon the vesting of the RSU, the Company will deliver to the Participant, for each RSU that becomes vested, one share of Common Stock, subject to the payment of any taxes pursuant to Section 7. The Common Stock will be delivered to the Participant as soon as practicable following each vesting date, but in any event within 30 days of such date.

3. Forfeiture of Unvested RSUs Upon Cessation of Service.

In the event that the Participant ceases to be an employee, officer, or director of, or consultant or advisor to, the Company or any other entity the employees, officers, directors, consultants, or advisors of which are eligible to receive awards under the Plan (an "Eligible Participant") for any reason or no reason, with or without cause, all of the RSUs that are unvested as of the time of such cessation shall be forfeited immediately and automatically to the Company, without the payment of any consideration to the Participant, effective as of such cessation. The Participant shall have no further rights with respect to the unvested RSUs or any Common Stock that may have been issuable with respect thereto. If the Participant provides services to a subsidiary of the Company, any references in this Agreement to provision of services to the Company shall instead be deemed to refer to service with such subsidiary.

Notwithstanding the foregoing, to the extent the Participant is a party to an Executive Severance Agreement or other written employment agreement with the Company that provides for the RSUs to remain outstanding and continue to vest during a specified period of time following Participant's cessation of status as an Eligible Participant (such period, the "Severance Period"), the RSUs will remain outstanding and will continue to vest, and the Shares will be delivered upon such vesting, in accordance with the terms of this Agreement during the Severance Period as if the Participant had continued to be an Eligible Participant during such period, subject to any conditions on the vesting and delivery as may be contained in such Executive Severance Agreement or other written agreement. For the avoidance of doubt, any portion of the RSUs that fails to vest during the Severance Period will immediately be forfeited on the last day of such period.

4. Restrictions on Transfer.

The Participant shall not sell, assign, transfer, pledge, hypothecate, encumber or otherwise dispose of, by operation of law or otherwise (collectively "transfer") any RSUs, or any interest therein. The Company shall not be required to treat as the owner of any RSUs or issue any Common Stock to any transferee to whom such RSUs have been transferred in violation of any of the provisions of this Agreement.

5. Rights as a Stockholder.

The Participant shall have no rights as a stockholder of the Company with respect to any shares of Common Stock that may be issuable with respect to the RSUs until the issuance of the shares of Common Stock to the Participant following the vesting of the RSUs.

6. Provisions of the Plan.

This Agreement is subject to the provisions of the Plan, a copy of which is furnished to the Participant with this Agreement.

7. Tax Matters.

(a) Acknowledgments; No Section 83(b) Election. The Participant acknowledges that he or she is responsible for obtaining the advice of the Participant's own tax advisors with respect to the award of RSUs and the Participant is relying solely on such advisors and not on any statements or representations of the Company or any of its agents with respect to the tax consequences relating to the RSUs. The Participant understands that the Participant (and not the Company) shall be responsible for the Participant's tax liability that may arise in connection with the acquisition, vesting and/or disposition of the RSUs. The Participant acknowledges that no election under Section 83(b) of the Internal Revenue Code of 1986, as amended (the "Code"), is available with respect to RSUs.

(b) Withholding. The Participant acknowledges and agrees that the Company has the right to deduct from payments of any kind otherwise due to the Participant any federal, state, local or other taxes of any kind required by law to be withheld with respect to the vesting of the RSUs. At such time as the Participant is not aware of any material nonpublic information about the Company or the Common Stock and is not prohibited from doing so by the Company's insider trading policy or otherwise, the Participant shall execute the instructions set forth in Schedule A attached hereto (the "Durable Automatic Sell-to-Cover Instruction") as the means of satisfying such tax obligation unless the Participant has already executed such instruction, as determined by the Company. If the Participant does not execute the Durable Automatic Sell-to-Cover Instruction prior to an applicable vesting date, then the Participant agrees that if under applicable law the Participant will owe taxes at such vesting date on the portion of the award then vested the Company shall be entitled to immediate payment from the Participant of the amount of any tax required to be withheld by the Company. The Company shall not deliver any shares of Common Stock to the Participant until it is satisfied that all required withholdings have been made.

8. Miscellaneous.

(a) No Right to Continued Service. The Participant acknowledges and agrees that, notwithstanding the fact that the vesting of the RSUs is contingent upon his or her continued service to the Company, this Agreement does not constitute an express or implied promise of continued service relationship with the Participant or confer upon the Participant any rights with respect to a continued service relationship with the Company or any affiliate of the Company.

(b) Section 409A. The RSUs awarded pursuant to this Agreement are intended to be exempt from or comply with the requirements of Section 409A of the Code and the Treasury Regulations issued thereunder (“Section 409A”). The delivery of shares of Common Stock on the vesting of the RSUs may not be accelerated or deferred unless permitted or required by Section 409A.

(c) Participant’s Acknowledgments. The Participant acknowledges that he or she: (i) has read this Agreement; (ii) has been represented in the preparation, negotiation and execution of this Agreement by legal counsel of the Participant’s own choice or has voluntarily declined to seek such counsel; (iii) understands the terms and consequences of this Agreement; (iv) is agreeing, in accepting this award, to be bound by any clawback policy that the Company has in place or may adopt in the future; and (v) is fully aware of the legal and binding effect of this Agreement.

(d) Governing Law. This Agreement shall be construed, interpreted and enforced in accordance with the internal laws of the State of Delaware without regard to any applicable conflicts of laws provisions.

9. Clawback Policy.

In accepting this award, the Participant agrees and acknowledges that the Participant is subject to, and bound by, the terms of any clawback policy that the Company has in place or may adopt in the future, including without limitation Akebia Therapeutic Inc.’s Compensation Recovery Policy adopted in accordance with stock exchange listing requirements. The Participant agrees that in the event it is determined in accordance with any such policy that any compensation or compensatory award granted, earned or paid to the Participant including this award or pursuant to any other compensation arrangement must be forfeited or reimbursed to the Company, the Participant will promptly take any action necessary to effectuate such forfeiture and/or reimbursement as determined by the Company.

Schedule A

Durable Automatic Sell-to-Cover Instruction

This Durable Automatic Sell-to-Cover Instruction (this "Instruction"), which is being delivered to Akebia Therapeutics, Inc. (the "Company") by the undersigned on the date set forth below (the "Adoption Date"), relates to the Covered RSUs (as defined following my signature below). This Instruction provides for "eligible sell-to-cover transactions" (as described in Rule 10b5-1(c)(1)(ii)(D)(3) under the Securities Exchange Act of 1934 (the "Exchange Act")) and is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c)(1) under the Exchange Act.

I acknowledge that upon vesting and settlement of any Covered RSUs in accordance with the applicable RSU's terms, whether vesting is based on the passage of time or the achievement of performance goals, I will have compensation income equal to the fair market value of the shares of the Company's common stock subject to the RSUs that are settled on such settlement date and that the Company is required to withhold income and employment taxes in respect of that compensation income.

I desire to establish a plan and process to satisfy such withholding obligation in respect of all Covered RSUs through an automatic sale of a portion of the shares of the Company's common stock that would otherwise be issuable to me on each applicable settlement date, such portion to be in an amount sufficient to satisfy such withholding obligation, with the proceeds of such sale delivered to the Company in satisfaction of such withholding obligation.

I understand that the Company has arranged for the administration and execution of its equity incentive programs and the sale of securities by participants thereunder pursuant to a platform administered by a third party (the "Administrator") and the Administrator's designated brokerage partner.

Upon the settlement of any of my Covered RSUs after the 30th day following the Adoption Date (or if I am an officer of the Company on the Adoption Date, after the 120th day following the Adoption Date), I hereby appoint the Administrator (or any successor administrator) to automatically sell such number of shares of the Company's common stock issuable with respect to such RSUs that vested and settled as is sufficient to generate net proceeds sufficient to satisfy the Company's minimum statutory withholding obligations with respect to the income recognized by me in connection with the vesting and settlement of such RSUs (based on minimum statutory withholding rates for all tax purposes, including payroll and social security taxes, that are applicable to such income), and the Company shall receive such net proceeds in satisfaction of such tax withholding obligation.

I hereby appoint the Chief Executive Officer, Chief Financial Officer, General Counsel and Secretary of the Company to serve as my attorneys in fact to arrange for the sale of shares of the Company's common stock in accordance with this Instruction. I agree to execute and deliver such documents, instruments and certificates as may reasonably be required in connection with the sale of the shares of common stock pursuant to this Instruction.

Unless the last box in the definition of Covered RSUs below is checked, if I have previously adopted an automatic sale or sell-to-cover instruction relating to Covered RSUs, this Instruction shall be void *ab initio*.

I hereby certify that, as of the Adoption Date:

(i) I am not prohibited from entering into this Instruction by the Company's insider trading policy or otherwise;

(ii) I am not aware of any material nonpublic information about the Company or its common stock; and

(iii) I am adopting this Instruction in good faith and not as part of a plan or scheme to evade the prohibitions of Rule 10b-5 under the Exchange Act.

____

Print Name: _____________________

Date: __________________________

Covered RSUs:
The following restricted stock units ("RSUs") are covered by this Instruction.

Check all applicable boxes:

☐ The first award of RSUs granted to me on or after [*insert date of grant of current RSUs the grant of which is triggering the execution of this Instruction; if Instruction is being executed in advance of a grant of RSUs, insert the Adoption Date*] and any RSUs that may, from time to time following such date, be granted to me by the Company, other than any future granted RSUs which by the terms of the applicable award agreement require the Company to withhold shares for tax withholding obligations in connection with the vesting and settlement of such RSUs, and therefore do not permit sell-to-cover transactions.

☐ Any outstanding RSUs that were granted to me by the Company prior to the Adoption Date that (1) are not subject to any prior automatic sale or sell-to-cover instruction and (2) for which the next vesting date is after the cooling-off period referred to above, other than any previously granted RSUs which by the terms of the applicable award agreement require the Company to withhold shares for tax withholding obligations in connection with the vesting and settlement of such RSUs, and therefore do not permit sell-to-cover transactions.

☐ With respect to any RSUs, whether or not granted to me by the Company prior to the Adoption Date, that already are subject to an automatic sale or sell-to-cover instruction (a "Prior Instruction"), I elect to have such sales effected pursuant to this Instruction and confirm that doing so does not modify or change the amount, price, or timing of such sales from those provided by the Prior Instruction (and, as a result the cooling-off period referred to above is not applicable to sales pursuant to this Instruction that were previously subject to the Prior Instruction).

Exhibit 10.47

AKEBIA THERAPEUTICS, INC.

OFFICER INDUCEMENT AWARD
STOCK OPTION AGREEMENT

Akebia Therapeutics, Inc. (the "Company") hereby grants the following inducement non-statutory stock option award. The terms and conditions attached hereto are also a part hereof.

Notice of Grant

Name of optionee (the "Participant"):	
Grant Date:	
Number of shares of the Company's Common Stock subject to this option ("Shares"):	
Option exercise price per Share:[1]	
Number, if any, of Shares that vest immediately on the grant date:	
Shares that are subject to vesting schedule:	
Vesting Start Date:	
Final Exercise Date: [2]	

Vesting Schedule:

Vesting Date:	Number of Options that Vest:
All vesting is dependent on the Participant remaining an Eligible Participant, as provided herein.	

This option satisfies in full all commitments that the Company has to the Participant with respect to the issuance of stock, stock options or other equity securities.

Akebia Therapeutics, Inc.

____
Signature of Participant

____
Street Address

____
City/State/Zip Code

By:__________
Name of Officer
Title:

[1] This must be at least 100% of the Grant Date Fair Market Value (as defined in the Plan) of the Common Stock on the date of grant.
[2] The Final Exercise Date must be no more than 10 years from the date of grant. The correct approach to calculate the final exercise date is to use the day immediately prior to the date ten years out from the date of the stock option award grant.

Akebia Therapeutics, Inc.

Officer Inducement Award
Non-Statutory Stock Option Agreement

Incorporated Terms and Conditions

1. Grant of Option.

This agreement evidences the grant by the Company, on the grant date (the "Grant Date") set forth in the Notice of Grant that forms part of this agreement (the "Notice of Grant"), to the Participant of an option to purchase, in whole or in part, on the terms provided herein, the number of Shares set forth in the Notice of Grant of common stock, $0.00001 par value per share, of the Company ("Common Stock"), at the exercise price per Share set forth in the Notice of Grant. Unless earlier terminated, this option shall expire at 5:00 p.m., Eastern time, on the Final Exercise Date set forth in the Notice of Grant (the "Final Exercise Date").

The option evidenced by this agreement is being granted to the Participant pursuant to the inducement grant exception under Nasdaq Stock Market Rule 5635(c)(4) as an inducement that is material to the Participant's employment with the Company, and not pursuant to the Company's 2023 Stock Incentive Plan (the "Plan"), or any equity incentive plan of the Company. Notwithstanding the foregoing, the option shall be subject to, and governed by, and shall be construed and administered in accordance with, the terms of the Plan, which terms and conditions are incorporated herein by reference, but any shares of Common Stock issued hereunder shall not reduce the number of shares of Common Stock available under the Plan.

The option evidenced by this agreement is not intended to be an incentive stock option as defined in Section 422 of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the "Code"). Except as otherwise indicated by the context, the term "Participant", as used in this option, shall be deemed to include any person who acquires the right to exercise this option validly under its terms.

2. Vesting Schedule.

(a) General. Subject to this Agreement and the terms of any Executive Severance Agreement or other written agreement between the Participant and the Company, this option will become exercisable ("vest") in accordance with the vesting schedule set forth in the Notice of Grant.

(b) Change in Control.

(1) Treatment of Option in a Change in Control. The option, to the extent outstanding immediately prior to a Change in Control but not then vested in full, shall automatically become fully vested and exercisable upon such Change in Control.

(2) Definitions.

(i) "Change in Control" means the occurrence of any of the following events other than in connection with the consummation of an initial public offering of the Company's securities: (A) any "person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended) who is not a shareholder of the Company as of the date of this Agreement or an affiliate thereof is or becomes the "beneficial owner" (as defined in Rule 13d-3 under said Act), directly or indirectly, of securities of the Company representing 50% or more of the total voting power represented by the Company's then outstanding voting securities; (B) a change in the composition of the Board occurring within a two-year period, as a result of which less than a majority of the directors are Incumbent Directors; (C) the date of the consummation of a merger, scheme of arrangement or consolidation of the Company with any other corporation that has been approved by the stockholders of the Company, other than a merger, scheme of arrangement or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity) more than fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity outstanding immediately after such merger or consolidation; or (D) the date of the consummation of the sale or disposition by the Company of all or substantially all the Company's assets. Notwithstanding the foregoing, a transaction will not constitute a Change in Control if: (I) its sole purpose is to change the domicile of the Company's incorporation; or (II) its sole purpose is to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transaction. In all respects, the definition of Change in Control shall be interpreted to comply with Section 409A of the Code, and any successor statute, regulation and guidance thereto.

(ii) "Incumbent Directors" means directors who either (A) are directors of the Company as of the date hereof, or (B) are elected, or nominated for election, to the Board with the affirmative votes of at least a majority of the remaining Incumbent Directors at the time of such election or nomination (but will not include an individual whose election or nomination is in connection with an actual or threatened proxy contest relating to the election of directors to the Company).

(c) Exercisability. The right of exercise shall be cumulative so that to the extent the option is not exercised in any period to the maximum extent permissible it shall continue to be exercisable, in whole or in part, with respect to all Shares for which it is vested until the earlier of the Final Exercise Date or the termination of this option under Section 3 hereof or the Plan.

3. Exercise of Option.

(a) Form of Exercise. Each election to exercise this option shall be in writing, in the form of the Stock Option Exercise Notice attached as Annex A, signed by the Participant, and received by the Company at its principal office, accompanied by this agreement, or in such other form (which may be electronic) as is approved by the Company, together with payment in full in the manner provided in the Plan. The Participant may purchase less than the number of shares covered hereby, provided that no partial exercise of this option may be for any fractional share or for fewer than ten whole shares.

(b) Continuous Relationship with the Company Required. Except as otherwise provided in this Section 3, this option may not be exercised unless the Participant, at the time he or she exercises this option, is, and has been at all times since the Grant Date, an employee, officer, or director of, or consultant or advisor to, the Company or any other entity the employees, officers, directors, consultants, or advisors of which are eligible to receive option grants under the Plan (an "Eligible Participant").

(c) Termination of Relationship with the Company. If the Participant ceases to be an Eligible Participant for any reason, then, except as provided in this paragraph or in paragraphs (d) and (e) below, the right to exercise this option shall terminate three months after such cessation (but in no event after the Final Exercise Date), provided that this option shall be exercisable only to the extent that the Participant was entitled to exercise this option on the date of such cessation; and, provided, further, that to the extent the Participant is a party to an Executive Severance Agreement or other written agreement with the Company that provides for the option to remain outstanding and continue to vest during a specified period of time following the Participant's cessation of status as an Eligible Participant (such period, the "Severance Period"), the option shall remain outstanding and shall continue to vest in accordance with the terms of this Agreement during the Severance Period as if the Participant had remained an Eligible Participant during such period, subject to any conditions on continued vesting as may be contained in such Executive Severance Agreement or other written agreement. Any portion of this option that vests during such Severance Period will remain exercisable until the earlier of (A) the date that is three (3) months following the date that is the last day of such Severance Period, or (B) the Final Exercise Date, and except to the extent previously exercised as permitted by this Section 3(c) will thereupon immediately terminate. For the avoidance of doubt, any portion of the option that fails to vest during the Severance Period will immediately be forfeited on the last day of such period. Notwithstanding the foregoing, if the Participant, prior to the Final Exercise Date, violates the restrictive covenants (including, without limitation, the non-competition, non-solicitation, or confidentiality provisions) of any employment contract, any non-competition, non-solicitation, confidentiality or assignment agreement to which the Participant is a party, or any other agreement between the Participant and the Company, the right to exercise this option shall terminate immediately upon such violation.

(d) Exercise Period Upon Death. If the Participant dies prior to the Final Exercise Date while he or she is an Eligible Participant and the Company has not terminated such relationship for "cause" as specified in paragraph (e) below, this option shall be exercisable, within the period of one year following the date of death of the Participant, by an authorized transferee of the Participant, provided that this option shall be exercisable only to the extent that this option was exercisable by the Participant on the date of his or her death, and further provided that this option shall not be exercisable after the Final Exercise Date.

(e) Termination for Cause. If, prior to the Final Exercise Date, the Participant's employment, consulting, director or advisor relationship with the Company is terminated by the Company for Cause (as defined below), the right to exercise this option shall terminate immediately upon the effective date of such termination. If, prior to the Final Exercise Date, the Participant is given notice by the Company of the termination of his or her service by the Company for Cause, and the effective date of such termination is subsequent to the date of delivery of such notice, the right to exercise this option shall be suspended from the time of the delivery of such notice until the earlier of (i) such time as it is determined or otherwise agreed that the Participant's service shall not be terminated for Cause as provided in such notice or (ii) the effective date of such termination (in which case the right to exercise this option shall, pursuant to the preceding sentence, terminate upon the effective date of such termination). If the Participant is subject to an Executive Severance Agreement or other written agreement with the Company, in any case which agreement contains a definition of "cause" for termination of service, "Cause" shall have the meaning ascribed to such term in such agreement. Otherwise, "Cause" shall mean willful misconduct by the Participant or willful failure by the Participant to perform his or her responsibilities to the Company (including, without limitation, breach by the Participant of any fiduciary duty or of any provision of any employment, consulting, advisory, nondisclosure, non-competition or other similar agreement between the Participant and the Company), as determined by the Company, which determination shall be conclusive. The Participant shall be considered to have been terminated for Cause if the Company determines, within 30 days after the Participant's resignation, that termination for Cause was warranted.

4. Tax Matters.

No Shares will be issued pursuant to the exercise of this option unless and until the Participant pays to the Company, or makes provision satisfactory to the Company for payment of, any federal, state or local withholding taxes required by law to be withheld in respect of this option.

5. Transfer Restrictions; Clawback.

(a) This option may not be sold, assigned, transferred, pledged, encumbered or otherwise disposed of by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and, during the lifetime of the Participant, this option shall be exercisable only by the Participant.

(b) In accepting this option, the Participant agrees to be bound by any clawback policy that the Company has in place or may adopt in the future.

6. Provisions of the Plan.

As described in Section 1 of this Agreement, this option is subject to the provisions of the Plan (including the provisions relating to amendments to the Plan), a copy of which is furnished to the Participant with this option. Notwithstanding the foregoing, to the extent the Participant has entered in to an Executive Severance Agreement with the Company, for so long as such Executive Severance Agreement remains in effect, the terms of such Executive Severance Agreement as they relate to the option shall control in the event of a conflict with this Agreement or the Plan.

7. Clawback Policy.

In accepting this option, the Participant agrees and acknowledges that the Participant is subject to, and bound by, the terms of any clawback policy that the Company has in place or may adopt in the future, including without limitation Akebia Therapeutic Inc.'s Compensation Recovery Policy adopted in accordance with stock exchange listing requirements. The Participant agrees that in the event it is determined in accordance with any such policy that any compensation or compensatory award granted, earned or paid to the Participant including this option or pursuant to any other compensation arrangement must be forfeited or reimbursed to the Company, the Participant will promptly take any action necessary to effectuate such forfeiture and/or reimbursement as determined by the Company.

ANNEX A

Akebia Therapeutics, Inc.

Stock Option Exercise Notice

Akebia Therapeutics, Inc.
245 First Street
Cambridge, MA 02142

Dear Sir or Madam:

I, ________(the "Participant"), hereby irrevocably exercise the right to purchase ____ shares of the Common Stock, $0.00001 par value per share (the "Shares"), of Akebia Therapeutics, Inc. (the "Company") at $___per share pursuant to a stock option agreement with the Company dated ____ (the "Option Agreement"). Enclosed herewith is a payment of $____, the aggregate purchase price for the Shares. The Shares should be registered in my name as it appears below or, if so indicated below, jointly in my name and the name of the person designated below, with right of survivorship.

Dated: __________

____
Signature
Print Name:

Address:
____
____

Name and address of persons in whose name the Shares are to be jointly registered (if applicable):

____

Akebia Therapeutics
245 First Street, Suite 1400
Cambridge, MA 02142

617.871.2098

Akebia.com

February 8, 2024

BY EMAIL

Nicole R. Hadas
[Address]

Dear Nikki:

Upon your execution of this Amendment, the following amendments will be made to your Separation Agreement with Akebia Therapeutics, Inc. ("*Akebia*") dated May 5, 2022 (as previously amended, the "*Separation Agreement*"). Paragraph 1(ii) of the Separation Agreement shall be replaced in its entirety with the following:

> **(ii) Separation Date. Unless your employment is terminated by the Company for Cause or by you for Good Reason (as those terms are defined in your Executive Severance Agreement dated March 3, 2014, the "*ESA*"), you will remain employed until June 14, 2024 (as may be amended from time to time, the "Separation Date"). The Separation Date may be modified only upon mutual written agreement between you and the Company.**

All other terms and conditions of the Separation Agreement shall remain in full force and effect.

Very truly yours,

AKEBIA THERAPEUTICS, INC.	**Accepted and Agreed to Under Seal:**
/s/ John P. Butler	**/s/ Nicole R. Hadas**
President and Chief Executive Officer	**Nicole R. Hadas**
	Dated: February 8, 2024

Exhibit 10.67

Akebia THERAPEUTICS

Akebla Therapeutlcs
245 Flrst Street, Suite 1400
Cambrldge, MA 02142

617.871.2098

Akebia.com

February 7, 2024

BY EMAIL

Michel Dahan

[Address]

Dear Michel:

Upon your execution of this Amendment, the following amendments will be made to your Separation Agreement with Akebia Therapeutics, Inc. ("*Akebia*") dated May 5, 2022 (as previously amended, the "*Separation Agreement*"). Paragraph 1(ii) of the Separation Agreement shall be replaced in its entirety with the following:

> **(ii) Separation Date. Unless your employment is terminated by the Company for Cause or by you for Good Reason (as those terms are defined in your Executive Severance Agreement dated March 3, 2014, the "*ESA*"), you will remain employed until June 28, 2024 (as may be amended from time to time, the "Separation Date"). The Separation Date may be modified only upon mutual agreement between you and the Company.**

All other terms and conditions of the Separation Agreement shall remain in full force and effect.

Very truly yours,

AKEBIA THERAPEUTICS, INC. **Accepted and Agreed to Under Seal:**

/s/ John P. Butler **/s/Michel Dahan**

President and Chief Executive Officer **Michel Dahan**

Dated: February 8, 2024

Exhibit 10.93
Execution Version

Certain identified information has been excluded from the exhibit because it is both (i) not material and (ii) is the type of information that the registrant treats as private or confidential. Double asterisks denote omissions.

FOURTH AMENDMENT TO LOAN AGREEMENT

This FOURTH AMENDMENT TO LOAN AGREEMENT (this "Amendment"), dated and effective as of October 31, 2023 (the "Fourth Amendment Effective Date"), by and among AKEBIA THERAPEUTICS, INC., a Delaware corporation (as "Borrower"), BIOPHARMA CREDIT PLC, a public limited company incorporated under the laws of England and Wales (as the "Collateral Agent"), BPCR LIMITED PARTNERSHIP, a limited partnership established under the laws of England and Wales (as a "Lender"), and BIOPHARMA CREDIT INVESTMENTS V (MASTER) LP, a Cayman Islands exempted limited partnership (as a "Lender").

Recitals

A. Collateral Agent, Lenders, Borrower and the other Credit Parties thereunder have entered into that certain Loan Agreement, dated as of November 11, 2019, and amended by that certain First Amendment and Waiver, dated as of February 18, 2022, that certain Second Amendment and Waiver, dated as of July 15, 2022, and that certain Third Amendment to Loan Agreement, dated as of June 30, 2023 (the "Existing Loan Agreement") and as further amended by this Fourth Amendment, (the "Loan Agreement").

B. In accordance with Section 11.5 of the Existing Loan Agreement, Borrower (acting for its own behalf and on behalf of the other Credit Parties other than Parent), Collateral Agent and Lenders desire to amend the Existing Loan Agreement on the terms and conditions set forth herein.

Agreement

Now, Therefore, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, and intending to be legally bound, the parties hereto agree as follows:

1. Definitions. All capitalized terms used in this Amendment (including in the recitals hereof) and not otherwise defined herein shall have the meanings assigned to them in the Loan Agreement. The rules of interpretation set forth in the first paragraph of Section 13.1 of the Loan Agreement shall be applicable to this Amendment and are incorporated herein by this reference.

2. Amendments to Loan Agreement. With effect from and including the Third Amendment Effective Date, the Existing Loan Agreement shall be amended so that it shall be read and construed for all purposes as set forth in Schedule A attached hereto.

a. The Existing Loan Agreement shall be amended by deleting in its entirety Section 2.2(b)(i) of the Existing Loan Agreement and replacing it as follows:

"(i) Subject to clauses (ii) and (iii) of this clause (b), with respect to each applicable Term Loan, Borrower shall make equal monthly payments of principal of such Term Loan commencing on October 31, 2024, and continuing on a monthly basis on the last date of each month thereafter through the Term Loan Maturity Date; provided, however, that if any such day is not a Business Day, the applicable payment shall be due and payable on the first Business Day immediately preceding such payment date."

b. The Existing Loan Agreement shall be amended by deleting in its entirety Section 2.2(b)(ii) of the Existing Loan Agreement and replacing it as follows:

"(ii) Notwithstanding clause (i) of this clause (b), and subject to clause (iii) of this clause (b), with respect to each applicable Term Loan, on the date on which a [**] occurs (a

“**[**]**”), (x) Borrower shall make equal quarterly payments of principal of such Term Loan commencing on the Payment Date immediately following such [**] and continuing on a quarterly basis on each Payment Date thereafter through the Term Loan Maturity Date, provided, however, that if any such day is not a Business Day, the applicable payment shall be due and payable on the first Business Day immediately preceding such Payment Date, and (y)(1) if the [**] occurs on or before July 1, 2024, then Borrower shall repay on July 1, 2024 all unpaid principal that would have been due and payable during the period commencing on the Payment Date immediately following the Fourth Amendment Effective Date and ending on the Payment Date immediately following July 1, 2024 (including all accrued and unpaid interest thereon, if any), as if Borrower had been required hereunder to make equal quarterly payments of principal of such Term Loan commencing on the Payment Date immediately following the Fourth Amendment Effective Date, and (2) if the [**] occurs after July 1, 2024, then Borrower shall promptly, and in any event no later than [**] after such [**], repay all unpaid principal that would have been due and payable during the period commencing on the Payment Date immediately following the Fourth Amendment Effective Date and ending on the Payment Date immediately following such [**] (including all accrued and unpaid interest thereon, if any), as if Borrower had been required hereunder to make equal quarterly payments of principal of such Term Loan commencing on the Payment Date immediately following the Fourth Amendment Effective Date.”

c. The Existing Loan Agreement shall be amended by deleting in its entirety Section 2.2(b)(iii) of the Existing Loan Agreement and replacing it as follows:

“(iii) Notwithstanding clauses (i) and (ii) of this clause (b), with respect to each Term Loan, as applicable, in connection with a decrease in the Term Loan Maturity Date and scheduled amortization of such Term Loan pursuant to Section 5.7(c), each of the then outstanding Payment Dates on which monthly payments of principal of such Term Loan are payable shall be reduced by the number of days equal to the Amortization Reduction Days in accordance with Section 5.7(c) hereof.”

d. The Existing Loan Agreement shall be amended by deleting in its entirety Section 2.3(a)(iii) of the Existing Loan Agreement and replacing it as follows:

“(iii) Interest is due and payable quarterly on each Interest Date, as calculated by the Collateral Agent (which calculations shall be deemed correct absent manifest error), commencing on the Interest Date occurring from and after the Fourth Amendment Effective Date; provided, however, that if any such date is not a Business Day, the applicable interest shall be due and payable on the first Business Day immediately preceding such Interest Date.”

e. Section 2.3(d) of the Existing Loan Agreement and replacing it as follows:

“(d) Payments. Except as otherwise expressly provided herein, all Term Loan payments and any other payments hereunder by (or on behalf of) Borrower shall be made on the date specified herein to such bank account of each applicable Lender as such Lender (or the Collateral Agent) shall have designated in a written notice to Borrower delivered on or before the Tranche A Closing Date (which such notice may be updated by such Lender (or the Collateral Agent) by written notice to Borrower from time to time after the Tranche A Closing Date). Except as otherwise expressly provided herein, interest is payable quarterly on each Interest Date provided, however, that if any such Interest Date is not a Business Day, the applicable interest shall be due and payable on the immediately preceding Business Day. Payments of principal or interest received after [**] (New York City time) on such date (or any Payment Date) are considered received at the opening of business on the next Business Day. All payments to be made by Borrower hereunder or under any other Loan Document, including payments of principal and interest made hereunder and pursuant to any other Loan Document, and all fees, expenses, indemnities and reimbursements, shall be made without set-off, recoupment or counterclaim, in lawful money of the United States and in immediately available funds.”

f. The Existing Loan Agreement shall be amended by deleting in its entirety Section 4.21(c) of the Existing Loan Agreement and replacing it as follows:

"(c) Except as disclosed on Schedule 4.21(c) of the Disclosure Letter, no Credit Party or any of its Subsidiaries has received any notice, oral or written, from any party to any Manufacturing Agreement containing any indication by or intent or threat of, such party to reduce or cease, in any material respect, the supply of Product or the active pharmaceutical ingredient incorporated therein in the Territory through [**] (or such earlier date in accordance with the terms and conditions of such Manufacturing Agreement, as applicable)."

g. The Existing Loan Agreement shall be amended by replacing the reference to [**] in Section 5.7(c) of the Existing Loan Agreement with a reference to [**].

h. The Existing Loan Agreement shall be amended by deleting in its entirety Section 7.1 of the Existing Loan Agreement and replacing it as follows:

"7.1 Payment Default. Any Credit Party fails to (a) make any payment of any principal of the Term Loans when and as the same shall become due and payable, whether at the due date thereof (including pursuant to Section 2.2(c)) or at a date fixed for prepayment (whether voluntary or mandatory) thereof or by acceleration thereof or otherwise, or (b) within [**] after the same becomes due, any payment of interest or premium pursuant to Section 2.2, including any applicable Additional Consideration, Makewhole Amount or Prepayment Premium, or any other Obligations (which [**] cure period shall not apply to any such payments due on the Term Loan Maturity Date, such earlier date pursuant to Section 2.2(b)(y), Section 2.2(c)(ii) or Section 2.2(c)(iii) hereof or the date of acceleration pursuant to Section 8.1(a) hereof). A failure to pay any such interest, premium or Obligations pursuant to the foregoing clause (b) prior to the end of such [**]-period shall not constitute an Event of Default (unless such payment is due on the Term Loan Maturity Date, such earlier date pursuant to Section 2.2(b)(y), Section 2.2(c)(ii) or Section 2.2(c)(iii) hereof or the date of acceleration pursuant to Section 8.1(a) hereof)."

i. The Existing Loan Agreement shall be amended by deleting in its entirety clause (c) of the definition of "Tranche A Prepayment Premium" and replacing it as follows:

"(c) if such prepayment occurs on or after the 4th-year anniversary of the Tranche A Closing Date but prior to March 31, 2025, 0.005."

j. The Existing Loan Agreement shall be amended by deleting in its entirety each of the definitions of Interest Date, Payment Date, Term Loan Maturity Date, and Term SOFR, in Section 13.1 of the Existing Loan Agreement and replacing them, in alphabetical order, as follows:

""**Interest Date**" means the last day of each calendar quarter, commencing with the last day of the calendar quarter during which the Fourth Amendment Effective Date occurs."

""**Payment Date**" means, with respect to each Term Loan, (a) the Interest Date occurring on or immediately following each of the following dates: (i) the 34th-month anniversary of the Closing Date applicable to such Term Loan, (ii) the 36th-month anniversary of such Closing Date, (iii) the 39th-month anniversary of such Closing Date, (iv) the 42nd-month anniversary of such Closing Date, (v) the 45th-month anniversary of such Closing Date, (vi) the 48th-month anniversary of such Closing Date, (vii) the 51st-month anniversary of such Closing Date, (viii) the 54th-month anniversary of such Closing Date, (ix) the 57th-month anniversary of such Closing Date, (x) the 60th-month anniversary of such Closing Date, (xi) the 63rd-month anniversary of such Closing Date and (b) the Term Loan Maturity Date, as the context dictates; provided, however, that if any such date is not a Business Day, the applicable payment shall be due and payable on the first Business Day immediately preceding such Payment Date. Notwithstanding the foregoing, "Payment Date" shall be subject to further adjustment in accordance with Section

2.2(b)(iii) hereof (in which case, for the avoidance of doubt, the proviso above shall apply to any such adjusted date)."

"“**Term Loan Maturity Date**” means March 31, 2025; provided, however, that the Term Loan Maturity Date shall be decreased by the number of days equal to the Amortization Reduction Days if applicable in accordance with Section 5.7(c) hereof."

"“**Term SOFR**” means, for any day in any calendar month, the Term SOFR Reference Rate for a tenor of three (3) months on the day (such day, the “**Periodic Term SOFR Determination Day**”) that is [**] prior to the first day of such Interest Period, as such rate is published by the Term SOFR Administrator; provided, however, that if as of [**] (New York City time) on any Periodic Term SOFR Determination Day the Term SOFR Reference Rate for the applicable tenor has not been published by the Term SOFR Administrator and a Benchmark Replacement Date with respect to the Term SOFR Reference Rate has not occurred, then Term SOFR will be the Term SOFR Reference Rate for such tenor as published by the Term SOFR Administrator on the first preceding U.S. Government Securities Business Day for which such Term SOFR Reference Rate for such tenor was published by the Term SOFR Administrator so long as such first preceding U.S. Government Securities Business Day is not more than [**] prior to such Periodic Term SOFR Determination Day."

k. The Existing Loan Agreement shall be amended by deleting in its entirety the definition of “Delayed Amortization Notice” in Section 13.1 of the Existing Loan Agreement.

l. The Existing Loan Agreement shall be amended by adding, in alphabetical order, each of the following definitions to Section 13.1 of the Existing Loan Agreement:

"“**Fourth Amendment Effective Date**” means October 31, 2023."

"“**[**]**” means [**]"

"“**[**]**” means: [**]"

"“**[**]**” is defined in Section 2.2(b)(ii)."

3. Representations and Warranties; Reaffirmation; Covenant to Deliver.

a. Borrower hereby represents and warrants to each Lender and the Collateral Agent as follows:

i. Borrower has all requisite power and authority to enter into this Amendment and to carry out the transactions contemplated hereby.

ii. This Amendment has been duly executed and delivered by Borrower and is the legally valid and binding obligation of Borrower, enforceable against Borrower in accordance with its respective terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or limiting creditors’ rights generally or by general principles of equity.

iii. The execution, delivery and performance by Borrower of this Amendment have been duly authorized and do not: (A) contravene the terms of any of Borrower’s Operating Documents; (B) violate any Requirements of Law, except to the extent that such violation could not, individually or in the aggregate, reasonably be expected to result in a

Material Adverse Change; (C) conflict with or result in any breach or contravention of, or require any payment to be made under any provision of any security issued by Borrower or of any agreement, instrument or other undertaking to which Borrower is a party or affecting Borrower or the assets or properties of Borrower or any of its Subsidiaries or any order, writ, judgment, injunction, decree, determination or award of any Governmental Authority by which Borrower or any of its assets or properties are subject, except to the extent that such conflict, breach, contravention or payment could not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change; (D) require any Governmental Approval, or other action by, or notice to, or filing with, any Governmental Authority (except such Governmental Approvals or other actions, notices and filings which have been duly obtained, taken, given or made on or before the Fourth Amendment Effective Date and are in full force and effect); (E) require any approval, consent, exemption or authorization, or other action by, or notice to, or filing with, any Person other than a Governmental Authority, including Borrower's stockholders, members or partners, (except such approvals, consents, exemptions, authorizations, actions, notices and filings which have been or will be duly obtained, taken, given or made on or before the Fourth Amendment Effective Date and are in full force and effect), except for those approvals, consents, exemptions, authorizations or other actions, notices or filings, the failure of which to obtain or make could not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change; or (F) constitute a material breach of or a material default under (which such default has not been cured or waived) or an event of default (or the equivalent thereof, however described) under, or could reasonably be expected to give rise to the cancellation, termination or invalidation of or the acceleration of Borrower's or any Subsidiary's obligations under, any Material Contract.

iv. Both before and immediately after giving effect to this Amendment, no Event of Default or Default has occurred and is continuing.

b. Borrower hereby ratifies, confirms, reaffirms, and acknowledges its obligations under the Loan Documents to which it is a party and agrees that the Loan Documents remain in full force and effect, undiminished by this Amendment, except as expressly provided herein. By executing this Amendment, Borrower acknowledges that it has read, consulted with its attorneys regarding, and understands, this Amendment.

c. Borrower hereby agrees to deliver to the Collateral Agent, within here (3) Business Days of the Fourth Amendment Effective Date, originally-signed copies of the Amended and Restated Tranche A Notes, in the form attached as Exhibit B-1 hereto, in replacement of the Tranche A Notes, dated June 30, 2023, issued by Borrower to each Lender (whereupon, the Tranche A Notes, dated June 30, 2023, issued by Borrower to the each Lender shall be treated as cancelled and of no further force or effect and the Lenders shall promptly destroy any and all copies or originals of such Tranche A Notes and confirm the same by email to Borrower), the failure of which such delivery constitutes an Event of Default for all purposes under the Loan Agreement.

4. References to and Effect on Loan Agreement. Except as specifically set forth herein, this Amendment shall not modify or in any way affect any of the terms, conditions, covenants, representations and warranties contained in the Loan Agreement, or any of the rights of the Lenders and the Collateral Agent therein, which shall remain in full force and effect and are hereby ratified and confirmed in all respects. Except as specifically set forth herein, the execution, delivery and effectiveness of this Amendment shall not directly or indirectly (i) constitute a consent or waiver of any past, present or future breaches, violations or defaults of or under any provisions of the Loan Agreement nor constitute a novation of any of the Obligations under the Loan Agreement, (ii) amend, modify or operate as a waiver of any provision of the Loan Agreement or any right, power or remedy of any Lender or the Collateral Agent, or (iii) constitute a course of dealing or other basis for altering the Loan Agreement or any other Loan Document. Except as set forth herein, each of the Lenders and the Collateral Agent reserves all of its rights, powers, and remedies under the Loan Documents and Requirements of Law. On and after the Fourth Amendment Effective Date, all references in the Loan Agreement to "this Agreement," "hereto," "hereof," "hereunder," or words of like import shall mean the Loan Agreement as amended by this Amendment.

5. Successors and Assigns. This Amendment binds and is for the benefit of Borrower, the other Credit Parties, Lenders and Collateral Agent and each of their respective successors and permitted assigns.

6. Governing Law; Venue; Jury Trial Waiver. This Amendment shall be construed in accordance with and governed by the law of the State of New York. The provisions of Section 10 (*Choice of law, Venue and Jury Trial Waiver Etc*.) of the Loan Agreement shall apply hereto as if more fully set forth herein as if references therein to "this Agreement" were references to this Amendment.

7. Counterparts. This Amendment may be executed in any number of counterparts and by different parties on separate counterparts, each of which, when executed and delivered, is an original, and all taken together, constitute one Amendment. Delivery of an executed counterpart of a signature page of this Amendment by facsimile or other electronic imaging means (e.g. "pdf" or "tif") shall be effective as delivery of a manually executed counterpart of this Amendment. The words "execution," "signed," "signature," and words of like import in this Amendment shall be deemed to include electronic signatures or electronic records, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for under any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

8. Conflict. In the event of any conflict between any term, covenant, or condition of this Amendment and any term, covenant or condition of the Loan Agreement, the provisions of the Loan Agreement shall control and govern.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the undersigned hereto have caused this Amendment to be executed as of the date first written above by each of their officers thereunto duly authorized.

BORROWER (on its own behalf and on behalf of each other Credit Party):

AKEBIA THERAPEUTICS, INC.,
a Delaware corporation

By: /s/ Ellen Snow
Name: Ellen Snow
Title: Chief Financial Officer

[Signature page to Fourth Amendment]

BIOPHARMA CREDIT PLC,
as Collateral Agent

By: Pharmakon Advisors, LP,
its Investment Manager

By: Pharmakon Management I, LLC,
its General Partner

By __/s/ Pedro Gonzalez de Cosio______________
Name: Pedro Gonzalez de Cosio
Title: Managing Member

BPCR LIMITED PARTNERSHIP,
as a Lender

By: Pharmakon Advisors, LP,
its Investment Manager

By: Pharmakon Management I, LLC,
its General Partner

By __/s/ Pedro Gonzalez de Cosio______________
Name: Pedro Gonzalez de Cosio
Title: Managing Member

BIOPHARMA CREDIT INVESTMENTS V (MASTER) LP,
as Lender

By: BioPharma Credit Investments V GP LLC,
its general partner

By: Pharmakon Advisors, LP,
its Investment Manager

By __/s/ Pedro Gonzalez de Cosio______________
Name: Pedro Gonzalez de Cosio
Title: CEO and Managing Member

Exhibit 10.102
Execution Version

Certain identified information has been excluded from the exhibit because it is both (i) not material and (ii) is the type of information that the registrant treats as private or confidential. Double asterisks denote omissions.

AGREEMENT FOR THE PROVISION OF A LOAN FACILITY

Dated January 29, 2024 (the "Closing Date")

Between

KREOS CAPITAL VII (UK) LIMITED,

and

AKEBIA THERAPEUTICS, INC.

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AGREEMENT FOR THE PROVISION OF A LOAN FACILITY

Dated ___________________ 2024 (the "Closing Date")

Between

KREOS CAPITAL VII (UK) LIMITED, a company incorporated in England and Wales under registration number 13611522 whose registered office is at 25-28 Old Burlington Street, London W1S 3AN, as a Lender (the "**Lender Representative**", which expression shall include its permitted successors and permitted assigns);

and

AKEBIA THERAPEUTICS, INC., a Delaware corporation (the "**Borrower Representative**") and any wholly-owned domestic subsidiary of the Borrower Representative (if any) that may from time to time after the date hereof be joined to this Loan Agreement as an additional Borrower pursuant to a joinder (in form and substance reasonably acceptable to the Lender) executed by such additional Borrower and the Lender Representative (the Borrower Representative and each such wholly-owned domestic subsidiary of the Borrower Representative (if any) who so becomes a Borrower hereunder, each individually a "**Borrower**" and together the "**Borrowers**").

WHEREAS:

1. The Borrowers wish to borrow up to the Total Loan Facility (as defined below) and the Lender wishes to make the Total Loan Facility available to the Borrowers subject to the terms of this agreement (this "**Loan Agreement**"); and

2. Each Borrower hereby confirms that on or about the date of this Loan Agreement it (and it shall procure each relevant Subsidiary Guarantor) shall enter into the Initial Security and Guarantee Documents as security for the obligations of the Loan Parties under the Loan Documents.

LOAN FACILITY TERMS:

Total Loan Facility	$55,000,000, to be drawn down as follows: Tranche A: $37,000,000, to be drawn in full on the Closing Date Tranche B: $8,000,000 Tranche C: $10,000,000
Expiry Date	In relation to the ability to drawdown a Tranche, the Expiry Date with respect to each Tranche is as follows: Tranche A: the Closing Date Tranche B: December 31, 2024 Tranche C: December 31, 2024
Advance Payments	In relation to each Tranche, the repayment amount (comprising principal and interest) for such Tranche for the last Month of the Loan Term for such Tranche as set out in the Repayment Schedule (assuming the Vadadustat FDA Approval has been obtained and 24-month amortization).
Interest and Amortization	During the Interest Only Period, the Borrowers shall make payments of interest on each applicable Tranche in accordance with Clause 5.1.1 and Clause 6.1. After the Interest Only Period, the Borrowers shall make payments of principal and interest on each applicable Tranche in accordance with Clause 5.1.1. Notwithstanding the foregoing: A. if the Vadadustat FDA Approval is not received on or prior to June 30, 2024, the Interest Only Period will terminate on October 1, 2024, followed by 7 equal payments of principal and interest, which shall continue to accrue and become due and payable in accordance with the terms hereof (for the avoidance of doubt, the first 6 such payments shall be due on October 1, 2024 and each Monthly Payment Date thereafter through and including March 1, 2025, with the seventh and final such payment due on the Maturity Date); and B. if a Vadadustat Withdrawal Event occurs, the Borrowers shall repay, in advance, all principal and interest in respect of each Tranche in equal payments on (1) each of the twelve immediately succeeding Monthly Repayment Dates or (2) if less than twelve Monthly Repayment Dates remain before the Maturity Date, each such Monthly Repayment Date remaining before the Maturity Date, in each case commencing with the first Monthly Repayment Date to occur after the occurrence of such Vadadustat Withdrawal Event (as an illustrative example, if, after the occurrence of such Vadadustat Withdrawal Event, five Monthly Repayment Dates remain before the Maturity Date, the Borrowers shall repay all outstanding principal and interest in five equal payments: one on each such Monthly Repayment Date).

Loan Term	The Total Loan Facility will mature on March 31, 2025; provided, that if the Borrower Representative receives the Vadadustat FDA Approval on or prior to June 30, 2024, the maturity date will be automatically extended to January 29, 2028 (such applicable date, the "**Maturity Date**").
Transaction Fee	Tranche A: [**]% of the aggregate committed amount in respect of Tranche A, payable upon the Closing Date. Tranche B: [**]% of the aggregate committed amount in respect of Tranche B, which shall be payable as follows: (a) on the Closing Date, [**]% of the aggregate committed amount in respect of Tranche B, and (b) [**]% of the aggregate committed amount in respect of Tranche B as of the Closing Date shall be payable on the earliest to occur of (i) the date Tranche B is funded, (ii) the date that the commitments in respect of Tranche B are terminated or cancelled and (iii) the date on which the availability period of Tranche B terminates. Tranche C: [**]% of the aggregate committed amount in respect of Tranche C, which shall be payable as follows: (a) on the Closing Date, [**]% of the aggregate committed amount in respect of Tranche C, and (b) [**]% of the aggregate committed amount in respect of Tranche C as of the Closing Date shall be payable on the earliest to occur of (i) the date Tranche C is funded, (ii) the date that the commitments in respect of Tranche C are terminated or cancelled and (iii) the date on which the availability period of Tranche C terminates.
End of Loan Payments	In relation to each Tranche, [**]% of the amount funded pursuant to the relevant Tranche, which amount shall be due and payable in accordance with Clause 10.2.
Minimum Drawdown Amount	$[**]

1. **DEFINITIONS**

In this Loan Agreement, including the recitals set out above, unless otherwise defined:

1.1 "**Acquisition Consideration Condition**" means, as of any date of determination, a condition that is satisfied if (a) Cash Flow as of the last day of the month most recently ended is greater than $0 and (b) the Borrower Representative has delivered to the Lender Representative Pro Forma Projections demonstrating aggregate Cash Flow greater than $0 for the last three months of the period covered by such Pro Forma Projections (taken as a whole)**;**

1.2 "**Adjusted Term SOFR**" means, for purposes of any calculation, the rate per annum equal to the greater of (a) 4.25% per annum and (b) Term SOFR for such calculation;

1.3 "**Advance Payment**" has the meaning given in Clause 5.3 and is in the amount set forth in the Loan Facility Terms;

1.4 "**Affiliate**" means, in relation to any person, (i) any other person directly or indirectly owned by or controlled by such person, including subsidiaries, or (ii) any person that directly or indirectly owns or controls such person, including holding companies (it being understood that in no event shall the Lender be deemed to be an Affiliate of Borrower or any of its Subsidiaries);

1.5 "**Affected Financial Institution**" means (a) any EEA Financial Institution or (b) any UK Financial Institution.

1.6 "**Anti-Corruption Laws**" means the UK Bribery Act 2010, the US Foreign Corrupt Practices Act 1977 and/or any other applicable anti-bribery or anti-corruption law, in each case as amended, re-enacted, consolidated or replaced;

1.7 "**Anti-Money Laundering Laws**" means any and all laws applicable to any Borrower or any other Group Company from time to time concerning or relating to terrorism financing or money laundering;

1.8 "**Applicable Interest Rate**" has the meaning given in Clause 6.2;

1.9 "**Asset Sale**" means any sale, conveyance, transfer or other disposition of assets or properties of a Group Company pursuant to clause 8.2.1(xv);

1.10 "**Assignee**" has the meaning given in Clause 15.5;

1.11 "**Available Tenor**" means, as of any date of determination and with respect to the then-current Benchmark, as applicable, (a) if such Benchmark is a term rate, any tenor for such Benchmark (or component thereof) that is or may be used for determining the length of an interest period pursuant to this Loan Agreement or (b) otherwise, any payment period for interest calculated with reference to such Benchmark (or component thereof) that is or may be used for determining any frequency of making payments of interest calculated with reference to such Benchmark pursuant to this Loan Agreement, in each case, as of such date;

1.12 "**Bail-In Action**" means the exercise of any Write-Down and Conversion Powers by the applicable Resolution Authority in respect of any liability of an Affected Financial Institution;

1.13 "**Bail-In Legislation**" means, (a) with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing law, rule, regulation or requirement for such EEA Member Country from time to time which is described in the EU Bail-In Legislation Schedule, and (b) with respect to the United Kingdom, Part I of the United Kingdom Banking Act 2009 (as amended from time to time) and any other law, regulation or rule applicable in the United Kingdom relating to the resolution of unsound or failing banks, investment firms or other financial institutions or their affiliates (other than through liquidation, administration or other insolvency proceedings);

1.14 "**Benchmark**" means, initially, the Term SOFR Reference Rate; provided that if a Benchmark Transition Event has occurred with respect to the Term SOFR Reference Rate or the then-current Benchmark, then "Benchmark" shall mean the applicable Benchmark Replacement to the extent that such Benchmark Replacement has replaced such prior benchmark rate pursuant to Clause 6.4;

1.15 "**Benchmark Floor**" shall mean the benchmark rate floor provided in this Loan Agreement (as of the execution of this Loan Agreement, the modification, amendment or renewal of this Loan Agreement or otherwise) with respect to Term SOFR. As of the Closing Date the Benchmark Floor is equal to 4.25% per annum;

1.16 "**Benchmark Replacement**" means the sum of: (a) the alternate benchmark rate that has been selected by the Lender Representative and the Borrowers giving due consideration to (i) any selection or recommendation of a replacement rate or the mechanism for determining such a rate by the Relevant Governmental Body or (ii) any evolving or then-prevailing market convention for determining a rate of interest as a replacement to the then-current Benchmark for Dollar-denominated syndicated credit facilities and (b) the Benchmark Replacement Adjustment; provided that, if the Benchmark Replacement as so determined would be less than the Benchmark Floor on any date of determination, the Benchmark Replacement will be deemed to be the Benchmark Floor for the purposes of this Loan Agreement and the other Loan Documents;

1.17 "**Benchmark Replacement Adjustment**" means, with respect to any replacement of the then-current Benchmark with an Unadjusted Benchmark Replacement for each applicable Interest Period, the spread adjustment, or method for calculating or determining such spread adjustment (which may be a positive or a negative value or zero), that has been selected by the Lender Representative and the Borrowers giving due consideration to (a) any selection or recommendation of a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of such Benchmark with the applicable Unadjusted Benchmark Replacement by the Relevant Governmental Body or (b) any evolving or then-prevailing market convention for determining a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of such Benchmark with the applicable Unadjusted Benchmark Replacement for U.S. dollar-denominated syndicated credit facilities at such time;

1.18 "**Benchmark Replacement Conforming Changes**" means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including changes to the definition of "Business Day", timing and frequency of determining rates and making payments of interest and other administrative matters) that the Lender Representative (in consultation with the Borrower) decides may be appropriate to reflect the adoption and implementation of such Benchmark Replacement and to permit the administration thereof by the Lender Representative in a manner substantially consistent with market practice (or, if the Lender Representative (in consultation with the Borrower) decides that adoption of any portion of such market practice is not administratively feasible or if the Lender Representative (in consultation with the Borrower) determines that no market practice for the administration of the Benchmark Replacement exists, in such other manner of administration as the Lender Representative reasonably determines is necessary in connection with the administration of this Loan Agreement and the other Loan Documents);

1.19 "**Benchmark Replacement Date**" means the earlier to occur of the following events with respect to the then-current Benchmark: (a) in the case of clause (a) or (b) of the definition of "Benchmark Transition Event", the later of (i) the date of the public statement or publication of information referenced therein and (ii) the date on which the administrator of such Benchmark permanently or indefinitely ceases to provide such Benchmark; or (b) in the case of clause (c) of the definition of "Benchmark Transition Event", the date of the public statement or publication of information referenced therein;

1.20 "**Benchmark Transition Event**" means the occurrence of one or more of the following events with respect to then-current Benchmark:

(a) a public statement or publication of information by or on behalf of the administrator of such Benchmark (or the published component used in the calculation thereof) announcing that such administrator has ceased or will cease to provide all Available Tenors of such Benchmark (or such component thereof), permanently or indefinitely; provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide any Available Tenor of such Benchmark (or such component thereof);

(b) a public statement or publication of information by the regulatory supervisor for the administrator of such Benchmark (or the published component used in the calculation thereof), the Term SOFR Administrator, the U.S. Federal Reserve System, an insolvency official with jurisdiction over the administrator of such Benchmark, a resolution authority with jurisdiction over the administrator of such Benchmark (or such component) or a court or an entity with similar insolvency or resolution authority over the administrator of such Benchmark (or such component), which states that the administrator of such Benchmark (or such component) has ceased or will cease to provide all Available Tenors of such Benchmark (or such component thereof) permanently or indefinitely; provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide any Available Tenor of such Benchmark (or such component thereof); or

(c) a public statement or publication of information by or on behalf of the regulatory supervisor for the administrator of such Benchmark (or the published component used in the calculation thereof or the regulatory supervisor for the administrator of such Benchmark or such component thereof) announcing that all Available Tenors of such Benchmark are no longer representative;

1.21 "**Benchmark Transition Start Date**" means in the case of a Benchmark Transition Event, the earlier of (a) the applicable Benchmark Replacement Date and (b) if such Benchmark Transition Event is a public statement or publication of information of a prospective event, the [**] prior to the expected date of such event as of such public statement or publication of information (or if the expected date of such prospective event is fewer than [**] after such statement or publication, the date of such statement or publication);

1.22 "**Benchmark Unavailability Period**" means, if a Benchmark Transition Event and its related Benchmark Replacement Date have occurred with respect to the then-current Benchmark and solely to the extent that such Benchmark has not been replaced with a Benchmark Replacement in accordance with Clause 6.4, the period (a) beginning at the time that such Benchmark Replacement Date has occurred and (b) ending at the time that a Benchmark Replacement has replaced the then-current Benchmark for all purposes hereunder pursuant to Clause 6.4;

1.23 "**Board**" means the Board of Governors of the Federal Reserve System of the United States of America and any successor thereto;

1.24 "**Business Day**" means (a) any day on which banks are generally open for business in London and New York other than a Saturday or Sunday and (b) with respect to the calculation of Term SOFR, any day other than a day on which the Securities Industry and Financial Market Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in United States government securities;

1.25 "**Cash Equivalents**" means:

(a) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America (or by any agency thereof to the extent such obligations are backed by the full faith and credit of the United States of America), in each case maturing within two years from the date of issuance thereof;

(b) investments in commercial paper maturing within 2 years from the date of issuance thereof and having, at such date of acquisition, the highest credit rating obtainable from S&P or from Moody's;

(c) investments in certificates of deposit, banker's acceptances and time deposits maturing within two years from the date of acquisition thereof issued or offered by or guaranteed by or placed with, and money market deposit accounts issued or offered by, any domestic office of any commercial bank organized under the laws of the United States of America or any State thereof that has a combined capital and surplus and undivided profits of not less than $100,000,000 and that issues (or the parent of which issues) commercial paper rated at least "Prime 1" (or the then equivalent grade) by Moody's or "A1" (or the then equivalent grade) by S&P;

(d) fully collateralized repurchase agreements with a term of not more than 30 days for securities described in clause (a) above and entered into with a financial institution satisfying the criteria of clause (c) above;

(e) corporate obligations, including intermediate-term notes rated "A2/A" or higher by Moody's and Standard and Poor's and commercial paper rated "P1" or higher by Moody's and "A1" or higher by Standard and Poor's;

(f) bank sweep or deposit programs and interest bearing programs from banks with a minimum $10,000,000,000 market capitalization and whose debt ratings satisfying the criteria of clause (c) or (e) above;

(g) U.S. and dollar-denominated international corporate debt as long as the issuer meets credit rating and marketability guidelines; and

(h) investments in "money market funds" within the meaning of Rule 2a-7 of the Investment Company Act of 1940, as amended, substantially all of whose assets are invested in investments of the type described in clauses (a) through (g) above;

1.26 "**Cash Flow**" means the cash flow of the Borrower Representative and its consolidated Subsidiaries, determined in accordance with GAAP, excluding non-recurring or extraordinary events and non-cash items.

1.27 “**Cash Interest Condition**” means, on any date of determination, a condition that is satisfied if Cash Flow as of the last day of each of the immediately preceding six months was greater than $0 for each such month;

1.28 "**Casualty Event**" means any casualty or other insured damage to, or any taking under power of eminent domain or by condemnation or similar proceeding of, any property or asset of the Borrowers or any other Group Company;

1.29 "**Change of Control**" has the meaning as given in Clause 9.1.9;

1.30 "**Code**" means the Internal Revenue Code of 1986, as amended from time to time;

1.31 "**Collateral**" means all the "Collateral" as defined in any of the Security Documents and shall also include the Mortgaged Properties;

1.32 "**Compliance Certificate**" has the meaning given to it in Clause 8.1.9(iv);

1.33 "**Confidential Information**" means all information relating to any Group Company, the Loan Documents or a Loan of which the Lender becomes aware or which the Lender receives in its capacity as the Lender from any member of the Group or any of its advisers in whatever form but excludes information that: (i) is or becomes public information other than as a direct or indirect result of any breach by the Lender of this Loan Agreement; (ii) is identified in writing at the time of delivery as non-confidential by any member of the Group or any of its advisers; or (iii) is known by the Lender before the date the information is disclosed to it or is lawfully obtained by the Lender after that date, from a source which is, as far as the Lender is aware, unconnected with the Group and which, in either case, as far as the Lender is aware, has not been obtained in breach of, and is not otherwise subject to, any obligation of confidentiality;

1.34 “**Connection Income Taxes**” means Other Connection Taxes that are imposed on or measured by net income (however denominated) or that are franchise Taxes or branch profits Taxes.

1.35 "**Contractual Currency**" has the meaning given to it in Clause 5.2;

1.36 "**Control**" shall mean the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of a Person, whether through the ownership of voting securities, by contract or otherwise, and the terms “Controlling” and “Controlled” shall have meanings correlative thereto.

1.37 "**Controlled Foreign Subsidiary**" means any Subsidiary of the Borrower Representative or of any Subsidiary Guarantor that is a “ controlled foreign corporation” within the meaning of Section 957 of the Code as in effect on the date hereof.

1.38 "**Default**" means an Event of Default or any event or circumstance specified in Clause 9.1 which would (with the expiry of a grace period, the giving of notice, the making of any determination under the Loan Documents or any combination of the foregoing) be an Event of Default;

1.39 "**Designated Jurisdiction**" means, at any time, any country, region or territory which is itself the subject or target of comprehensive Sanctions (which shall include, as at the date of this Loan Agreement Cuba, Iran, North Korea, Syria, the Crimea region of Ukraine, the so-called Donetsk People’s Republic and Luhansk People’s Republic);

1.40 **"Domestic Subsidiary"** means any Subsidiary of the Borrower Representative that is organized under the laws of the United States, any state thereof or the District of Columbia.

1.41 "**Drawdown**" means the drawdown of a Tranche;

1.42 "**Drawdown Account**" means the deposit account ending [**] maintained with [**];

1.43 "**Drawdown Date**" means, subject to Clauses 3.2.1 and 3.2.2, the date specified by the Borrower Representative in the relevant Drawdown Notice or as may be otherwise agreed in writing by the Borrower Representative and the Lender Representative;

1.44 "**Drawdown Notice**" means a drawdown notice served in accordance with Clause 3.2 in substantially the form attached to this Loan Agreement as Schedule A (as may be amended with the prior written consent of the Lender Representative);

1.45 “**EEA Financial Institution**” means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in clause (a) of this definition, or (c) any financial institution established in an EEA Member Country which is a subsidiary of an institution described in clause (a) or (b) of this definition and is subject to consolidated supervision with its parent.

1.46 “**EEA Member Country**” shall mean any of the member states of the European Union, Iceland, Liechtenstein and Norway.

1.47 “**EEA Resolution Authority**” shall mean any public administrative authority or any person entrusted with public administrative authority of any EEA Member Country (including any delegee) having responsibility for the resolution of any EEA Financial Institution.

1.48 "**End of Loan Payment**" means the End of Loan Payment in the amount set forth in the Loan Facility Terms;

1.49 "**Environmental Law**" means any applicable law or regulation which relates to pollution, protection of the environment, the conditions of the workplace (to the extent relating to exposure to Hazardous Materials) or the generation, handling, storage, use, release or spillage of Hazardous Materials;

1.50 "**ERISA**" means the Employee Retirement Income Security Act of 1974, as the same may be amended from time to time, and the rules and regulations promulgated thereunder;

1.51 "**ERISA Affiliate**" shall mean any trade or business (whether or not incorporated) that, together with the Borrower Representative, is treated as a single employer under Section 414(b) or (c) of the Code, or solely for purposes of Section 302 of ERISA and Section 412 of the Code, is treated as a single employer under Sections 414(m) or (o) of the Code;

1.52 "**ERISA Event**" shall mean (a) any "reportable event", as defined in Section 4043 of ERISA or the regulations issued thereunder, with respect to a Plan (other than an event for which the 30-day notice period is waived), (b) the failure to satisfy the minimum funding standards (within the meaning of Section 412 of the Code or Section 302 of ERISA), whether or not waived or a determination that any Plan or Multiemployer Plan is, or would reasonably be expected to be, an at-risk plan or a plan in endangered or critical status within the meaning of Section 430, 431 or 432 of the Code or Section 303, 304 or 305 of ERISA, (c) the filing pursuant to Section 412(c) of the Code or Section 302(c) of ERISA of an application for a waiver of the minimum funding standard with respect to any Plan, (d) the incurrence by the Borrower Representative or any of its ERISA Affiliates of any liability under Title IV of ERISA with respect to the termination of any Plan or the withdrawal or partial withdrawal of the Borrower Representative or any of its ERISA Affiliates from any Plan or Multiemployer Plan, (e) the receipt by the Borrower Representative or any of its ERISA Affiliates from the PBGC or a plan administrator of any notice relating to the intention to terminate any Plan or Plans or to appoint a trustee to administer any Plan, (f) the failure by the Borrower Representative or any of its ERISA Affiliates to make a required contribution to any Plan that results in, or would reasonably be expected to result in, the imposition of a lien or other encumbrance or the provision of security under Section 430 of the Code or Section 303 or 4068 of ERISA, (g) the receipt by the Borrower Representative or any of its ERISA Affiliates of any notice, or the receipt by any Multiemployer Plan from the Borrower Representative or any of its ERISA Affiliates of any notice, concerning the imposition of Withdrawal Liability or a determination that a Multiemployer Plan is, or is expected to be, insolvent or in reorganization, within the meaning of Title IV of ERISA, (h) the occurrence of a non-exempt "prohibited transaction" with respect to which the Borrower Representative or any of its Subsidiaries would reasonably be expected to be liable, (i) any other event or condition with respect to a Plan or Multiemployer Plan that could result in liability of the Borrower Representative or any of its Subsidiaries or (j) a Foreign Benefit Event;

1.53 "**Event of Default**" means any of the events or circumstances described in Clause9.1;

1.54 "**Excluded Accounts**" means (1) payroll, healthcare and other employee wage and benefit accounts, (2) sales, payroll and similar tax trust accounts, (3) escrow, defeasance and redemption accounts, (4) fiduciary or trust accounts, (5) accounts located outside of the United States, (6) accounts used in connection with Medicaid and Medicare in the ordinary course of business, (7) accounts used to cash collateralize letters of credit or other obligations to the extent permitted under this Loan Agreement, (8) zero balance accounts and (9) accounts with an average daily balance of less than $[**] in the aggregate for all such accounts excluded pursuant to this clause (9);

1.55 "**Excluded Subsidiary**" means any direct or indirect Subsidiary of the Borrower Representative that is (a) not wholly owned by the Borrower Representative or one or more wholly-owned Subsidiaries of the Borrower Representative, (b) an Immaterial Subsidiary, (c) [reserved], (d) [reserved], (e) an MSC, (f) a Subsidiary that is prohibited by applicable law, rule or regulation from guaranteeing the Loan Facility, or which would require governmental (including regulatory) consent, approval, license or authorization to provide a guarantee unless, such consent, approval, license or authorization has been received, (g) a Subsidiary with respect to which a guarantee by it of the Loan Facility could reasonably be expected to result in material and adverse Tax consequences to the Borrower Representative and its Subsidiaries (taken as a whole) as reasonably determined by the Borrower Representative and the Lender Representative, (h) a Subsidiary that is prohibited from guaranteeing the Loan Facility by any contractual obligation (to the extent such contractual restriction was not entered into in contemplation of the guarantee of the Loan Facility by such Subsidiary), (i) not for profit subsidiary and (j) any other Subsidiary with respect to which, in the reasonable judgment of the Lender Representative and the Borrower, the cost or other consequences of guaranteeing the Loan Facility would be excessive in view of the benefits to be obtained by the Lender therefrom; provided that no Excluded Subsidiary may own any equity interests issued by any Loan Party;

1.56 "**Excluded Taxes**" means any of the following Taxes imposed on or with respect to a Lender or required to be withheld or deducted from a payment to a Lender, (a) Taxes imposed on or measured by net income (however denominated), franchise Taxes, and branch profits Taxes, in each case, (i) imposed as a result of such Lender being organized under the laws of, or having its principal office or, in the case of any Lender, its applicable lending office located in, the jurisdiction imposing such Tax (or any political subdivision thereof) or (ii) that are Other Connection Taxes, (b) U.S. federal withholding Taxes imposed on amounts payable to or for the account of such Lender with respect to an applicable interest in a Loan or commitment pursuant to a law in effect on the date on which (i) such Lender acquires such interest in the Loan or commitment or (ii) such Lender changes its lending office, except in each case to the extent that, pursuant to Clause 10.5, amounts with respect to such Taxes were payable either to such Lender's assignor immediately before such Lender became a party hereto or to the Lender immediately before it changed its lending office, (c) Taxes attributable to such Lender's failure to comply with Clause 10.5.7 and (d) any withholding Taxes imposed under FATCA;

1.57 "**Existing Financial Indebtedness**" means the Financial Indebtedness listed on Schedule D to this Loan Agreement;

1.58 "**Expiry Date**" means the relevant date(s) in relation to the ability to draw down a Tranche set forth in the Loan Facility Terms;

1.59 "**FATCA**" means Sections 1471 through 1474 of the Code, as of the date of this Loan Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with), any current or future regulations or official interpretations thereof, any agreements entered into pursuant to Section 1471(b)(1) of the Code and any fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement, treaty or convention among Governmental Authorities and implementing such Sections of the Code;

1.60 "**Federal Funds Effective Rate**" means, for any day, the weighted average of the rates on overnight Federal funds transactions with members of the Federal Reserve System, as published on the next succeeding Business Day by the Federal Reserve Bank of New York, or, if such rate is not so published for any day that is a Business Day, the average of the quotations for the day for such transactions received by the Lender from three Federal funds brokers of recognized standing selected by it;

1.61 "**Financial Indebtedness**" means, with respect to any person, without duplication: (i) monies borrowed and debit balances at banks or other financial institutions; (ii) finance or capital leases, other than leases that would have been considered operating leases prior to the adoption of ASC 842; (iii) receivables sold or discounted, (iv) other transactions or arrangements having the commercial effect of borrowing money; (v) the marked to market value of derivative transactions entered into in connection with protection against or benefit from fluctuation in any rate or price; (vi) counter-indemnity obligations in respect of guarantees or other instruments issued by a bank or financial institution; (vii) any acceptance under any acceptance credit or bill discounting facility, (viii) any amount of any liability under an advance or deferred purchase agreement if the primary reason is to raise finance or to finance an acquisition or construction of the asset or service in question or the agreement is in respect of the supply of assets or services, (ix) liabilities under guarantees or indemnities for any of the obligations referred to in items (i) to (viii), and (x) any shares which are redeemable (other than at the option of the issuer) before the expiry of the Loan Term (provided that (A) if such shares are issued to any employee or to any plan for the benefit of employees of the Borrower Representative or its Subsidiaries or by any such plan to such employees, such shares shall not constitute Financial Indebtedness solely because they may be required to be repurchased by the Borrower or its Subsidiaries in order to satisfy applicable statutory or regulatory obligations or as a result of such employee's termination, death or disability and (B) any class of shares of such person that by its terms authorizes such person to satisfy its obligations thereunder by delivery of shares that are not Financial Indebtedness shall not be deemed to be Financial Indebtedness), in each case of clauses (i) through (x), to the extent that such item would appear as a liability on a balance sheet of such person prepared in accordance with GAAP;

Notwithstanding the foregoing, in no event shall the following constitute Financial Indebtedness:

(a) prepaid or deferred revenue arising in the ordinary course of business;

(b) operating leases;

(c) in connection with the purchase by a Group Company of any business, any post-closing payment adjustments to which the seller may become entitled to the extent such payment is determined by a final closing balance sheet or such payment depends on the performance of such business after the closing; provided, however, that, at the time of closing, the amount of any such payment is not determinable and such amount does not appear as a liability on the balance sheet of such Group Member prepared in accordance with GAAP;

(d) any obligations in respect of workers' compensation claims, early retirement or termination obligations, deferred compensatory or employee or director equity plans, pension fund obligations or contributions or similar claims, obligations or contributions or social security or wage taxes;

(e) any Warrant Instrument or any Permitted Convertible Debt Call Transaction; or

(f) the [**].

1.62 "**Financial Officer**" of any person shall mean the chief executive officer, president, chief financial officer, principal accounting officer, treasurer, or similar officer of such person;

1.63 "**Financial Statements**" means, in relation to the Borrower Representative, the audited consolidated financial statements of the Group for the period ended December 31;

1.64 "**First Monthly Repayment Date**" shall mean the first Monthly Repayment Date being either (i) the first Drawdown Date (where the Drawdown Date is the first day of a calendar month); or (ii) the first day of the next calendar month following the first Drawdown Date (where the first Drawdown Date is not the first day of a calendar month);

1.65 "**Foreign Benefit Event**" shall mean, with respect to any Foreign Pension Plan, (a) the existence of unfunded liabilities in excess of the amount permitted under any applicable law, or in excess of the amount that would be permitted absent a waiver from a Governmental Authority, (b) the failure to make the required contributions or payments, under any applicable law, on or before the due date for such contributions or payments, (c) the receipt of a notice by a Governmental Authority relating to the intention to terminate any such Foreign Pension Plan or to appoint a trustee or similar official to administer any such Foreign Pension Plan, or alleging the insolvency of any such Foreign Pension Plan, (d) the complete or partial termination of such Foreign Pension Plan or the complete or partial withdrawal of any participating employer therein, or (e) the occurrence of any transaction that is prohibited under any applicable law;

1.66 "**Foreign Pension Plan**" means each employee benefit plan (within the meaning of Section 3(3) of ERISA, whether or not subject to ERISA) that is not subject to United States law and is sponsored, maintained, contributed to or required to be contributed to by Borrowers or, to the extent Borrowers would have liability in connection therewith, by an Affiliate;

1.67 **"Foreign Subsidiary"** means any Subsidiary of the Borrower Representative that is not a Domestic Subsidiary;

1.68 "**GAAP**" means United States generally accepted accounting principles in the United States, as in effect from time to time, or those required by government or regulatory bodies or as may be in general use by significant segments of the accounting profession that are applicable to the circumstances as of the date of determination. All references to "GAAP" used herein shall be to GAAP applied consistently with the principals used in the preparation of the financials delivered by the Borrower Representative to the Lender prior to the date of this Loan Agreement and filed with the SEC;

1.69 "**Governmental Authority**" means any Federal, state, local or foreign court or governmental agency, authority, instrumentality or regulatory body;

1.70 "**Group**" means the Borrower Representative and its direct and indirect subsidiaries (if any);

1.71 "**Group Company**" means any member of the Group;

1.72 "**Guarantee and Collateral Agreement**" means that certain Guarantee and Collateral Agreement, dated as of the Closing Date, by and among the Loan Parties and the Lender Representative;

1.73 "**Hazardous Materials**" means all explosive or radioactive substances or wastes and all hazardous or toxic substances, materials or wastes, including petroleum or petroleum distillates, asbestos or asbestos-containing materials, toxic mold, polychlorinated biphenyls, radon gas, infectious or medical wastes and all other toxic substances, materials or wastes of any nature regulated pursuant to any Environmental Law due to their hazardous, toxic, dangerous or deleterious properties or characteristics;

1.74 "**[**]**" means [**];

1.75 "**Immaterial Subsidiary**" means any Subsidiary of the Borrower Representative that (a) does not own or use any Intellectual Property that is material to the business of the Group (taken as a whole), (b) does not have revenues (after eliminating intercompany obligations) in excess of [**]% of the consolidated revenue (calculated in accordance with GAAP) of the Group and (c) does not have assets (after eliminating intercompany obligations) in excess of [**]% of the consolidated total assets (calculated in accordance with GAAP) of the Group;

1.76 "**Increased Cost**" means (i) a reduction in the rate of return from the Loan Facility or on the Lender's overall capital, (ii) an additional or increased cost; or (iii) a reduction of any amount due and payable under any Loan Document, which is incurred or suffered by the Lender or any of its Affiliates to the extent that it is attributable to the Lender having entered into any Loan or funding or performing its obligations under any Loan Document (in each case other than as a result of (A) Indemnified Taxes, (B) Taxes described in clauses (b) through (d) of the definition of Excluded Taxes and (C) Connection Income Taxes);

1.77 "**Indemnified Taxes**" means (a) Taxes, other than Excluded Taxes, imposed on or with respect to any payment made by or on account of any obligation of the Borrowers under any Loan Document and (b) to the extent not otherwise described in clause (a), Other Taxes;

1.78 "**Indemnitee**" has the meaning given to such term in Clause 11.1;

1.79 "**Initial Security and Guarantee Documents**" means the following documents: (A) the Guarantee and Collateral Agreement, (B) that certain Patent Security Agreement, dated as of the Closing Date, executed by the Loan Parties and acknowledged and agreed by the Lender Representative and (C) that certain Trademark Security Agreement, dated as of the Closing Date, executed by the Loan Parties and acknowledged and agreed by the Lender Representative;

1.80 "**Intellectual Property**" means copyrights and related rights (including, without limitation, rights in computer software), patents, supplementary protection certificates, utility models, trade marks, trade names, service marks, domain name registrations, registered and unregistered rights in designs, database rights, semi-conductor topography rights, plant variety rights, rights in undisclosed or confidential information (such as know how, trade secrets and inventions (whether patentable or not)), other similar intellectual property rights (whether registered or not) and applications for such rights as may exist anywhere in the world;

1.81 "**Interest Only Period**" means the period commencing on the Closing Date and ending on December 31, 2025 (which date may be extended at any time on or prior to December 31, 2025, at the discretion of the Borrower Representative, to December 31, 2026 by written notice from the Borrower to the Lender Representative). Notwithstanding the foregoing, if the Vadadustat FDA Approval is not received on or prior to June 30, 2024, the Interest Only Period will terminate on October 1, 2024;

1.82 "**Interim Payment**" means, with respect to any Drawdown Date, the payment in respect of the period from such Drawdown Date (where the Drawdown Date is not the first day of a calendar month) to the First Monthly Repayment Date calculated by dividing the first Monthly payment of interest and principal specified in the relevant Repayment Schedule by thirty (30) and multiplying that figure by the number of days between (and including) such Drawdown Date and the First Monthly Repayment Date;

1.83 "**Joint Venture**" means any joint venture entity, whether a company, unincorporated firm, undertaking, association, joint venture or partnership or any other entity;

1.84 "**Kreos Affiliate**" means any direct Affiliate of Kreos Capital VII (UK) Limited.

1.85 "**Lender**" means, collectively, Kreos Capital VII (UK) Limited**,** a company incorporated in England and Wales under registration number 13611522 whose registered office is at 25-28 Old Burlington Street, London W1S 3AN and the other lenders from time to time party hereto;

1.86 "**Liquidity**" means, as of any date of determination, the sum of the amount of cash and Cash Equivalents of the Loan Parties and each MSC as of such date; provided that Liquidity shall not include (a) any cash or Cash Equivalents that are or should be listed as "restricted" on the consolidated balance sheet of the Borrower Representative as of such date (as determined in accordance with GAAP) or (b) any cash or Cash Equivalents of a Loan Party that are held in any account that is not subject to an account control agreement in favor of the Lender Representative; provided, that at all times prior to the DACA Deadline (as defined on Schedule C), cash in all accounts of the Loan Parties shall be included in "Liquidity" even if an account control agreement is not in place;

1.87 "**Loan**" means any loan that is made by the Lender to the Borrower pursuant to this Loan Agreement;

1.88 "**Loan Documents**" means collectively this Loan Agreement, the Warrant Instrument, the Security Documents, and any other agreement designated as a "Loan Document" by the Lender Representative and the Borrower Representative;

1.89 "**Loan Facility**" means the loan facility set out in this Loan Agreement;

1.90 "**Loan Facility Terms**" means the certain terms applicable to the Loan Facility as set forth under the heading Loan Facility Terms at the beginning of this Loan Agreement;

1.91 **"Loan Parties"** means, collectively, the Borrowers and the Subsidiary Guarantors.

1.92 "**Loan Term**" means with respect to each Tranche, the period set forth in the Loan Facility Terms (or such other period as may be agreed by the Lender and the Borrower Representative in writing);

1.93 "**Loan to Own Investor**" means:

(a) any person or entity whose principal business or material activity is in investment strategies the primary purpose of which is the purchase of distressed loans or other distressed debt securities with the intention of (or view to) owning a controlling stake of the equity or gaining control of a business (directly or indirectly) (a "**loan to own strategy**") (a "**Principal Loan to Own Investor**");

(b) any person or entity that is an Affiliate or affiliated fund of a Principal Loan to Own Investor (a "**Connected Loan to Own Investor**"), unless such Affiliate or affiliated fund is a financial institution which has been established for at least six months and, during that period, regularly engaged in making, purchasing or investing in loans or debt securities; does not have a loan-to-own strategy as one of its investment strategies; is managed and controlled independently from such person; and is administered by persons operating behind appropriate information barriers implemented or maintained as required by law, regulation and internal policy and, in any event, to the extent required to ensure that such administration is independent from such person's interests under the Loan Documents and any information provided under the Loan Documents is not (and is not capable of being) disclosed or otherwise made available to any person operating behind such information barrier; or

(c) any Principal Loan to Own Investor which has acquired and holds loans or other debt securities in any business owned (directly or indirectly) by any Connected Loan to Own Investor of such Principal Loan to Own Investor;

1.94 "**Margin Stock**" has the meaning assigned to such term in Regulation U.

1.95 "**Material Adverse Change**" means (i) a material adverse effect on the business, operations or financial condition of the Group Companies, taken as a whole; (ii) a material adverse effect on the ability of the Loan Parties (taken as a whole) to be able to pay any portion of its payment obligations under any of the Loan Documents in full or to perform its material obligations under the Loan Documents; or (iii) a material adverse effect on the rights or remedies of the Lender (taken as a whole) under any of the Loan Documents (taken as a whole), unless caused by or related to the action or inaction of the Lender;

1.96 "**Material Financial Indebtedness**" means Financial Indebtedness of any Group Company with an individual outstanding principal amount in excess of $[**].

1.97 "**Material Properties**" means each parcel of real property (other than a parcel with a fair market value of less than $[**]) owned in fee by a Loan Party and located in the United States, but excluding any portion of such real property that contains improvements located in an area identified by the Federal Emergency Management Agency (or any successor agency) as a "special flood hazard area";

1.98 **"Minimum Drawdown Amount"** means the minimum amount permitted to be drawn down in each Tranche and is the amount set forth in the Loan Facility Terms;

1.99 "**Month**" and "**Monthly**" means, in relation to any period for the accrual of commission or fees, a period starting on one day in a calendar month and ending on the numerically corresponding day in the next calendar month;

1.100 "**Monthly Repayment Date**" means the first day of a calendar month;

1.101 "**MSC**" means (a) Akebia Therapeutics Securities Corporation, a Massachusetts securities corporation, and (b) any other Subsidiary of the Borrower Representative that is a securities corporation formed under the laws of the commonwealth of Massachusetts;

1.102 "**Multiemployer Plan**" means a multiemployer plan as defined in Section 4001(a)(3) of ERISA;

1.103 "**Net Cash Proceeds**" means (A) with respect to any Asset Sale or Casualty Event, the cash proceeds (including cash proceeds subsequently received (as and when received) in respect of noncash consideration initially received), net of (i) selling expenses (including broker's fees or commissions, legal fees, transfer and similar taxes and the Borrower Representative's good faith estimate of income taxes paid or payable in connection with such sale), (ii) amounts provided as a reserve, in accordance with GAAP, against any liabilities under any indemnification obligations or purchase price adjustment associated with such Asset Sale (provided that, to the extent and at the time any such amounts are released from such reserve, such amounts shall constitute Net Cash Proceeds) and (iii) the principal amount, premium or penalty, if any, interest and other amounts on any Financial Indebtedness (other than the obligations) which is secured by the asset sold in such Asset Sale or subject to such Casualty Event and which is required to be repaid with such proceeds (other than any such financial Indebtedness assumed by the purchaser of such asset) and (B) with respect to any incurrence of Financial Indebtedness, the cash proceeds received from such incurrence, net of taxes reasonably estimated to be payable and customary investment banking fees, underwriting discounts and commissions, premiums, accrued interest and other customary costs and expenses incurred by the Group in connection with such incurrence or issuance;

1.104 "**Other Connection Taxes**" means , with respect to any Lender, Taxes imposed as a result of a present or former connection between such Lender and the jurisdiction imposing such Tax (other than connections arising from such Lender having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan or Loan Document);

1.105 "**Other Taxes**" means all present or future stamp, court or documentary, intangible, recording, filing or similar Taxes that arise from any payment made under, from the execution, delivery, performance, enforcement or registration of, from the receipt or perfection of a security interest under, or otherwise with respect to, any Loan Document, except any such Taxes that are Other Connection Taxes imposed with respect to an assignment;

1.106 "**Party**" means a party to this Loan Agreement;

1.107 "**Perfection Exceptions**" has the meaning given to such term in the Guarantee and Collateral Agreement;

1.108 "**Permitted Acquisition**" means any purchase or other acquisition of assets, property, business units or divisions, or equity interests of any person, so long as:

(i) no Default or Event of Default shall have occurred and be continuing at the time of, or would immediately result from, the consummation of such acquisition;

(ii) such assets, property, business units or divisions, or person whose equity interests are being acquired, are in the biopharma business or reasonably related, ancillary or complementary businesses thereto (including reasonably related, complementary, synergistic or ancillary technologies) in which the Group is then engaged;

(iii) the Loan Parties shall, to the extent applicable, comply with the requirements of (x) Clause 8.1.25 of this Loan Agreement with respect to such acquired equity interests and (y) the Guarantee and Collateral Agreement and Clause 8.1.26 of this Loan Agreement with respect to such acquired assets and property, in each case within the timeframes set forth therein; and

(iv) any Financial Indebtedness or Security Interests assumed in connection with such acquisition are otherwise permitted hereunder;

(v) such acquisition was not preceded by an unsolicited tender offer for such equity interests by, or proxy contest initiated by, the Borrower Representative or any of its Affiliates;

(vi) the Borrowers would be in compliance with either of the financial covenants set forth in Clause 8.3 as of the most recently completed test period for such financial covenant ending prior to such transaction for which financial statements have been delivered pursuant to Clause 8.1.9 after giving pro forma effect to such transaction as if such transaction had occurred as of the first day of such test period; and

(vii) the Borrower Representative shall deliver Pro Forma Projections demonstrating that Cash Flow shall not be reduced by more than [**]% in the aggregate for the last three months of the period covered by such Pro Forma Projections (taken as a whole) as compared to the last three months of the standalone (i.e. not pro forma) board-approved projections for such period (taken as a whole);

provided, that (A) in the case of any acquisition of assets that will not be owned by a Loan Party, or any equity interests of a person who shall not become a Loan Party, the consideration for all such acquisitions shall not exceed $[**] in any fiscal year (or, at the election of the Borrower Representative, $[**] for any one such acquisition; provided that, if the Borrower makes such election, no Permitted Acquisition of a non-Loan Party or assets to be held by a non-Loan Party shall have occurred prior to such acquisition and no Permitted Acquisition of a non-Loan

Party or assets to be held by a non-Loan Party shall be permitted following such acquisition) and (B) for any Permitted Acquisition, the aggregate consideration for such Permitted Acquisition, when taken together with the aggregate consideration of all Permitted Acquisitions consummated after the Closing Date and prior to such time, shall not exceed $[**], unless in the case of this clause (B) the Acquisition Consideration Condition is satisfied at the time of the consummation of such acquisition.

1.109 "**Permitted Bond Hedge Transaction**" means any call or capped call option (or substantively equivalent derivative transaction) pursuant to which the Borrower Representative acquires an option requiring the counterparty thereto to deliver to the Borrower Representative (i) shares of common stock of the Borrower Representative (or other securities or property following a merger event, reclassification or other change of the common stock of the Borrower representative), (ii) the cash value thereof or (iii) a combination thereof, in each case, from time to time upon exercise of such option entered into by the Borrower Representative in connection with the conversion of any Permitted Convertible Debt; *provided* that the purchase price for such Permitted Bond Hedge Transaction, less the proceeds received by the Borrower Representative from the sale of any related Permitted Warrant Transaction, does not exceed the net proceeds received by the Borrower Representative from the sale of such Permitted Convertible Debt issued in connection with such Permitted Bond Hedge Transaction;

1.110 "**Permitted Convertible Debt**" means Financial Indebtedness that is either (i) convertible into a fixed number (subject to customary anti-dilution adjustments, "make-whole" increases and other customary changes thereto) of shares of common stock of the Borrower Representative (and cash in lieu of fractional shares) (or other securities or property following a merger event, reclassification or other change of the common stock of the Borrower Representative) or (ii) sold as units with call options, warrants or rights to purchase (or substantially equivalent derivative transactions) that are exercisable for shares of common stock of the Borrower Representative (and cash in lieu of fractional shares) (or other securities or property following a merger event or other change of the common stock of the Borrower Representative); *provided that* such Financial Indebtedness shall (a) not require any scheduled amortization or otherwise require payment of principal in cash or, if the Cash Interest Condition is not satisfied as of the date of the issuance of such Financial Indebtedness, cash-pay interest prior to, or have a scheduled maturity date, in each case earlier than [**] after the Maturity Date (it being understood that neither (x) any offer to purchase such Financial Indebtedness as a result of "change of control" or "fundamental change" under and as defined in any indenture governing any Permitted Convertible Debt, in each case at a price no greater than [**]% of the principal amount of such Notes repurchased plus accrued but unpaid interest to, but not including, the date of such repurchase (which for the avoidance of doubt shall not be calculated at a premium) nor (y) any early conversion of such Financial Indebtedness into shares of the Borrower's common stock in accordance with the terms thereof, in each case, shall violate the restriction of this clause (a)), (b) be unsecured or, if secured, be (i) secured by no collateral other than Collateral securing this Loan Facility and (ii) subordinated to the obligations of the Loan Parties under the Loan Documents pursuant to terms satisfactory to the Lender Representative in its sole discretion; (c) not be guaranteed by any Subsidiary of the Borrowers, and (d) shall be Financial Indebtedness of the Borrowers and not any Subsidiary thereof; *provided*, *further*, that if any Borrower or any of its Affiliates seeks to issue any Financial Indebtedness that it intends to constitute Permitted Convertible Debt (the "**Proposed Convertible Debt**"), the Borrower Representative shall promptly provide written notice to the Lender specifying the material proposed terms of such Proposed Convertible Debt.

Notwithstanding anything to the contrary in this Loan Agreement or any other Loan Document, all terms of an accounting or financial nature used herein shall be construed, and all computations of amounts and ratios referred to herein shall be made without giving effect to any treatment of Financial Indebtedness in respect of convertible debt instruments under Accounting Standards Codification 470-20 (or any other Accounting Standards Codification or Financial Accounting Standard having a similar result or effect) to value any such Financial Indebtedness in a reduced or bifurcated manner as described therein, and such Financial Indebtedness shall at all times be valued at the full stated principal amount thereof. For the avoidance of doubt, and without limitation of the foregoing, Permitted Convertible Debt shall at all times be valued at the full stated principal amount thereof and shall not include any reduction or appreciation in value of the shares deliverable upon conversion thereof;

1.111 "**Permitted Convertible Debt Call Transaction**" means any Permitted Bond Hedge Transaction and any Permitted Warrant Transaction;

1.112 "**Permitted Distributions**" means:

(i) dividends, distributions or other payments by any wholly-owned Subsidiary on its equity interests to, or the redemption, retirement or purchase by any wholly-owned subsidiary of its equity interests from, Borrower or any other wholly-owned Subsidiary;

(ii) dividends, distributions or other payments by any non-wholly-owned Subsidiary on its equity interests to, or the redemption, retirement or purchase by any non-wholly-owned Subsidiary of its equity interests from, each owner of such non-wholly-owned Subsidiary's equity interests based on their relative ownership interests of the relevant class of such equity interests;

(iii) any such payments made in order to consummate a Permitted Acquisition or other Permitted Investment by Borrower or any of its Subsidiaries;

(iv) the payment of dividends by Borrower solely in non-cash pay and non-redeemable capital stock (including, for the avoidance of doubt, dividends and distributions payable solely in equity interests);

(v) cash payments in lieu of the issuance of fractional shares arising (A) out of stock dividends, splits or combinations or (B) in connection with the exercise of warrants, options or other securities convertible into or exchangeable for equity interests;

(vi) (i) the receipt or acceptance of the return to Borrower or any of its Subsidiaries of equity interests of Borrower constituting a portion of the purchase price consideration in settlement of indemnification claims, or as a result of a purchase price adjustment (including earn-outs or similar obligations) resulting from Permitted Acquisitions or Permitted Investments and (ii) payments or distributions to equity holders pursuant to appraisal rights required under requirements of law;

(vii) the distribution of rights pursuant to any shareholder rights plan or the redemption of such rights for nominal consideration in accordance with the terms of any shareholder rights plan in effect on the Closing Date;

(viii) purchases of equity interests of Borrower or its Subsidiaries in connection with the exercise of stock options or warrants or similar rights by way of cashless exercise, or in connection with the satisfaction of withholding tax obligations;

(ix) issuance to directors, officers, employees or contractors of Borrower of common stock of Borrower upon the exercise of options or the vesting of restricted stock, restricted stock units, or other rights to acquire common stock of Borrower pursuant to plans or agreements approved by Borrower's Board of Directors or stockholders;

(x) the repurchase, retirement or other acquisition or retirement for value of equity interests of Borrower or any of its Subsidiaries held by any future, present or former employee, consultant, officer or director (or spouse, ex-spouse or estate of any of the foregoing or trust for the benefit of any of the foregoing or any lineal descendants thereof) of Borrower or any of its Subsidiaries pursuant to any management equity plan or stock option plan or any other management or employee benefit plan or agreement, or any stock subscription or shareholder agreement or employment agreement, or as otherwise approved by the board of directors of the relevant Group Company; provided, however, that the aggregate payments made under this clause (x) do not exceed in any calendar year the sum of (i) $[**] plus (ii) [**]; and

(xi) the payment of customary fees and reasonable out of pocket expenses to directors of the Group Companies and indemnities provided on behalf of directors and officers of the Group Companies, in each case, in the ordinary course of business and to the extent attributable to the operation of the Group Companies;

1.113 "**Permitted Financial Indebtedness**" has the meaning given to that term in Clause 8.2.2;

1.114 "**Permitted Licenses**" means:

(i) any license, sublicense and any other agreement that grants any covenant not to sue, option or other preferential right for a license, or other similar right or immunity, under any Intellectual Property, entered into by a Group Company with a person that is not an Affiliate of any Group Company and that involves the granting by such person to such Group Company of any rights to such Intellectual Property for use in connection with the Group's business, including for research, development, manufacture, commercialization (including commercial sales to end users), marketing, promotion, co-promotion, sales, import, export or distribution of any product or services;

(ii) any license, sublicense and any other agreement that grants any covenant not to sue, option or other preferential right for a license, or other similar right or immunity, under any Intellectual Property, entered into by a Loan Party with any other Loan Party that involves the granting by such Loan Party to such other Loan Party of any rights to such Intellectual Property for use in connection with such other Loan Party's business, including for research, development, manufacture, commercialization (including commercial sales to end users), marketing, promotion, co-promotion, sales, import, export or distribution of any product or services;

(iii) any license, sublicense and any other agreement that grants any covenant not to sue, option or other preferential right for a license, or other similar right or immunity, under any Intellectual Property, entered into by a Loan Party with a Person that is not an Affiliate of any Loan Party and that involves the granting by such Loan Party to such Person of any rights to such Intellectual Property on a non-exclusive basis for any purpose;

(iv) any license, sublicense and any other agreement that grants any covenant not to sue, option or other preferential right for a license, or other similar right or immunity, under any Intellectual Property other than Intellectual Property relating to vadadustat or Auryxia®, entered into by a Loan Party with a Person that is not an Affiliate of any Loan Party and that involves the granting by such Loan Party to such Person of any rights to such Intellectual Property on an exclusive basis for use in connection with such Person's business, including research, development, manufacture, commercialization (including commercial sales to end users), marketing, promotion, co-promotion, sales import, export or distribution, of products and services; provided, that any such exclusive license that is exclusive to territory within the United States shall be subject to the consultation (but not the consent) of the Lender Representative;

(v) any license, sublicense and any other agreement that grants any covenant not to sue, option or other preferential right for a license, or other similar right or immunity, under any Intellectual Property relating to vadadustat or Auryxia®, entered into by a Loan Party with a Person that is not an Affiliate of any Loan Party and that involves the granting by such Loan Party to such Person of any rights to such Intellectual Property on an exclusive basis in territories where the Loan Parties currently do not have a then existing commercial partner for commercial exploitation of vadadustat or Auryxia®, for use in connection with such Person's business, including research, development, manufacture, commercialization (including commercial sales to end users), marketing, promotion, co-promotion, sales import, export or distribution, of vadadustat or Auryxia®, as applicable, in such territories; and

(vi) any licenses existing on the Closing Date as set forth on Schedule G hereto.

1.115 "**Permitted Investments**" has the meaning given to that term in Clause 8.2.6;

1.116 "**Permitted Security Interests**" has the meaning given to such term in Clause 8.2.3;

1.117 "**Permitted Transfers**" has the meaning given to that term in Clause 8.2.1;

1.118 **"Permitted Warrant Transaction"** means any call option, warrant or right to purchase (or substantively equivalent derivative transaction) relating to the Borrower Representative's common stock (or other securities or property following a merger event, reclassification or other change of the common stock of the Borrower Representative) sold by the Borrower Representative substantially concurrently with any purchase by the Borrower Representative of a related Permitted Bond Hedge Transaction.

1.119 **"Plan"** means an employee pension benefit plan (other than a Multiemployer Plan) which is subject to Title IV of ERISA or subject to the minimum funding standards under Section 302 of ERISA or Section 412 of the Code and that is sponsored, maintained, contributed to or required to be contributed to by Borrowers or any ERISA Affiliate.

1.120 "**Pro Forma Projections**" means, with respect to any acquisition, pro forma projections for the twelve fiscal month period immediately following such transaction.

1.121 "**Register**" has the meaning given in Clause 15.5.

1.122 **"Regulation T"** means Regulation T of the Board as from time to time in effect and all official rulings and interpretations thereunder or thereof;

1.123 "**Regulation U**" means Regulation U of the Board as from time to time in effect and all official rulings and interpretations thereunder or thereof;

1.124 **"Regulation X"** means Regulation X of the Board as from time to time in effect and all official rulings and interpretations thereunder or thereof;

1.125 **"Related Fund"** in relation to a fund or account (the "first fund"), means: (i) a fund or account which is managed or advised by the same investment manager or investment adviser as the first fund; or (ii) if it is managed by a different investment manager or investment adviser, a fund or account whose investment manager or investment adviser is an Affiliate of the investment manager or investment adviser of the first fund; or (iii) that investment manager or investment adviser itself.

1.126 "**Relevant Governmental Body**" means the Term SOFR Administrator, the Federal Reserve Board or the Federal Reserve Bank of New York, or a committee officially endorsed or convene by the Federal Reserve Board or the Federal Reserve Bank of New York or any successor thereto;

1.127 "**Repayment Schedule**" has the meaning given in Clause 5.1.1;

1.128 "**Representative**" means any delegate, agent, manager, administrator, nominee, attorney, trustee or custodian;

1.129 **"Resolution Authority**" shall mean an EEA Resolution Authority or, with respect to any UK Financial Institution, a UK Resolution Authority.

1.130 "**Sanctioned Person**" means, at any time, any person, organisation or vessel that is: (i) listed on a Sanctions List; (ii) a government of a Designated Jurisdiction; (iii) an agency or instrumentality of, a government of a Designated Jurisdiction; (iv) located, organised, operating from, incorporated or resident in a Designated Jurisdiction; (v) any person 50% or greater owned or controlled by any such person or persons described in (i) - (iv) above; (vi) otherwise a target of Sanctions; or (vii) acting on behalf of any of the persons listed in paragraphs (i) - (vi) above, for the purposes of evading or avoiding, or having the intended effect of or intending to evade or avoid, or facilitating the evasion or avoidance of, any Sanctions;

1.131 "**Sanctions**" means all economic or financial sanctions, regulations, sectoral sanctions, secondary sanctions, trade embargoes or other restrictive measures enacted, implemented, imposed, administered or enforced from time to time by any Sanctions Authority;

1.132 "**Sanctions Authority**" means any agency or person which is duly appointed, empowered or authorised to enact, administer, implement and/or enforce Sanctions, including (without limitation): (i) the United Nations Security Council; (ii) the European Union or any of its member states; (iii) the United States government, including the United States Department of the Treasury (including the Office of Foreign Assets Control ("**OFAC**")), the United States Department of State and the United States Department of Commerce; and (iv) the United Kingdom government, including HM Treasury, the Foreign, Commonwealth and Development Office and the Department for Business, Energy & Industrial Strategy, including, in each case, any successor, replacement or other governmental institution or agency of the foregoing;

1.133 "**Sanctions List**" means the "Specially Designated Nationals and Blocked Persons" list administered by OFAC, the EU Consolidated List of Financial Sanctions Targets, the Consolidated List of Financial Sanctions Targets issued by HM Treasury, or any similar list administered or maintained and made public by any Sanctions Authority each as amended, supplemented and/or substituted from time to time;

1.134 "**Security Documents**" means the Initial Security and Guarantee Documents, and any other applicable document, in the agreed form, evidencing the guarantees provided by and security over assets of any Loan Party, or any document entered into by any Loan Party creating a Security Interest or guarantee in favor of the Lender Representative or otherwise designated in writing as a Security Document;

1.135 "**Security Interest**" means any mortgage, charge (whether fixed or floating, legal or equitable), pledge, lien, hypothecation, assignment by way of security or otherwise, trust arrangement, title retention or encumbrance or enforceable right of a third party, any other type of security interest or preferential arrangement having a similar effect to any of the foregoing or in the nature of security of any kind whatsoever and in any jurisdiction; provided, that in no event shall an operating lease (as determined prior to the adoption of ASC 842) or an agreement to sell be deemed to constitute a Security Interest.

1.136 "**Security Period**" means the period commencing on the date of this Loan Agreement and ending on the date all payment obligations (other than contingent indemnification and expense reimbursement obligations for which no claim has been made) have been paid in full and all loan commitments under this Loan Agreement have expired or been terminated;

1.137 "**SOFR**" means, with respect to any day, the secured overnight financing rate as administered by the SOFR Administrator;

1.138 "**SOFR Administrator**" shall mean the Federal Reserve Bank of New York (or a successor administrator of the secured overnight financing rate);

1.139 "**subsidiary**" means, with respect to any Person (herein referred to as the "parent"), any corporation, partnership, limited liability company, association or other business entity (a) of which securities or other ownership interests representing more than 50% of the equity or more than 50% of the ordinary voting power or more than 50% of the general partnership interests are, at the time any determination is being made, owned, Controlled or held, or (b) that is, at the time any determination is made, otherwise Controlled, by the parent or one or more subsidiaries of the parent or by the parent and one or more subsidiaries of the parent;

1.140 "**Subsidiary**" means any subsidiary of the Borrower Representative;

1.141 "**Subsidiary Guarantor**" means any subsidiary of the Borrower Representative that is or becomes a party to the Guarantee and Collateral Agreement. As of the Closing Date, the only Subsidiary Guarantor is Keryx Biopharmaceuticals, Inc., a Delaware corporation;

1.142 "**Taxes**" means all present and future income, value added and other taxes, levies, imposts, duties, deductions, charges and withholdings in the nature of taxes whatsoever (including backup withholding), together with interest thereon and assessments, fees, charges or penalties with respect thereto made on or in respect thereof and "**Tax**" shall be construed accordingly;

1.143 "**Term SOFR**" means the Term SOFR Reference Rate for a tenor of one month on the day (such day, the "**Periodic Term SOFR Determination Day**") that is [**] prior to the first day of such calculation, as such rate is published by the Term SOFR Administrator; provided that that if as of [**]., New York City time, on any Periodic Term SOFR Determination Day the Term SOFR Reference Rate has not been published by the Term SOFR Administrator and a Benchmark Replacement Date with respect to the Term SOFR Reference Rate has not occurred, then Term SOFR will be the Term SOFR Reference Rate as published by the Term SOFR Administrator on the first preceding Business Day for which such Term SOFR Reference Rate was published by the Term SOFR Administrator so long as such first preceding Business Day is not more than [**] prior to such Periodic Term SOFR Determination Day;

1.144 "**Term SOFR Administrator**" shall mean CME Group Benchmark Administration Limited (or a successor administrator of the Term SOFR Reference Rate selected by the Lender Representative in its reasonable discretion);

1.145 "**Term SOFR Reference Rate**" means the forward-looking term rate based on SOFR;

1.146 "**Total Loan Facility**" means the amount set forth in the Loan Facility Terms;

1.147 "**Tranche**" means an amount drawn down out of the Total Loan Facility pursuant to this Loan Agreement (it being understood that there shall be three tranches, as set forth in the Loan Facility Terms);

1.148 "**Transaction Fee**" means the amount set forth in the Loan Facility Terms;

1.149 "**Unpaid Sum**" means any sum due and payable but unpaid by any Loan Party under any Loan Document;

1.150 "**Unadjusted Benchmark Replacement**" shall mean the Benchmark Replacement, excluding the related Benchmark Replacement Adjustment;

1.151 "**United States**" and "**U.S.**" mean the United States of America;

1.152 "**U.S. Person**" means any Person that is a "United States person" as defined in Section 7701(a)(30) of the Code;

1.153 "**UK Financial Institution**" shall mean any BRRD Undertaking (as such term is defined under the PRA Rulebook (as amended form time to time) promulgated by the United Kingdom Prudential Regulation Authority) or any person subject to IFPRU 11.6 of the FCA Handbook (as amended from time to time) promulgated by the United Kingdom Financial Conduct Authority, which includes certain credit institutions and investment firms, and certain affiliates of such credit institutions or investment firms;

1.154 "**UK Resolution Authority**" shall mean the Bank of England or any other public administrative authority having responsibility for the resolution of any UK Financial Institution;

1.155 "**USA PATRIOT Act**" shall mean The Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (Title III of Pub. L. No. 107-56 (signed into law October 26, 2001));

1.156 "**Vadadustat FDA Approval**" means the receipt by the Borrower Representative of notice from the United States Food and Drug Administration granting the Borrower Representative or a Subsidiary Guarantor marketing approval for vadadustat;

1.157 "**Vadadustat Withdrawal Event**" means the withdrawal by the United States Food and Drug Administration of the marketing approval for vadadustat pursuant to a final, non-appealable determination;

1.158 "**VAT**" means (i) any value added tax imposed by the United Kingdom Value Added Tax Act 1994; (ii) any tax imposed in compliance with the Council Directive of 28 November 2006 on the common system of value added tax (EC Directive 2006/112); and (iii) any other tax of a similar nature, whether imposed in the United Kingdom or in a member state of the European Union in substitution for, or levied in addition to, such tax referred to in paragraph (i) or (ii) above, or imposed elsewhere.

1.159 "**[**]**" means [**];

1.160 "**Warrant Instrument**" means a warrant instrument, in the agreed form, pursuant to which warrants over shares in the Borrower Representative are to be issued by the Borrower Representative to Kreos Capital VII Aggregator SCSp on the date of this Loan Agreement;

1.161 ***Write-Down and Conversion Powers***" means, (a) with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule and (b) with respect to the United Kingdom, any powers of the applicable Resolution Authority under the Bail-In Legislation to cancel, reduce, modify or change the form of a liability of any UK Financial Institution or any contract or instrument under which that liability arises, to convert all or part of that liability into shares, securities or obligations of that person or any other person, to provide that any such contract or instrument is to have effect as if a right had been exercised under it or to suspend any obligation in respect of that liability or any of the powers under that Bail-In Legislation that are related to or ancillary to any of those powers.

2. **INTERPRETATION**

2.1 In this Loan Agreement (unless the context requires otherwise) any reference to:

2.1.1 any law or legislative provision includes a reference to any subordinate legislation made under that law or legislative provision before the date of this Loan Agreement, to any modification, re-enactment or extension of that law or legislative provision made before that date and to any former law or legislative provision which it consolidated or re-enacted before that date;

2.1.2 any gender includes a reference to other genders and the singular includes a reference to the plural and vice versa;

2.1.3 a Clause or Schedule is to a clause or schedule (as the case may be) of or to this Loan Agreement;

2.1.4 a "person" or "Person" shall be construed as including a reference to an individual, firm, company, corporation, partnership, unincorporated body of persons or any country (or state thereof or any agency thereof);

2.1.5 an "amendment" includes a supplement, novation or re-enactment in writing and "amended" is to be construed accordingly;

2.1.6 "assets" includes present and future properties;

2.1.7 an "authorization" includes an authorization, consent, approval, resolution, licence, exemption, filing, registration and notarisation;

2.1.8 a "regulation" includes any regulation, rule, official directive, request or guideline (whether or not having the force of law) of any governmental, inter-governmental or supranational body, agency, department or regulatory, self-regulatory or other authority or organisation;

2.1.9 [reserved];

2.1.10 "holding company" means, in relation to a person, any other person in respect of which it is a subsidiary;

2.1.11 [reserved];

2.1.12 this Loan Agreement (or to any specified provision of this Loan Agreement), any other document or a provision of any other document, shall be construed as a reference to this Loan Agreement, that document or a provision of that document as in force for the time being and as amended in accordance with the terms thereof, or, as the case may be, with the agreement of the relevant parties and (where such consent is, by the terms of this Loan Agreement or the relevant document, required to be obtained as a condition to such amendment being permitted) the prior written consent of the Lender;

2.1.13 "other" and "otherwise" are not to be construed ejusdem generis with any foregoing words where a wider construction is possible and "include" and "including", "in particular", "for example" or any similar expression are to be construed as being by way of illustration or emphasis only and are not to be construed as, nor shall they take effect as, limiting the generality of any foregoing words;

2.1.14 a document being in "agreed form" is a document which is in a form reasonably acceptable to the Borrower Representative and the Lender Representative; and

2.1.15 $ is the official currency of the United States.

2.2 If a payment date in relation to any payment from the Borrowers or any other Loan Party under this Loan Agreement or the Security Documents falls on a day which is not a Business Day, the relevant payment date shall be the next Business Day in that calendar month (if there is one) or the preceding Business Day (if there is not). If the performance of any other obligation by a Group Company under the Loan Documents is stated to be due on a day which is not a Business Day, the relevant date of performance shall be the immediately succeeding Business Day.

2.3 A Default (other than an Event of Default) is continuing if it has not been remedied or waived and any reference to an Event of Default being continuing is a reference to an Event of Default that has not been waived by the Lender.

2.4 The headings in this Loan Agreement are inserted for convenience only and do not form part of this Loan Agreement and do not affect its interpretation.

2.5 If there is any conflict between the provisions of this Loan Agreement and the provisions of any other Loan Document, the provisions of this Loan Agreement shall prevail.

3. **LOAN FACILITY**

3.1 **Lender's Commitment**

3.1.1 Subject to Clause 3.5 below, the Lender shall and agrees hereby to make available to the Borrowers the Total Loan Facility under the terms of this Loan Agreement, to be drawn down as set forth in the Loan Facility Terms and in accordance with Clause 3.2.

3.1.2 The Lender shall not be under any commitment to advance any part of the Loan after the Expiry Date of the applicable part of such Loan or upon the earlier termination of the Loan Facility, or on dates other than those specified in this Loan Agreement.

3.1.3 The unutilised portion (if any) of the Loan Facility shall be cancelled after the expiry of the final period for Drawdown as set forth in the Loan Facility Terms, whereupon the Total Loan Facility shall be reduced accordingly.

3.1.4 In granting the Loan Facility, the Lender is relying on the representations and warranties contained in Clause 7.

3.1.5 Each Drawdown made under the Loan Facility shall be secured by the Security Documents.

3.2 Date of Advance(s) of the Loan

3.2.1 Subject to Clauses 3.1.2 and 3.2.2, (and subject to the satisfaction of the relevant conditions set forth in Clause 3.5), each Tranche shall be advanced and made available to the Borrowers on the relevant Drawdown Date to the extent the Borrower has delivered an executed Drawdown Notice to the Lender Representative at least [**] (or in the case of Tranche A, at least [**]) prior to the requested Drawdown Date (or such shorter period as the Lender Representative may reasonably agree in writing). Each Drawdown Notice in respect of Tranche B or Tranche C must be received by the Lender Representative at least [**] prior to the end of the relevant Expiry Date. No more than one Drawdown Notice may be served in respect of each Tranche. Once a Drawdown Notice has been delivered to the Lender Representative, it is irrevocable. Each Tranche requested to be advanced pursuant to a Drawdown Notice shall be in an amount equal to or greater than the Minimum Drawdown Amount.

3.2.2 If the requested Drawdown Date falls on a day which is not a Business Day, the Lender shall only be obligated to pay the relevant Tranche to the applicable Borrower on the next Business Day in that calendar month. Where there is no next Business Day in that calendar month, the Lender shall only be obligated to pay the relevant Tranche to the applicable Borrower on the first Business Day of the next calendar month.

3.3 Method of Disbursement

3.3.1 The payment by the Lender to the Drawdown Account, or to such other bank account as is agreed in writing between the Lender and the Borrower Representative, shall constitute the making of the Loan (or the relevant part thereof) and each Borrower shall thereupon become indebted, as principal and direct obligor, to the Lender in an amount equal to the Loan (or the relevant part thereof) and all interest thereon and other payments due in connection therewith under this Loan Agreement.

3.3.2 Any delay or failure by the Lender to fund any loan as a result of a disruption not under the Lender's control, including, without limitation, due to a cyber-attack, computer hacking or similar event shall not constitute a breach by the Lender of its obligations under this Loan Agreement.

3.4 [Reserved]

3.5 Conditions Precedent requirements relative to the Advance of the Loans

3.5.1 Tranche A: The obligation of the Lender to make the initial Loan under Tranche A on the Closing Date is subject solely to the satisfaction or waiver of each of the following conditions (except for any such items for which a post-closing period for completion has been granted pursuant to Schedule C):

(i) (A) the provision of copies of the articles of incorporation or formation, including all amendments thereto, of each Loan Party, certified as of a recent date by the Secretary of State of the state of its organization, and a certificate as to the good standing of each Loan Party as of a recent date from such Secretary of State and (B) a certificate of the Secretary, Financial Officer or Assistant Secretary of each Loan Party, dated the date of this Loan Agreement and certifying (I) that attached thereto is a true and complete copy of the by-laws or limited liability company agreement, as applicable, of such Loan Party as in effect on such date and at all times since a date prior to the date of the resolutions described in clause (II) below, (II) that attached thereto is a true and complete copy of resolutions duly adopted by the board of directors or other applicable governing body of such Loan Party authorizing the execution, delivery and performance of the Loan Documents to which such Person is a party and, in the case of the Borrowers, the borrowings hereunder, and that such resolutions have not been modified, rescinded or amended and are in full force and effect, (III) that the certificate or articles of incorporation or formation of such Loan Party have not been amended since the date of the last amendment thereto shown on the certificate of good standing furnished pursuant to clause (A) above, and (IV) as to the incumbency and specimen signature of each officer executing any Loan Document or any other document delivered in connection herewith on behalf of such Loan Party (which certificate shall be countersigned by another officer to certify as to the incumbency and specimen signature of the Secretary, Financial Officer or Assistant Secretary executing such certificate);

(ii) the relevant Parties having executed and delivered to the Lender Representative copies of the Initial Security and Guarantee Documents and this Loan Agreement, and each other document required to be delivered on the Closing Date under the Initial Security and Guarantee Documents (including share certificates and stock transfer forms where relevant). The Lender Representative shall have a security interest in the Collateral of the type and priority described in each of the Security Documents;

(iii) the Borrowers' compliance with Clauses 10.1 and (to the extent an invoice with respect thereto has been provided to the Borrower Representative at least [**] prior to the Closing Date), 10.3.1(i);

(iv) evidence of the Borrowers' compliance with Clause 8.1.15(ii);

(v) [reserved];

(vi) a customary legal opinion from Latham & Watkins LLP, dated as of the date of this Loan Agreement;

(vii) to the extent requested by the Lender in writing at least [**] prior to the Closing Date, all documents, confirmations and evidence required by the Lender to satisfy its "know your customer" requirements or similar identification checks (including the USA PATRIOT ACT) in order to meet its obligations under applicable money laundering, or similar, laws and regulations;

(viii) receipt by the Lender of customary lien searches in the jurisdiction of organization of each Loan Party;

(ix) a certificate, dated as of the date of this Loan Agreement and signed by a Financial Officer of the Borrower Representative, confirming compliance with the conditions precedent set forth in the following clauses (x) and (xi);

(x) the representations and warranties set forth in Clause 7 and in each other Loan Document shall be true and correct in all material respects as of the Closing Date with the same effect as though made as of such date (except to the extent that such representations and warranties specifically refer to an earlier date, in which case they shall be true and correct in all material respects as of such earlier date);

(xi) at the time of, and immediately after giving effect to the borrowing as of such Drawdown Date, no Default or Event of Default shall have occurred and be continuing;

(xii) delivery to the Lender Representative of a customary solvency certificate (with "solvency" to be defined in an manner consistent with Clause 7.1.42);

(xiii) delivery to Kreos Capital VII Aggregator SCSp of a duly executed copy of the Warrant Instrument;

(xiv) delivery to Kreos Capital VII Aggregator SCSp of a duly executed copy of the relevant warrant certificate to be issued in accordance with the terms of the Warrant Instrument; and

(xv) delivery to the Lender Representative of an executed intercompany subordination agreement (the "**Intercompany Subordination Agreement**").

3.5.2 Tranche B: The obligation of the Lender to make the Loan under Tranche B is subject solely to the satisfaction or waiver of each of the following conditions:

(i) receipt by the Lender Representative of an executed Drawdown Notice in accordance with Clause 3.2;

(ii) the representations and warranties set forth in Clause 7 and in each other Loan Document shall be true and correct in all material respects as of the applicable Drawdown Date with the same effect as though made as of such date (except to the extent that such representations and warranties specifically refer to an earlier date, in which case they shall be true and correct in all material respects as of such earlier date);

(iii) at the time of, and immediately after giving effect to the borrowing as of the applicable Drawdown Date, no Default or Event of Default shall have occurred and be continuing; and

(iv) the Vadadustat FDA Approval has been received on or prior to the applicable Drawdown Date.

3.5.3 Tranche C: The obligation of the Lender to make the Loan under Tranche C is subject solely to the satisfaction or waiver of each of the following conditions:

(i) receipt by the Lender Representative of an executed Drawdown Notice in accordance with Clause 3.2;

(ii) Tranche B has been drawn in full prior to the applicable Drawdown Date;

(iii) the representations and warranties set forth in Clause 7 and in each other Loan Document shall be true and correct in all material respects as of the applicable Drawdown Date with the same effect as though made as of such date (except to the extent that such representations and warranties specifically refer to an earlier date, in which case they shall be true and correct in all material respects as of such earlier date);

(iv) at the time of, and immediately after giving effect to the borrowing as of the applicable Drawdown Date, no Default or Event of Default shall have occurred and be continuing; and

(v) the Borrower Representative has raised at least $[**] in cumulative gross cash proceeds in the form of equity or equity linked securities in one or more series of transactions (including any public offering, private placement or "at-the-market" offering) after the date of the Loan Agreement (any such transaction, a "**Capital Raise**").

3.6 **Post-Closing Obligations**

3.6.1 Within the time periods specified on Schedule C hereto (as each may be extended by the Lender Representative in its reasonable discretion), the Borrower Representative shall complete (or cause to be completed) such undertakings as are set forth on Schedule C hereto.

3.7 **Use of Funds and Collateral**

3.7.1 Unless the Lender Representative shall otherwise agree in writing, the Borrowers shall use the Loan solely for the purpose of general working capital, to repay certain existing indebtedness on the Closing Date, for other general corporate purposes and for any other purpose not prohibited by the terms of this Loan Agreement (including permitted acquisitions and investments). The Lender shall not be under any obligation to concern itself with the application of the Loan.

3.7.2 The security interest granted to the Lender Representative pursuant to the Security Documents shall form security for all monies and obligations owed to the Lender by the Borrowers or any other Loan Party pursuant to this Loan Agreement or otherwise.

4. **TERM**

4.1 Subject to Clause 15.1, this Loan Agreement is effective when executed and dated by the Lender and the Borrower Representative and shall continue until the later of (i) termination in accordance with its terms; and (ii) the date upon which each Borrower shall have performed and satisfied all its obligations (including making all payments) under this Loan Agreement and the Security Documents (other than contingent indemnification and expense reimbursement obligations for which no claim has been made).

5. **REPAYMENT AND PREPAYMENT**

5.1 **Repayments and Interim Payment**

5.1.1 The Borrowers shall repay to the Lender Representative, in advance, principal (and interest in accordance with Clause 6.1) in respect of each Tranche on each Monthly Repayment Date in the amounts specified in the repayment schedule issued by the Lender Representative prior to the relevant Drawdown Date and attached to the relevant Drawdown Notice as may be revised from time to time by the Lender Representative in accordance with Clause 5.1.3 (the "**Repayment Schedule**"), provided that all payments in relation to each Tranche shall comprise interest only for the Interest Only Period, and following the Interest Only Period, the Borrowers shall repay, in advance, all outstanding principal (and interest in accordance with Clause 6.1) in respect of each Tranche in equal payments on each Monthly Repayment Date remaining, commencing with the first Monthly Repayment Date to occur after the end of the Interest Only Period (as an illustrative example, if, after the end of the Interest Only Period, thirteen Monthly Repayment Dates remain before the Maturity Date, the Borrowers shall repay all outstanding principal and interest in thirteen equal payments: one on each such Monthly Repayment Date).

5.1.2 All payments that any Borrower makes under this Loan Agreement shall be made in full, without any deduction, set-off or counterclaim and in immediately available funds on the due date to an account which the Lender Representative shall specify to the Borrower Representative in writing at least [**] prior to the applicable Monthly Repayment Date.

5.1.3 The Lender Representative shall have the right to issue a revised Repayment Schedule from time to time if the Lender Representative, in its reasonable discretion, considers it necessary in order to correct a ministerial error or to ensure that, in respect of each Tranche, on the expiry of the relevant Loan Term there will be no amounts owing from the Borrowers to the Lender in respect of the relevant Tranche(s) (and any additional payment in respect of any prior period that is required due to such revised Repayment Schedule shall be made by the Borrowers within [**] of their receipt of such revised Repayment Schedule (or, if applicable, returned by the Lender Representative to the Borrowers within [**] of the issuance of such revised Repayment Schedule). For the avoidance of doubt, any payment of an amount shown on a then-in effect Repayment Schedule shall not result in a Default or Event of Default due to a later revision of the Repayment Schedule.

5.1.4 Each payment received by the Lender Representative in respect of any Tranche shall be applied as follows:

(i) first, to discharge all outstanding fees, costs, expenses and Unpaid Sums (other than any Unpaid Sums set forth in clause (ii) or (iii) below) that are then due to the Lender in respect of such Tranche;

(ii) secondly, to discharge all accrued and unpaid interest in respect of such Tranche; and

(iii) thirdly, to reduce the outstanding principal balance of such Tranche.

5.1.5 Any amount repaid or prepaid may not be redrawn.

5.1.6 If any Drawdown Date is not a Monthly Repayment Date, the Borrowers shall pay to the Lender Representative, on such Drawdown Date (by way of deduction by the Lender Representative of the amount of the Tranche actually advanced to the Borrowers), the Interim Payment.

5.2 **Currency of Payments**

Repayment of the Loan and payment of all other amounts owed to the Lender will be paid to the Lender Representative in the currency in which each Tranche has been provided (the "**Contractual Currency**"), i.e. in Dollars, unless otherwise agreed by the Parties in writing. The Borrowers shall bear the cost in the event of and in respect of any conversion by the Lender of an amount received by it in any currency other than the Contractual Currency.

5.3 **Advance Payment**

On each Drawdown Date with respect to a Tranche, the Borrowers shall pay to the Lender Representative (by way of deduction by the Lender Representative from the amount of the Tranche advanced to the Borrowers) the advance payment as set forth under the heading Loan Facility Terms at the beginning of this Loan Agreement with respect to the applicable Tranche (the "**Advance Payment**") which shall be held by the Lender Representative as security for and applied in or towards the repayment amount (comprising principal and interest) for the last Month of the Loan Term of that particular Tranche unless a notice under Clause 9.2.2 has been served, in which case the Advance Payment shall be applied, at the discretion of the Lender Representative, in accordance with Clause 5.1.4.

5.4 **Prepayments**

The Borrowers shall be entitled to prepay the Loan, in whole but not in part, subject to the following conditions:

5.4.1 the Borrower Representative shall submit to the Lender Representative a written notice of prepayment (which may be conditioned upon a specific event, in which case it may be revoked at any time prior to the proposed repayment date) at least [**] in advance, indicating the amount to be prepaid and the date of the proposed prepayment;

5.4.2 on the date of such optional prepayment (or of any acceleration), the Borrower Representative shall pay the Lender Representative an amount equal to:

(i) the outstanding principal amount of the Loan;

(ii) all accrued and unpaid interest;

(iii) should the prepayment be made:

(a) prior to the first anniversary of the Closing Date, a fee equal to the sum of (i) 4.00% of the amount repaid plus (ii) the aggregate of the Monthly interest payments scheduled to be paid by the Borrowers on each Monthly Repayment Date for each then-outstanding Tranche (as is set out in the relevant Repayment Schedule) for the period commencing on the date of prepayment and ending on the date that is twelve (12) months after the date of prepayment (the "**Yield Maintenance Premium**"); and/or

(b) (I) on or after the first anniversary of the Closing Date, but prior to the [**], a fee equal to 4.00% of the amount repaid, (II) on or after the [**], but prior to the [**]% of the amount repaid and (III) on or after the [**], but prior to the Maturity Date, 1.00% of the amount repaid (the "**Early Payment Fee**");

(c) Notwithstanding anything to the contrary in this Loan Agreement or any other Loan Document, it is understood and agreed that if any Loans are accelerated (whether as a result of the occurrence and continuance of any Event of Default, by operation of law or otherwise), any Yield Maintenance Premium and any Early Payment Fee, as applicable, determined as of the date of acceleration, will also be due and payable and will be treated and deemed as though the applicable Loans were repaid as of such date and shall constitute part of the obligations for all purposes herein. Any Yield Maintenance Premium and any Early Payment Fee, as applicable, shall also be payable in the event the obligations, the Loans and this Loan Agreement are satisfied or released by foreclosure (whether by power of judicial proceeding), deed in lieu of foreclosure or by any other similar means. The Group Companies expressly waive the provisions of any present or future statute or law that prohibits or may prohibit the collection of the applicable premium in connection with any such acceleration. The parties hereto further acknowledge and agree that any Yield Maintenance Premium and any Early Payment Fee, as applicable, is not intended to act as a penalty or to punish the Group Companies for any repayment or redemption of the Loans. The Group Companies expressly agree that (i) any Yield Maintenance Premium and any Early Payment Fee, as applicable, is reasonable and is the product of an arm's length transaction between sophisticated business people, ably represented by counsel, (ii) any Yield Maintenance Premium and any Early Payment Fee, as applicable, shall be payable notwithstanding the then prevailing market rates at the time payment is made, (iii) there has been a course of conduct between the Lender and the Group Companies giving specific consideration in this transaction for such agreement to pay any Yield Maintenance Premium and any Early Payment Fee, as applicable, (iv) the Group Companies shall be estopped hereafter from claiming differently than as agreed to in this Clause, (v) the agreement of the Group Companies to pay any Yield Maintenance Premium and any Early Payment Fee, as applicable, is a material inducement to the Lender to extend the Loans, and (vi) any Yield Maintenance Premium and any Early Payment Fee, as applicable, represents a good-faith, reasonable estimate and calculation of the lost profits or damages of the Lender and that it would be impractical and extremely difficult to ascertain the actual amount of damages to the Lender or profits lost by the Lender as a result of such prepayment or acceleration.

(d) Notwithstanding anything herein to the contrary, no Yield Maintenance Premium or Early Payment Fee shall be due in connection with an optional prepayment of the Loans that is in connection with a refinancing of the Loan Facility to the extent the Lender (or any Kreos Affiliate) will be a lender under such new facility.

(iv) all unpaid End of Loan Payments;

(v) all unpaid fees, costs and expenses; and

(vi) all other unpaid sums payable by the Borrowers to the Lender under the Loan Documents.

5.5 Not later than the [**] following the receipt of Net Cash Proceeds in respect of any Asset Sale or Casualty Event, in each case, in excess of $[**] per transaction (or $[**] in the aggregate per fiscal year), the Borrowers shall apply [**]% of the Net Cash Proceeds received with respect thereto to prepay outstanding Loans in accordance with Clause 5.1.4; provided, that only the amount of Net Cash Proceeds in excess of $[**] per transaction or $[**] in the aggregate per fiscal year shall be subject to prepayment pursuant to this Clause 5.5. Notwithstanding anything herein to the contrary, in lieu of making the prepayment contemplated by this Clause 5.5, the Borrower Representative may instead elect to reinvest such Net Cash Proceeds in productive assets of a kind then used or usable in the business of the Borrower Representative and its Subsidiaries (including, without limitation, through Permitted Acquisitions and Permitted Investments) or in research and development, so long as (w) such reinvestment does not materially detract from the value of the Collateral (taken as a whole) as reasonably determined by the Borrower Representative in consultation with the Lender Representative, (x) the Borrower Representative has delivered to the Lender Representative a certificate of the Borrowers' intent to reinvest such proceeds, (y) no Default or Event of Default is continuing as of the date of delivery of the certificate referred to in clause (x), and (z) such reinvestment is made within [**] after receipt of such Net Cash Proceeds (or if a binding commitment to reinvest has been entered into within such [**] period, within [**] after the end of such [**] period).

5.6 In the event that any Group Company shall receive Net Cash Proceeds from the issuance or incurrence of Financial Indebtedness for borrowed money that is not permitted to be incurred pursuant to the terms of this Loan Agreement, the Borrowers shall, substantially simultaneously with (and in any event not later than the [**] following) the receipt of such Net Cash Proceeds, apply an amount equal to [**]% of such Net Cash Proceeds to prepay the outstanding Loans in accordance with Clause 5.1.4.

5.7 In the event that the Borrowers seek to make a prepayment in connection with a refinancing of this Loan Agreement (a "Proposed Refinancing"), (i) the Borrower Representative shall provide written notice to the Lender, (ii) the Lender and its Affiliates shall have the right (but not the obligation) to make a proposal to provide all or a portion of such Proposed Refinancing by providing written notice to the Borrower Representative within [**] after receipt of any notice of a Proposed Refinancing (such proposal, a "Financing Proposal"), which the Borrower Representative may elect to accept or decline in its sole discretion; provided that, during such [**] period, neither the Borrower Representative nor any of its Subsidiaries may enter into exclusivity with a third party with respect to the Proposed Refinancing or consummate any such Proposed Refinancing.

6. INTEREST

6.1 The Borrowers shall pay to the Lender Representative, in advance, all unpaid and accrued interest in respect of each Tranche outstanding on each Monthly Repayment Date; provided that if the Borrowers prepay any Tranche on a day other than a Monthly Repayment Date, the Lender Representative shall return to the Borrower the amount of interest paid that exceeds the amount of interest that accrued.

6.2 Interest on the principal amount of each Tranche from time to time shall accrue from day to day at a rate of Adjusted Term SOFR plus six point seven five per cent (6.75% per annum) (the "**Applicable Interest Rate**"), from the applicable Drawdown Date until the repayment in full of such Loan; provided that the all-in interest rate shall not exceed 15.00% per annum. Interest on the Loan and each part thereof shall be paid to the Lender Representative on each Monthly Repayment Date in the Contractual Currency in the amounts to be specified in the Repayment Schedule.

6.3 Time of payment of any sum due from the Borrowers is of the essence under this Loan Agreement. If the Borrowers fail to pay any sum to the Lender Representative on its due date for payment (after the expiration of any grace periods therefor), the Borrowers shall pay to the Lender Representative forthwith, on demand, interest on such overdue sum (compounded on a Monthly basis) from the due date (or, if later, the date of expiration of the applicable grace period) to the date of actual payment (as well after as before judgment) at a rate equal to the Applicable Interest Rate plus three per cent (3%) per annum. If the Borrowers fail to pay any sum within [**] after such sum is due and payable, the Borrowers shall pay to the Lender forthwith on demand, a one-off late payment charge of two per cent (2)% of such overdue sum, to compensate the Lender for additional administrative expense.

6.4

(i) Notwithstanding anything to the contrary herein or in any other Loan Document, upon the occurrence of a Benchmark Transition Event, the Lender Representative and the Borrower Representative may amend this Loan Agreement to replace the then-current Benchmark with a Benchmark Replacement. No replacement of the then-current Benchmark with a Benchmark Replacement pursuant to this clause (i) shall occur prior to the applicable Benchmark Transition Start Date.

(ii) In connection with the use, administration, adoption or implementation of a Benchmark Replacement, the Lender Representative shall have the right (in consultation with the Borrower) to make Benchmark Replacement Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Loan Document, any amendments implementing such Benchmark Replacement Conforming Changes will become effective without any further action or consent of any other party to this Loan Agreement.

(iii) The Lender Representative shall promptly notify the Borrower Representative of (A) any occurrence of a Benchmark Transition Event and its related Benchmark Replacement Date and Benchmark Transition Start Date, (B) the implementation of any Benchmark Replacement, (C) the effectiveness of any Benchmark Replacement Conforming Changes and (D) (x) the removal or reinstatement of any tenor of a Benchmark pursuant to clause (iv) below and (y) the commencement or conclusion of any Benchmark Unavailability Period. Any determination, decision or election that may be made by the Lender Representative pursuant to this Clause, including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action, will be conclusive and binding absent manifest error and may be made in its or their sole discretion and without consent from any other party hereto, except, in each case, as expressly required pursuant to this Clause.

(iv) Notwithstanding anything to the contrary herein or in any other Loan Document, at any time (including in connection with the implementation of a Benchmark Replacement), (x) if the then-current Benchmark is a term rate (including the Term SOFR Reference Rate) and either (A) any tenor for such Benchmark is not displayed on a screen or other information service that publishes such rate from time to time as selected by the Lender Representative or (B) the regulatory supervisor for the administrator of such Benchmark has provided a public statement or publication of information announcing that any tenor for such Benchmark is not or will not be representative, then the Lender Representative may modify the interest period (or any similar or analogous definition) for any Benchmark settings at or after such time to remove such unavailable or non-representative tenor and (y) if a tenor that was removed pursuant to clause (x) above either (A) is subsequently displayed on a screen or information service for a Benchmark (including a Benchmark Replacement) or (B) is not, or is no longer, subject to an announcement that it is not or will not be representative for a Benchmark (including a Benchmark Replacement), then the Lender Representative may modify the interest period (or any similar or analogous definition) for all Benchmark settings at or after such time to reinstate such previously removed tenor.

(v) Upon the Borrower Representative's receipt of notice of the commencement of a Benchmark Unavailability Period, the Borrower Representative may revoke any request for a SOFR Borrowing, conversion to or continuation of SOFR Loans to be made, converted or continued during any Benchmark Unavailability Period.

7. **REPRESENTATIONS AND WARRANTIES**

7.1 Each Borrower warrants and represents to the Lender, jointly and severally, that except as set forth on Schedule H, as of the date of this Loan Agreement:

7.1.1 (i) each Loan Party and each material Domestic Subsidiary is a corporation or limited liability company, as applicable, duly organized and validly existing under the laws of its state of incorporation or formation, as applicable and (ii) each material Subsidiary that is not a Domestic Subsidiary is duly organized and validly existing under the laws of its country of incorporation;

7.1.2 each Loan Party has the corporate capacity, and has taken all corporate action and obtained all corporate consents, necessary for it:

(i) to execute the Loan Documents to which it is or is to be party;

(ii) to borrow under this Loan Agreement and to make all the payments contemplated by, and to comply with all its other obligations under the Loan Documents to which it is or is to be party; and

(iii) subject to the Perfection Exceptions, to grant the Lender Representative a first priority Security Interest in respect of the Collateral pursuant to the Security Documents to which it is or is to be party;

7.1.3 each Group Company has good, valid and marketable title to, or valid leases and licences of, and all appropriate authorizations to use, the assets necessary to carry on its business as it is being conducted, except in each case where the failure to possess the same would not reasonably be expected to have a Material Adverse Change;

7.1.4 [reserved];

7.1.5 the Loan Documents to which any Loan Party is or is to be party, do now or, as the case may be, will, upon execution and delivery (and, where applicable, registration as provided for in the Loan Documents):

(i) constitute the relevant Loan Party's legal, valid and binding obligations enforceable against it in accordance with their respective terms; and

(ii) subject to the Perfection Exceptions, create legal, valid and binding security interests enforceable in accordance with their respective terms;

in each case subject to subject to the effects of bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, and general equitable principles (whether considered in a proceeding in equity or at law);

7.1.6 the execution and (where applicable) registration by any Loan Party of the Loan Documents to which it is or is to be party and the performance of the transactions contemplated thereunder, and the borrowing by each Borrower of the Loan and the compliance by each Loan Party with the Loan Documents to which it is or is to be party, will not involve or lead to a contravention of:

(i) any applicable material law or other material legal or regulatory requirement;

(ii) the organizational documents of such Loan Party; or

(iii) any material contractual or other obligation or restriction which is binding on any Borrower or any other Group Company or any of their assets;

7.1.7 the payment obligations under the Loan Documents of the Loan Parties rank at least pari passu with the claims of all its other unsecured and unsubordinated creditors, except for obligations mandatorily preferred by law applying to companies generally;

7.1.8 all material consents, licences, approvals and authorizations required by any Loan Party in connection with the entry into, performance, validity and enforceability of the Loan Documents to which it is or is to be party have been or (upon execution thereof) shall have been obtained by the Drawdown Date and are (or upon execution thereof shall be) in full force and effect during the life of this Loan Agreement, except in each case where the failure to obtain or possess the same would not reasonably be expected to have a Material Adverse Change;

7.1.9 all authorizations necessary for the conduct of the business, trade and ordinary activities of members of the Group have been obtained or effected and are in full force and effect, except in each case where the failure to obtain or possess the same would not reasonably be expected to have a Material Adverse Change;

7.1.10 no corporate action, legal proceeding or other procedure or circumstance (including any creditors' process) described in Clauses 9.1.7 has been taken, or to the knowledge of the Borrower Representative, threatened in writing in relation to a member of the Group;

7.1.11 [reserved];

7.1.12 [reserved];

7.1.13 no financial or other written information furnished by or on behalf of any Borrower in connection with the negotiation of the Loan Documents delivered to the Lender pursuant to the Loan Documents (other than projected financial information, pro forma financial information and information of a general economic or industry nature), when taken as a whole, contains any material misstatement of fact or omits to state any material fact necessary to make the statements therein (when taken as a whole), in the light of the circumstances under which they were made, not materially misleading; provided that, with respect to projected and pro forma financial information, the Borrowers represent only that such information was prepared in good faith based upon assumptions believed to be reasonable at the time of preparation and delivery; it being understood that actual results may vary from such forecasts and that such variances may be material;

7.1.14 the Financial Statements were prepared in accordance with GAAP and consistently applied, except as expressly noted therein, and fairly represent (in conjunction with the notes thereto) in all material respects the financial condition of the Borrower Representative as at the date to which they were drawn up and the results of the Borrower Representative's operations during the financial year then ended;

7.1.15 since November 8, 2023, there has been no Material Adverse Change in the business or financial condition of the Group;

7.1.16 [reserved];

7.1.17 there is no litigation, action, proceeding, arbitration, investigation or claim pending or, so far as the Borrower Representative is aware, threatened in writing against any Group Company before any court or administrative agency which would reasonably be expected to have a Material Adverse Change;

7.1.18 no judgment or order of a court, arbitral body or agency which would reasonably be expected to have a Material Adverse Change has been made against it or any Group Company;

7.1.19 the Borrowers or the relevant Loan Party owns with good and marketable title all the Collateral, free from all security interests (other than Permitted Security Interests), and all the Collateral is in good operating condition and repair, and are adequate for the uses to which they are being put, and none of such Collateral are in need of maintenance or repairs except for ordinary, routine maintenance and repairs that are not material in nature or cost;

7.1.20 the Group has no Financial Indebtedness other than Permitted Financial Indebtedness;

7.1.21 the Group has not granted any security over its assets to any third party except for Permitted Security Interests;

7.1.22 no other event or circumstance is outstanding which constitutes a default under any other agreement or instrument which is binding on any Borrower or any other Group Company or to which its (or any of Group Company's) assets are subject, in each case, which would reasonably be expected to cause a Material Adverse Change;

7.1.23 no Borrower nor any other Group Company has breached any law or regulation which breach has or would reasonably be expected to have a Material Adverse Change;

7.1.24 no labour disputes are current or, to the best of its knowledge and belief (after having made due and careful enquiry) has been threatened in writing against any Borrower or any other Group Company which has or would reasonably be expected to have a Material Adverse Change;

7.1.25 each Borrower and each other Group Company is the sole legal and beneficial owner of, or otherwise to its knowledge, holds the necessary rights to use, the Intellectual Property used in its business other than Permitted Licenses;

7.1.26 no material part of any Intellectual Property owned by any Borrower or a Group Company that is material to its business as of the date hereof or material to the business contemplated to be conducted in the future has been judged invalid or unenforceable, in whole or in part;

7.1.27 to the knowledge of Borrower, no Borrower or a Group Company, in carrying on its business, infringes any Intellectual Property of any third party which has caused, or would reasonably be expected to cause, a Material Adverse Change;

7.1.28 each Borrower and each other Group Company has taken all formal or procedural actions (including payment of fees) as reasonably required to: (i) maintain its material Intellectual Property; (ii) maintain the confidentiality of any trade secrets; and (iii) to register any registrable Intellectual Property that is material to its business;

7.1.29 no Borrower nor any other Group Company is aware of any current, pending or threatened (in writing) challenge or objection by any third party to its use of any Intellectual Property, or to the knowledge of Borrower, the infringement of any of its Intellectual Property by any third party, in each case where such challenge, objection or infringement has caused, or would reasonably be expected to cause, a Material Adverse Change;

7.1.30 [reserved];

7.1.31 [reserved];

7.1.32 no Borrower or any Subsidiary is required to be registered as an "investment company" under the Investment Company Act of 1940;

7.1.33 none of the Borrowers, any of the Group Companies, any of their respective directors or officers, nor, to the knowledge of the Borrower Representative, any of their respective employees, or any of their respective agents who act in any capacity in connection with the Loan Facility, is or are a Sanctioned Person;

7.1.34 in the past five years, each Borrower and each of the Group Companies and each of their respective directors and officers, and, to the knowledge of the Borrower Representative, each of their respective employees and agents, in connection with their activities related to the Borrower or any Group Company, have conducted their business in compliance with all applicable Anti-Corruption Laws, Anti-Money Laundering Laws and Sanctions;

7.1.35 [reserved];

7.1.36 no loan, use of proceeds or transaction contemplated by this Loan Agreement will directly, or to the knowledge of the Borrower Representative, indirectly, violate applicable Anti-Corruption Laws, Anti-Money Laundering Laws or Sanctions;

7.1.37 each Borrower and each other Group Company have instituted and maintain in effect policies and procedures reasonably designed to promote compliance by each Borrower and each other Group Company and their respective directors, officers, employees, agents and representatives with all applicable Anti-Corruption Laws, Anti-Money Laundering Laws and Sanctions;

7.1.38 [reserved];

7.1.39 [reserved];

7.1.40 each Borrower and each other Group Company is in compliance in all material respects with the EU General Data Protection Regulation 2016/679, the Data Protection Act 2018 and any other analogous legislation in any applicable jurisdiction, in each case that is applicable to it and other than to the extent failure to so comply would not reasonably be expected to result in a Material Adverse Change;

7.1.41 no Borrower or any of its respective Subsidiaries is engaged principally, or as one of its important activities, in the business of extending credit for the purpose of buying or carrying Margin Stock. No part of the proceeds of any Loan will be used for any purpose that entails a violation of, or that is inconsistent with, the provisions of the Regulations of the Board, including Regulation T, U or X;

7.1.42 immediately after the consummation of the transactions to occur on the date of this Loan Agreement and immediately following the making of each Loan and after giving effect to the application of the proceeds of each Loan, (a) the aggregate fair value of the assets of the Group will exceed the aggregate debts and liabilities, subordinated, contingent or otherwise, of the Group; (b) the aggregate present fair saleable value of the property of the Group will be greater than the amount that will be required to pay the probable liability of the debts and other liabilities of the Group, subordinated, contingent or otherwise, as such debts and other liabilities become absolute and matured; (c) the Group does not believe that it will incur debts and liabilities, subordinated, contingent or otherwise, beyond its ability to pay such debts and liabilities as they become absolute and matured; and (d) the Group will not have unreasonably small capital with which to conduct the business in which it is engaged as such business is now conducted and is proposed to be conducted following the date of this Loan Agreement;

7.1.43 except as would not reasonably be expected to have a Material Adverse Change, each Borrower is in compliance with the applicable provisions of ERISA and the Code and the regulations and published interpretations thereunder. No ERISA Event has occurred or is reasonably expected to occur that, when taken together with all other such ERISA Events, would reasonably be expected to result in a material liability of any Borrower or any of its ERISA Affiliates. The present value of all benefit liabilities under each Plan (based on the assumptions used for purposes of Statement of Financial Accounting

Standards No. 87, as amended) did not, as of the last annual valuation date applicable thereto, exceed the fair market value of the assets of such Plan;

7.1.44 except as would not reasonably be expected to have a Material Adverse Change, each Foreign Pension Plan is in compliance with all laws applicable thereto and the respective requirements of the governing documents for such plan. With respect to each Foreign Pension Plan, no Borrower, its respective Affiliates or any of their respective directors, officers, employees or agents has engaged in a transaction which would subject any Borrower or any Subsidiary, directly or indirectly, to a tax or civil penalty which would reasonably be expected, individually or in the aggregate, to result in a Material Adverse Change. With respect to each Foreign Pension Plan, reserves have been established in the financial statements furnished to the Lender Representative in respect of any unfunded liabilities in accordance with applicable law and prudent business practice or, where required, in accordance with ordinary accounting practices in the jurisdiction in which such Foreign Pension Plan is maintained, except as would not reasonably be expected to result in a Material Adverse Change; and

7.1.45 each Borrower and its respective Subsidiaries has filed or caused to be filed all U.S. federal and state income tax returns and other material U.S. federal, state, local and foreign tax returns or materials required to have been filed by it and has paid or caused to be paid all material taxes due and payable by it and all assessments received by it, except taxes that are being contested in good faith by appropriate proceedings and for which such Borrower or such Subsidiary, as applicable, shall have set aside on its books adequate reserves.

7.1.46 The Borrowers' representations and warranties set out in this Loan Agreement shall survive the execution and dating of this Loan Agreement.

8. UNDERTAKINGS

Each Borrower undertakes to the Lender, jointly and severally, to comply with the following provisions of this Clause 8 at all times during the Security Period, except as the Lender Representative may otherwise agree in writing:

8.1 Affirmative Undertakings

8.1.1 each Borrower shall (and shall procure that each Group Company shall) comply in all respects with all laws, ordinances and regulations to which it/they may be subject, if failure so to comply has or would reasonably be expected to result in a Material Adverse Change;

8.1.2 each Borrower shall (and shall procure that each Group Company shall) obtain, effect and keep effective all permissions, licences, consents and permits which may from time to time be required to conduct its business, in each case to the extent that failure to so obtain, effect or keep effective would or would reasonably be likely to result in a Material Adverse Change.

8.1.3 each Borrower shall (and shall procure that each Group Company shall) do or cause to be done all things necessary to preserve, renew and keep in full force and effect its legal existence except in a transaction permitted under Clause 8.2.1 or 8.2.5;

8.1.4 each Borrower shall (and shall procure that each Group Company shall) comply in all respects with all laws to which it may be subject, if failure to so comply has or would reasonably be expected to result in a Material Adverse Change;

8.1.5 each Borrower shall (and shall ensure that each Group Company shall) comply with all Environmental Law and implement procedures reasonably designed to monitor compliance with and to prevent liability under any Environmental Law;

8.1.6 each Borrower shall (and to the extent any Loan Party has pledged its assets pursuant to a Security Document, each Borrower shall procure that such Loan Party shall) own only for its own account the Collateral free from all Security Interests and other interests and rights of every kind, except for Permitted Security Interests and Permitted Agreements;

8.1.7 the Borrower Representative shall provide to the Lender Representative, promptly upon becoming aware of them, the details of any litigation, arbitration or administrative proceedings which are current, threatened in writing or pending against any member of the Group and which would, if adversely determined, reasonably be expected to constitute a Material Adverse Change;

8.1.8 the Borrower Representative shall provide to the Lender Representative, promptly upon becoming aware of them, the details of any judgment or order of a court, arbitral body or agency which is made against any member of the Group and which would reasonably be expected to constitute a Material Adverse Change;

8.1.9 the Borrower Representative shall provide the Lender Representative with:

(i) within [**] after the end of each fiscal year, its audited consolidated balance sheet and related audited consolidated statements of income, stockholders' equity and cash flows showing the consolidated financial condition of the Borrower Representative and its consolidated Subsidiaries as of the close of such fiscal year and the results of its operations and the operations of such Subsidiaries during such year, together with comparative figures for the immediately preceding fiscal year, all audited by independent public accountants of recognized national standing and accompanied by an opinion of such accountants (which opinion shall not include (i) an explanatory paragraph expressing substantial doubt about the ability of the Borrower Representative and its consolidated Subsidiaries to continue as a going concern or (ii) any qualification or exception as to the scope of such audit (provided that such opinion may contain exceptions, qualifications or explanatory paragraphs that are with respect to, or resulting from, (A) an upcoming maturity date under the Loan Facility or other indebtedness incurred in compliance with this Loan Agreement, (B) any actual or potential inability to satisfy a financial maintenance covenant, including the applicable financial covenant under Clause 8.3, on a future date or in a future period, (C) a "going concern" qualification or explanatory paragraph (or similar exception) with respect to liquidity or (D) an "emphasis of matter" paragraph) to the effect that such consolidated financial statements fairly present the financial condition and results of operations of the Borrower Representative and its consolidated Subsidiaries on a consolidated basis in accordance with GAAP consistently applied, together with a customary "management discussion and analysis" provision;

(ii) within [**] after each of the first three fiscal quarters of each fiscal year of the Borrower Representative, its unaudited consolidated balance sheet and related unaudited consolidated statements of income, stockholders' equity and cash flows showing the consolidated financial condition of the Borrower Representative and its consolidated Subsidiaries as of the close of such fiscal quarter and the results of its operations and the operations of such Subsidiaries during such fiscal quarter and the then elapsed portion of the fiscal year, and comparative unaudited figures for the same periods in the immediately preceding fiscal year, all certified by one of its Financial Officers as fairly presenting the financial condition and results of operations of the Borrower Representative and its consolidated Subsidiaries on a consolidated basis in accordance with GAAP consistently applied, subject to normal year-end audit adjustments, together with a customary "management discussion and analysis" provision;

(iii) [reserved];

(iv) (A) concurrently with any delivery of financial statements under the foregoing clauses (i) and (ii) above and (B) within [**] after the end of each of the first two fiscal months of each fiscal quarter (commencing with the month ended February 29, 2024), a certificate of a Financial Officer in substantially the form attached as Schedule B to this Loan Agreement (a "**Compliance Certificate**"), (x) except with respect to any Compliance Certificate delivered pursuant to clause (B) above, certifying that no Default or Event of Default has occurred and is continuing or, if such a Default or Event of Default has occurred and is continuing, specifying the nature and extent thereof and any corrective action taken or proposed to be taken with respect thereto, (y) setting forth computations in reasonable detail satisfactory to the Lender Representative demonstrating compliance with the financial covenant contained in Clause 8.3 and (z) except with respect to any Compliance Certificate delivered pursuant to clause (B) above, including the details of any Group Company incorporated or acquired on or after the date of this Loan Agreement to the extent not previously disclosed to the Lender Representative;

(v) at the request of the Lender Representative, after the date of delivery of the financial information required pursuant to the foregoing clauses (i) and (ii), the chief executive officer and/or the chief financial officer (or other applicable senior officer) of the Borrower Representative will hold and participate in a [**] conference call or teleconference at a time selected by the Borrower Representative and reasonably acceptable to the Lender Representative to (i) review such financial information with respect to the previous [**], and the financial condition of the Borrower Representative and its Subsidiaries and (ii) discuss the operating performance, clinical progress financial condition and strategy of the Group;

(vi) within [**] of their approval by the relevant board of directors of such Group Company, a consolidated budget showing: (i) a projected quarterly consolidated profit and loss statement (presented in management statement format, excluding non-cash items such as depreciation, amortization, stock-compensation and non-recurring items), (ii) a projected quarterly cash forecast for the forthcoming financial year and (iii) solely to the extent available in the customary practice of the Group, a projected quarterly consolidated balance sheet, in each case in the form customarily prepared by the Borrower Representative (collectively, a "**Budget**");

(vii) any revised version of a Budget previously provided to the Lender Representative pursuant to clause (vi) above within [**] of the approval by the relevant board of directors of the relevant Group Company of such revised Budget;

(viii) promptly after written request therefore, such further information regarding the financial condition, business and operations of any member of the Group as the Lender Representative may reasonably request; and

(ix) all material documents or summaries thereof dispatched by the Borrower Representative and each other Group Company to all of its shareholders or to its secured creditors generally, promptly after the time they are delivered to the shareholders or secured creditors; provided that the Group shall not be required to disclose any such information that presents a conflict of interest, is confidential or otherwise protected by attorney-client privilege;

provided, that any documents required to be delivered pursuant to Clause 8.1.9 (or to the extent any such documents are included in materials otherwise filed with the SEC) may be delivered electronically or by filing with the SEC and if so delivered or filed, shall be deemed to have been delivered on the date on which such documents are posted on the relevant internet or intranet website, if any, to which the Lender Representative has access (including EDGAR); provided that the Borrower shall notify (which may be by facsimile or electronic mail) the Lender Representative of the posting of any such documents described in clauses (i) and (ii) above and provide to the Lender Representative by electronic mail electronic versions (i.e., soft copies) of such documents to the extent requested by the Lender Representative.

8.1.10 the Borrower Representative shall provide to the Lender Representative all documents, confirmations and evidence reasonably requested in writing by any Lender (through the Lender Representative) to satisfy its "know your customer" requirements or similar identification checks (including the USA PATRIOT Act) in order to meet its obligations from time to time under applicable money laundering, or similar, laws and regulations;

8.1.11 promptly upon becoming aware of a Vadadustat Withdrawal Event, the Borrower Representative shall provide notice thereof to the Lender Representative;

8.1.12 during the continuance of an Event of Default pursuant to Clause 9.1.2, 9.1.3 (solely with respect to a breach of Clause 8.3) or 9.1.7, at the written request of the Lender Representative, (x) the Lender Representative shall be entitled to have a representative attend all meetings of the Borrower Representative's (and each Group Company's) board of directors and/or any committee thereof in a non-voting observer capacity and (y) the Borrower Representative agrees to give notice of all such board and committee meetings to the Lender Representative at the same time as to its directors, and to facilitate attendance of the Lender Representative's representative at such board and/or committee meetings;

8.1.13 each Borrower shall (and shall procure that each Loan Party shall) maintain in force and promptly obtain or renew all consents required:

(i) for each Borrower and each other Loan Party to perform its obligations under the Loan Documents, as relevant;

(ii) for the legality, validity, admissibility or enforceability of the Loan Documents; and

(iii) for each Borrower and each other Loan Party to continue to own the Collateral (except to the extent such Collateral will cease to constitute Collateral as the result of a Permitted Transfer, Permitted Investment or other transaction expressly permitted by the terms of this Loan Agreement),

and each Borrower shall, and shall procure that each Loan Party shall, comply with the terms of all such consents;

8.1.14 the Borrower Representative shall notify the Lender Representative promptly after it becomes aware of the occurrence of any Event of Default, and shall thereafter keep the Lender Representative fully up to date with all material developments as reasonably requested by the Lender Representative;

8.1.15 insurance matters:

(i) the Borrower Representative shall (and shall ensure that each Group Company shall) maintain adequate risk protection through insurances on and in relation to its business and assets to the extent reasonably required on the basis of good business practice (as reasonably determined by the Borrower Representative), taking into account, inter alia, its (and any Group Company's) financial position and nature of operations. All insurances must be with reputable independent insurance companies or underwriters (as reasonably determined by the Borrower Representative);

(ii) Subject to Clause 3.6, the Borrower Representative shall (A) use reasonable best efforts to ensure that the Lender Representative shall be named as (x) an additional insured with respect to the U.S. general liability insurance policies (which, for the avoidance of doubt, shall not include any directors and officers policies, workers compensation, business interruption policies or cyber policies) maintained by a Loan Party and (y) lender's loss payee with respect to the U.S. general property insurance policies maintained by a Loan Party and (B) use commercially reasonable efforts to cause each such policy to provide that it shall not be cancelled, modified or not renewed (x) by reason of nonpayment of premium upon not less than [**] prior written notice thereof by the insurer to the Lender Representative (giving the Lender Representative the right to cure defaults in the payment of premiums) or (y) for any other reason upon not less than [**] prior written notice thereof by the insurer to the Lender Representative; provided that, unless an Event of Default shall have occurred and be continuing and the Lender Representative shall have exercised its rights pursuant to Clause 9.2 of this Loan Agreement, (1) all proceeds from insurance policies shall be paid to the applicable Loan Party, (2) to the extent any Lender receives any insurance proceeds, such Lender shall promptly turn over to the Borrower Representative such amounts received by it as an additional insured or lender's loss payee, and (3) the Lender agrees that the Borrower Representative and/or its Subsidiaries shall have the sole right to adjust or settle any claims under such insurance;

8.1.16 subject to the Perfection Exceptions and any other exceptions, thresholds, limitations and deadlines contained in this Loan Agreement or the other Loan Documents, each Borrower shall at the request of the Lender Representative from time to time (and shall procure that each Group Company shall) promptly execute and deliver such further documents creating Security Interests in favour of the Lender Representative over such assets of the relevant Group Company and in such form as the Lender Representative may reasonably require in its discretion from time to time to: (i) secure all monies, obligations and liabilities of the Borrowers and/or any Group Company to the Lender Representative under the Loan Documents; (ii) facilitate the realisation of the Collateral (it being understood that the Collateral shall not be realized upon unless an Event of Default is continuing); and/or (iii) exercise the powers conferred on the Lender Representative or a receiver or administrator appointed under any Security Document;

8.1.17 each Borrower shall (and shall procure that each Group Company shall) maintain in good working order and condition (ordinary wear and tear excepted) all of its assets necessary or desirable in the conduct of its business (subject to Permitted Transfers, Permitted Investments or other transactions permitted pursuant to the terms of this Loan Agreement);

8.1.18 each Borrower shall (and it shall procure each Group Company shall):

(i) preserve and maintain the subsistence and validity of all Intellectual Property material to the operation of its business;

(ii) use commercially reasonable efforts to prevent, and take action against, any infringement in any material respect of the Intellectual Property necessary for its business;

(iii) prosecute and maintain all applications and registrations in place in respect of material Intellectual Property which it has now or makes hereinafter and pay all registration fees and taxes necessary to maintain such Intellectual Property in full force and effect and record its interest in such Intellectual Property unless in Borrower's reasonable judgement, such Intellectual Property is either (i) immaterial or (ii) no longer required in the ordinary course of the Group's business; and

(iv) not use or permit the Intellectual Property necessary for its business to be used in a way or take any step or omit to take any step in respect of such Intellectual Property which would reasonably likely materially and adversely affect the existence or value of such Intellectual Property or imperil the right of the Group to use such Intellectual Property.

8.1.19 each Borrower shall (and shall procure that each Group Company shall) at all times comply with the requirements of all applicable Anti-Corruption Laws, Anti-Money Laundering Laws and Sanctions;

8.1.20 each Borrower shall (and shall procure that each Group Company shall) maintain in effect and enforce policies and procedures reasonably designed to promote compliance with applicable Anti-Corruption Laws, Anti-Money Laundering Laws and Sanctions;

8.1.21 each Borrower shall (and shall procure that each Group Company shall) pay and discharge all material Taxes imposed upon it or its assets within the time period allowed without incurring penalties unless and only to the extent that such payment is being contested in good faith, adequate reserves are being maintained for those Taxes and the costs required to contest them and reasonable details of which have been expressly notified to the Lender Representative in writing, and such payment can be lawfully withheld;

8.1.22 each Borrower shall (and shall procure that each Group Company shall) keep proper books of record and account in which full, true and correct entries in conformity with GAAP and all requirements of any applicable laws are made of all dealings and transactions in relation to its business and activities.

8.1.23 the Borrower Representative will, and will cause each of its Subsidiaries to, permit any representatives of the Lender Representative to visit and inspect the financial records and the properties of such person at reasonable times and as often as reasonably requested and to make extracts from and copies of such financial records, and permit any representatives designated by the Lender Representative to discuss the affairs, finances and condition of such person with the officers thereof; provided that if no Event of Default has occurred and is continuing, then the (i) the Lender Representative shall conduct no more than [**] such inspections per calendar year (in the aggregate for all such representatives) and (ii) Borrowers' reimbursement obligations with respect to such inspections shall be limited to [**] (in the aggregate for all such representatives) per calendar year;

8.1.24 each Borrower shall (and shall procure that each Group Company shall) subordinate any existing and future loans between the Group Companies to the rights and interests hereunder pursuant to the Intercompany Subordination Agreement or another subordination agreement reasonably satisfactory to the Lender Representative;

8.1.25 if the Borrower Representative shall form or acquire any new direct or indirect Subsidiary (other than an Excluded Subsidiary) or any Subsidiary shall cease to be an Excluded Subsidiary, it shall, (i) within [**] after the acquisition, formation or cessation thereof, cause any such Subsidiary that is a Domestic Subsidiary to become a Loan Party and (ii) within [**] after the acquisition, formation or cessation thereof, cause any such Subsidiary that is a Foreign Subsidiary to become a Loan Party, in each case by delivering to the Lender Representative:

(i) in the case of any such Subsidiary that is to become an additional Borrower, a duly executed joinder to this Loan Agreement in form and substance reasonably satisfactory to the Lender Representative;

(ii) in the case of any such Domestic Subsidiary, a duly executed joinder to the Guarantee and Collateral Agreement, in form and substance reasonably satisfactory to the Lender Representative;

(iii) in the case of any such Foreign Subsidiary, a New York law guarantee agreement and a security agreement governed by the laws of the jurisdiction of organization of such Foreign Subsidiary, in each case in form and substance reasonably satisfactory to the Lender Representative;

(iv) such other duly executed Security Documents and schedules as required by the Guarantee and Collateral Agreement or applicable foreign law security agreement (including Intellectual Property security agreements, if applicable), consistent with the forms (if any) delivered on the Closing Date with respect to the Borrower Representative or otherwise in form and substance reasonably satisfactory to the Lender Representative;

(v) a customary certificate containing organizational documents, resolutions, a good standing certificate from the state of incorporation of such Subsidiary and an incumbency certificate, substantially consistent with the certificate delivered pursuant to Clause 3.5.1(i); and

(vi) customary legal opinions from counsel to the Loan Parties (if customary in the relevant jurisdiction for such opinions to be provided by borrowers' counsel) with respect to the above clauses (i) through (iv); and

8.1.26 if any Loan Party shall acquire any Material Property, it shall promptly notify the Lender Representative and, if reasonably requested by the Lender Representative, shall execute and deliver a customary mortgage (together with customary ancillary documents and deliverables) in favor of the Lender Representative within [**] of such request (all such properties that are subject to a mortgage, the "**Mortgaged Properties**").

8.2 Negative Undertakings

8.2.1 each Borrower shall not (and shall procure that each Group Company shall not), by one or a series of transactions, whether related or not and whether at one time or over a period of time, sell, lease, convey, transfer, assign, licence or otherwise dispose of (each, a "**Transfer**") any asset (including (but not limited to) by any form of sale and leaseback, invoice discounting or factoring), in each case other than the following (such following items, "**Permitted Transfers**");

(i) Transfers of inventory, equipment, accounts receivable, notes receivable or other current assets in the ordinary course of business (other than, for the avoidance of doubt, pursuant to factoring or receivables financing arrangements);

(ii) the discount without recourse or sale or other disposition or conversion into notes receivable of unpaid and overdue accounts receivable arising in the ordinary course of business in connection with the compromise, collection or settlement thereof and not part of a financing transaction;

(iii) Transfers of surplus, damaged, worn out or obsolete equipment that is, in the reasonable judgment of Borrower exercised in good faith, no longer economically practicable to maintain or useful in the ordinary course of business;

(iv) the lease, assignment, license, sublicense or sublease of any real or personal property (other than Intellectual Property) in the ordinary course of business;

(v) the surrender or waiver of obligations of trade creditors or customers or other contract rights that were incurred in the ordinary course of business, including pursuant to any plan of reorganization or similar arrangement upon the bankruptcy or insolvency of any trade creditor or customer or compromise, settlement, release or surrender of a contract, tort or other litigation claim, arbitration or other disputes;

(vi) Transfers arising from foreclosures, condemnations, eminent domain, seizure, nationalization or any similar action with respect to assets, or dispositions of property subject to Casualty Events;

(vii) Transfers of property to the extent that (i) such property is exchanged for credit against the purchase price of similar replacement property that is promptly purchased or (ii) the proceeds of such Transfer are applied to the purchase price of such replacement property (which replacement property is actually promptly purchased);

(viii) the unwinding of swap contracts;

(ix) Transfers that constitute Permitted Security Interests or Permitted Distributions, or that are made pursuant to the terms of any Permitted Agreement or Permitted Investment;

(x) Transfers of cash and Cash Equivalents in the ordinary course of business for equivalent value and in a manner that is not prohibited by the terms of this Loan Agreement or the other Loan Documents;

(xi) Transfers (A) between or among Loan Parties, (B) between or among Subsidiaries that are not Loan Parties, (C) from a Subsidiary that is not a Loan Party to a Loan Party, (D) of cash and Cash Equivalents to any MSC, so long as no Default or Event of Default is continuing (provided that such MSC may only hold such cash or Cash Equivalents in an investment account (which may not be subject to a Security Interest in favor of any other person (other than Security Interests arising as a matter of law in favor of the financial institution at which such account is located)) and invest such cash pursuant to the investment policy of the Group) and (E) from a Loan Party to a member of the Group (other than an MSC) that is not a Loan Party; provided that all such Transfers pursuant to this clause (E) shall not exceed $[**] in the aggregate in any fiscal year;

(xii) (A) the sale or issuance of equity interests of any Subsidiary of Borrower to any Group Company and (B) the issuance of directors' qualifying shares and shares issued to foreign nationals to the extent required by applicable law;

(xiii) any Transfer, abandonment, cancellation, non-renewal or discontinuance of use or maintenance of Intellectual Property of the Group that the Borrower Representative reasonably determines in good faith is (i) no longer useful to the business of the Group, (ii) no longer economically practicable to maintain in the ordinary course of business or (ii) is not material to the business of the Group (taken as a whole);

(xiv) (i) the issuance or sale of any Permitted Convertible Debt by the Borrower Representative, (ii) the sale of any Permitted Warrant Transaction by the Borrower Representative, (iii) the purchase of any Permitted Bond Hedge Transaction by the Borrower Representative or (iv) the performance by the Borrower Representative of its obligations under any Permitted Convertible Debt, any Permitted Warrant Transaction or any Permitted Bond Hedge Transaction; and

(xv) any other Transfer, provided that the fair market value of all property so Transferred pursuant to this clause (xv) shall not exceed $[**] in the aggregate in any fiscal year;

8.2.2 each Borrower shall not (and shall ensure that no Group Company shall) incur or allow to remain outstanding any Financial Indebtedness, other than the following (such following items, "**Permitted Financial Indebtedness**"):

(i) under this Loan Agreement and the other Loan Documents;

(ii) Existing Financial Indebtedness;

(iii) indebtedness pursuant to intercompany arrangements permitted under Clause 8.2.6(xv);

(iv) non-speculative hedging transactions in connection with protection against interest rate or currency fluctuations and forward purchase contracts, in each case, entered into in the ordinary course of business;

(v) arising in the ordinary course of business with suppliers of goods or services with a maximum duration of [**] or that are being contested in good faith;

(vi) customer deposits and advance payments received in the ordinary course of business from customers for goods purchased in the ordinary course of business;

(vii) indebtedness arising as a result of operating leases entered into by any Group Company in the ordinary course of business;

(viii) the Permitted Agreements (including any milestone payments or similar payments pursuant to the terms thereof);

(ix) indebtedness not to exceed $[**] in the aggregate at any time outstanding, consisting of (i) indebtedness incurred to finance the purchase, lease, construction, installation, repair, or improvement of fixed or capital assets and (ii) capital lease obligations;

(x) indebtedness of with respect to letters of credit entered into in the ordinary course of business in an amount not to exceed $[**] outstanding at any time;

(xi) (i) indebtedness with respect to workers' compensation claims, payment obligations in connection with health, disability or other types of social security benefits, unemployment or other insurance obligations, reclamation and statutory obligations or (ii) indebtedness related to employee benefit plans, including annual employee bonuses, accrued wage increases and 401(k) plan matching obligations; in each case, incurred in the ordinary course of business;

(xii) indebtedness in respect of performance bonds, bid bonds, appeal bonds, surety bonds and completion guarantees and similar obligations arising in the ordinary course of business;

(xiii) indebtedness in respect of (A) automated clearing house transactions and payment facilitation programs and (B) netting services, overdraft protection and other cash management services (including depository, credit, purchasing or debit card, corporate credit cards, non-card e-payable services, electronic funds transfer, treasury management services (including controlled disbursement services, return items and interstate depository network services), other demand deposit or operating account relationships, foreign exchange facilities, credit card processing services and merchant services), in each case of clauses (A) and (B), in the ordinary course of business and, in the case of clause (B), not to exceed $[**] in the aggregate outstanding at any time;

(xiv) indebtedness consisting of the financing of insurance premiums in the ordinary course of business;

(xv) indebtedness consisting of guarantees resulting from endorsement of negotiable instruments for collection by any Group Company in the ordinary course of business;

(xvi) indebtedness created or arising under any royalty, synthetic royalty or other monetization or similar transaction and in each case incurred solely in connection with any properties or assets which do not constitute Collateral under the Loan Documents; provided, however, that any such indebtedness is non-recourse to Borrower or any other Loan Party;

(xvii) indebtedness consisting of (A) indemnities and purchase price adjustments and (B) obligations of a Person to pay an earn-out, milestone payment or similar contingent or deferred consideration to a counterparty incurred or created in connection with an acquisition, transfer, investment or other sale or disposition permitted under this Loan Agreement, including, with respect to any purchase price holdback in respect of a portion of the purchase price of an asset sold to that Person to satisfy unperformed obligations of the seller of such asset, any obligation to pay such seller the excess of such holdback over such obligations; provided, that any indebtedness incurred under this clause (B) shall not, when taken together with the aggregate outstanding amount of all other indebtedness incurred under this clause (B) after the Closing Date and prior to such time, exceed $[**] in the aggregate unless the Acquisition Consideration Condition is satisfied as of the date such indebtedness is incurred;

(xviii) Permitted Convertible Debt;

(xix) other Financial Indebtedness not to exceed $[**] in the aggregate outstanding at any time;

(xx) guarantees of Permitted Financial Indebtedness incurred pursuant to clauses (i) through (xix) or (xxi); and

(xxi) extensions, refinancings, modifications, amendments and restatements of Permitted Indebtedness in clauses (i) through (xx) above; provided, that the principal amount thereof is not increased (other than by any reasonable amount of premium (if any), interest (including post-petition interest), fees, expenses, charges or additional or contingent interest reasonably incurred in connection with the same and the terms thereof);

8.2.3 each Borrower shall not (and shall ensure that no other Group Company shall) create or permit to subsist any Security Interest over any of its assets, other than the following (such following items, "**Permitted Security Interests**"):

(i) a Security Interest provided to the Lender Representative or any Lender under this Loan Agreement or any other Loan Document;

(ii) any lien arising by operation of law or regulation (including landlords', carriers', warehousemen's, mechanics', materialmen's, contractors', suppliers of materials', architects' and repairmen's Liens and other similar Liens), in each case, arising in the ordinary course of business and securing obligations that are not due and payable or are being contested in good faith;

(iii) deposits to secure the performance of bids, trade contracts (other than for Indebtedness), leases (other than capital lease obligations), statutory obligations, surety and appeal bonds, performance bonds and other obligations of a like nature incurred in the ordinary course of business;

(iv) Security Interests existing on the date hereof and set forth on Schedule F hereto;

(v) Security Interests for material taxes, assessments or governmental charges (A) which are not yet [**] past due or payable or (B) which are being contested in good faith by appropriate proceedings and for which adequate reserves are being maintained to the extent required by GAAP;

(vi) (A) pledges and deposits made in the ordinary course of business in compliance with workmen's compensation, payroll taxes, unemployment insurance and other social security laws or regulations, (B) Security Interests made in the ordinary course of business securing liability for reimbursement or indemnification obligations of insurance carriers providing property, casualty or liability insurance to the Borrower Representative or any of its Subsidiaries, (C) Security Interests to secure performance of tenders, bids, leases, statutory or regulatory obligations, surety and appeal bonds, government contracts, performance and return-of-money bonds and other obligations of like nature, in each case other than for borrowed money and entered into in the ordinary course of business and (D) Security Interests in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation and exportation of goods in the ordinary course of business;

(vii) Security Interests (including the right of set-off) of a collection bank arising under Section 4-210 of the Uniform Commercial Code, or any comparable or successor provision, on items in the course of collection, and other Security Interests in favor of banks or other financial institutions incurred on deposits made in accounts held at such institutions in the ordinary course of business; provided that such Security Interests (A) are not given in connection with the incurrence of any Financial Indebtedness, (B) relate solely to obligations for administrative and other banking fees and expenses incurred in the ordinary course of business in connection with the establishment or maintenance of such accounts and (C) are within the general parameters customary in the banking industry;

(viii) Security Interests arising from attachments or judgments, orders, or decrees in circumstances not constituting an Event of Default;

(ix) Security Interests that are contractual rights of set-off (A) relating to pooled deposit or sweep accounts of Borrower or any of its Subsidiaries to permit satisfaction of overdraft or similar obligations incurred in the ordinary course of business or (B) relating to purchase orders and other agreements entered into with customers of Borrower or any of its Subsidiaries in the ordinary course of business;

(x) Security Interests solely on any cash earnest money deposits made by Borrower or any of its Subsidiaries in connection with any Permitted Acquisition, Permitted Investment or other acquisition of assets or properties not otherwise prohibited under this Loan Agreement;

(xi) Security Interests on cash or Cash Equivalents securing obligations under Clause 8.2.2(x);

(xii) Security Interests securing obligations under (A) Clause 8.2.2(ix), to the extent such Security Interests extend only to the assets and property the acquisition, lease, construction, installation, repair, replacement or improvement of which is financed thereby and any replacements, additions and accessions thereto and any income or profits thereof; provided, that individual financings provided by a lender may be cross collateralized to other financings provided by such lender or its affiliates or (B) Clause 8.2.2(iv);

(xiii) Security Interests on specific items of inventory or other goods and proceeds of any person securing such person's obligations in respect of bankers' acceptances or letters of credit entered into in the ordinary course of business issued or created for the account of such person to facilitate the purchase, shipment or storage of such inventory or other goods, in an amount not to exceed $[**] in the aggregate outstanding at any time;

(xiv) Security Interests disclosed by the title insurance policies delivered for any Mortgaged Property;

(xv) servitudes, easements, rights-of-way, restrictions and other similar encumbrances on real property imposed by law and encumbrances consisting of zoning or building restrictions, easements, licenses, restrictions on the use of property or minor defects or other irregularities in title which, in the aggregate, are not material, and which do not in any case materially detract from the value of the property subject thereto or interfere with the ordinary conduct of the business of any Borrower or any of its Subsidiaries;

(xvi) security given to a public utility or any municipality or governmental authority when required by such utility or authority in connection with the operations of a Group Company in the ordinary course of business;

(xvii) to the extent constituting a Security Interest, escrow arrangements securing indemnification obligations associated with any Permitted Acquisition or Permitted Investment;

(xviii) Security Interests in favor of any Loan Party;

(xix) Security Interests arising from, or from Uniform Commercial Code financing statement filings regarding, operating leases or conditional sale, title retention, consignment or similar arrangements entered into by a Group Company in the ordinary course of business;

(xx) Permitted Agreements;

(xxi) judgment and attachment Security Interests not giving rise to an Event of Default pursuant to Clause 9.1.8 and notices of lis pendens and associated rights related to litigation being contested in good faith by appropriate proceedings and for which adequate reserves have been made;

(xxii) other Security Interests not to exceed $[**] in the aggregate outstanding at any time; and

(xxiii) the modification, replacement, extension or renewal of the Security Interests described in clauses (i) through (xxii) above; provided, however, that any such modification, replacement, extension or renewal must (A) be limited to the assets or properties encumbered by the existing Security Interest (and any additions, accessions, parts, improvements and attachments thereto and the proceeds thereof) and (B) not increase the principal amount of any Financial Indebtedness secured by the existing Security Interest (other than by any reasonable premium or other reasonable fees and expenses reasonably incurred in connection therewith).

8.2.4 each Borrower shall not (and shall ensure that no other Group Company shall):

(i) declare, make or pay any dividend, charge, fee or other distribution (or interest on any unpaid dividend, charge, fee or other distribution) (whether in cash or in kind) on or in respect of its share capital (or any class of its share capital);

(ii) repay or distribute any dividend or share premium reserve;

(iii) pay any management, advisory or other fee to or to the order of any of its shareholders in their capacity as a shareholder; or

(iv) redeem, repurchase, defease, retire or repay any of its share capital or resolve to do so,

without the prior written consent of the Lender Representative, in each case, other than Permitted Distributions.

Notwithstanding the foregoing, and for the avoidance of doubt, this section shall not prohibit (i) the conversion or exchange by holders of (including any cash payment upon conversion or exchange), or required payment of any principal or premium on (including, for the avoidance of doubt, in respect of a required repurchase in connection with the redemption of Permitted Convertible Debt upon satisfaction of a condition related to the stock price of the Borrower Representative's common stock) or required payment of any interest with respect to, any Permitted Convertible Debt in each case, in accordance with the terms of the indenture governing such Permitted Convertible Debt or (ii) the entry into (including the payment of premiums in connection therewith) or any required payment with respect to, or required early unwind or settlement of, any warrant relating to the Borrower Representative's common stock (including, without limitation, the Warrant Instrument), Permitted Bond Hedge Transaction or Permitted Warrant Transaction, in each case, in accordance with the terms of the agreement governing such warrant relating to the Borrower Representative's common stock (including, without limitation, the Warrant Instrument), Permitted Bond Hedge Transaction or Permitted Warrant Transaction.

Notwithstanding the foregoing, Borrowers may repurchase, exchange or induce the conversion of Permitted Convertible Debt by delivery of shares of the Borrower Representative's common stock and/or a different series of Permitted Convertible Debt; provided that, for the avoidance of doubt, substantially concurrently with, or a commercially reasonable period of time before or after, the related settlement date for the Permitted Convertible Debt that are so repurchased, exchanged or converted, Borrowers may exercise or unwind or terminate early (whether in cash, shares or any combination thereof) the portion of the Permitted Bond Hedge Transactions and Permitted Warrant Transactions, if any, corresponding to such Permitted Convertible Debt that is so repurchased, exchanged or converted;

8.2.5 each Borrower shall not (and shall procure that no other Group Company shall), enter into any amalgamation, demerger, merger or corporate reconstruction; provided that:

(i) any Loan Party may merge, amalgamate or consolidate with (A) a Borrower, so long as such Borrower is the surviving entity or (B) any other Loan Party (other than a Borrower);

(ii) any Group Company that is not a Loan Party may merge, amalgamate or consolidate with (i) any Loan Party, so long as such Loan Party is the surviving entity or (ii) any other Group Company that is not a Loan Party;

(iii) any Group Company may liquidate or dissolve or change its legal form; provided that if such Group Company is a Loan Party, either (A) the validity, perfection and priority of the Security Interests securing the Loan Facility are not adversely affected thereby or (B) such Loan Party shall at or before the time of such liquidation or dissolution transfer its assets to another Loan Party; and

(iv) any Group Company may enter into any amalgamation, demerger, merger or corporate reconstruction in order to effect a Permitted Transfer, Permitted Acquisition or other Permitted Investment;

8.2.6 each Borrower shall not (and shall procure that each Group Company shall not) (A) acquire any assets or equipment, other than in the normal course of business and upon an arm's length basis, (B) acquire any equity interests of any third party, or any business unit or division of any third party, (C) invest in or acquire any shares, stocks, securities or other interest in any Joint Venture or transfer any assets or lend to or guarantee or give an indemnity for or give security for the obligations of a Joint Venture or maintain the solvency of or provide working capital to any Joint Venture (or agree to do any of the foregoing), or (D) be a creditor in respect of any Financial Indebtedness, in each case, other than the following (such items, "**Permitted Investments**"):

(i) investments in Subsidiaries existing on the date hereof;

(ii) investments shown on Schedule E;

(iii) investments consisting of cash and Cash Equivalents;

(iv) investments consisting of the endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business;

(v) guarantees of operating leases or of other obligations that do not constitute Financial Indebtedness, in each case, entered into in the ordinary course of business;

(vi) non-cash Investments made in connection with reorganization activities otherwise permitted under this Loan Agreement or in connection with tax planning;

(vii) investments that constitute Permitted Security Interests, Permitted Transfers or Permitted Distributions, or that are made in accordance with the terms of Permitted Agreements or Permitted Financial Indebtedness (including guarantees of Permitted Financial Indebtedness);

(viii) investments consisting of (A) non cash loans to employees, officers or directors relating to the purchase of equity securities of the Borrower Representative pursuant to employee stock purchase plans, or agreements approved by Borrower's Board of Directors, (B) advances or other investments to employees, officers or directors to cover tax obligations in connection with the vesting of restricted stock issued to such employee, officer or director, (C) travel advances and employee relocation loans and other employee advances in the ordinary course of business in an amount not to exceed $[**] at any time outstanding, and (D) other loans to employees, officers or directors of any Group Company in an amount not to exceed, in the case of this clause (D), $[**] in the aggregate at any time outstanding;

(ix) investments (including debt obligations) received in connection with the bankruptcy or reorganization of customers or suppliers and in settlement of delinquent obligations of, and other disputes with, customers or suppliers arising in the ordinary course of business;

(x) investments consisting of notes receivable of, or prepaid royalties and other credit extensions, to customers, distributors, suppliers, licensors and licensees who are not Affiliates, in the ordinary course of business;

(xi) Permitted Acquisitions;

(xii) other investments consisting of (A) the formation of any Subsidiary for the purpose of effectuating a Permitted Acquisition, the capitalization of such Subsidiary whether by capital contribution or intercompany loans, in each case, to the extent otherwise permitted by the terms of this Loan Agreement, related investments in Subsidiaries necessary to consummate such Permitted Acquisition, and the receipt of any non-cash consideration in a Permitted Acquisition, and (B) earnest money deposits required in connection with a Permitted Acquisition or other acquisition of properties or assets not otherwise prohibited hereunder;

(xiii) investments of any person that (A) becomes a Subsidiary after the date hereof, or (B) are assumed after the date hereof by any Subsidiary in connection with an acquisition of assets from such Person, in either case, in a Permitted Acquisition;

(xiv) investments constituting the licensing of Intellectual Property expressly permitted under this Loan Agreement;

(xv) investments by (i) any Loan Party in any other Loan Party, (ii) any Subsidiary which is not a Loan Party in any other Subsidiary which is not a Loan Party, (iii) any Subsidiary which is not a Loan Party in any Loan Party, (iv) any Loan Party in a Subsidiary which is not a Loan Party, in an amount not to exceed $[**] per fiscal year and (v) any Group Company in any MSC so long as no Default or Event of Default is continuing;

(xvi) investments in connection with, and the performance of obligations under (including, for the avoidance of doubt, the entry into, payments of any premium with respect to, and the settlement of) any Permitted Bond Hedge Transactions and Permitted Warrant Transactions, in each case in accordance with its terms; and

(xvii) other investments not to exceed $[**] in the aggregate per fiscal year;

8.2.7 notwithstanding any other provision of this Loan Agreement, each Borrower shall not request any Loan, and each Borrower shall not use, and shall ensure that no Group Company, its or their respective directors, officers, employees, agents and representatives shall use, the proceeds of any Loan, directly or knowingly indirectly, (i) in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any person in violation of any applicable Anti-Corruption Laws, Anti-Money Laundering Laws or Sanctions, (ii) to fund, finance or facilitate any activities, business or transaction of or with any Sanctioned Person or in any Designated Jurisdiction, or (iii) in any other manner that would result in the violation by any party of any applicable Sanctions, Anti-Corruption Laws or Anti Money Laundering Laws;

8.2.8 each Borrower shall procure that no substantial change is made to the general nature of the business of the Borrower Representative or the Group from that carried on at the date of this Loan Agreement (or any business reasonably related, complementary, synergistic or ancillary thereto or reasonable extensions thereof);

8.2.9 each Borrower shall not (and shall procure that each Group Company shall not) make any distribution, whether in cash, property, securities or a combination thereof, other than regular scheduled payments of interest as and when due (to the extent not prohibited by any applicable subordination provisions) in respect of, or pay, or commit to pay, or directly or indirectly redeem, repurchase, retire or otherwise acquire for consideration, or set apart any sum for the aforesaid purposes, any Financial Indebtedness with an individual outstanding principal amount in excess of $[**] that is contractually subordinated to the Loan Facility ("**Junior Debt**"), or pay in cash any amount in respect of any Junior Debt that may at the obligor's option be paid in kind or in other securities, in each case other than (i) under intercompany loans permitted to be incurred pursuant to this Loan Agreement, (ii) pursuant to the terms of any Permitted Agreement or (iii) refinancings of Permitted Financial Indebtedness to the extent such refinancing is permitted pursuant to Clause 8.2.2;

8.2.10 each Borrower shall not (and shall procure that each Group Company shall not) enter into, incur or permit to exist any agreement or other arrangement that prohibits, restricts or imposes any condition upon (A) the ability of any Borrower or any Loan Party to create, incur or permit to exist any Security Interest upon any of its property or assets, or (B) the ability of any Subsidiary to pay dividends or other distributions with respect to any of its equity interests or to make or repay loans or advances to any Borrower or any other Subsidiary or to guarantee Financial Indebtedness of any Borrower or any other Subsidiary; provided that the foregoing shall not apply to:

(i) restrictions in agreements listed on Schedules D, E, F or G;

(ii) restrictions contained in the [**] or the [**];

(iii) restrictions and conditions imposed by law, rule, regulation or order;

(iv) restrictions and conditions imposed by any Loan Document;

(v) customary restrictions and conditions contained in agreements relating to the sale of a Subsidiary or any assets pending such sale, provided such restrictions and conditions apply only to the Subsidiary that is to be sold (or, in the case of an asset sale, only to the assets being sold) and such sale is permitted hereunder;

(vi) restrictions or conditions imposed by any agreement relating to Permitted Agreements or secured Financial Indebtedness permitted by this Loan Agreement if such restrictions or conditions apply only to the property or assets that are the subject of such Permitted Agreement or that secures such Indebtedness;

(vii) solely in the case of clause (A) above, customary provisions in leases, subleases, licenses, sublicenses and other contracts;

(viii) customary provisions in leases, licenses and other contracts restricting assignment; and

(ix) any restriction contained in agreements covering Permitted Financial Indebtedness; provided that (i) such restrictions contained will not materially affect the Borrowers' ability to make anticipated principal or interest payments under this Loan Agreement (as determined by the Borrower Representative in good faith) or (ii) such restrictions taken as a whole are not materially less favorable to the Borrowers than the restrictions contained in this Loan Agreement and do not materially and adversely impair the Lender's rights and remedies under this Loan Agreement (as determined by the Borrower Representative in good faith);

8.2.11 each Borrower shall not (and shall procure that each Group Company shall not) permit any waiver, supplement, modification, amendment, termination or release of (i) its certificate of incorporation, by-laws, operating, management or partnership agreement or other organizational documents or (ii) the [**] or the [**], in each case, that, taken as a whole, is materially adverse to the interests of the Lender in its capacity as such, other than pursuant to a transaction or action permitted by this Loan Agreement;

8.2.12 the Borrower Representative shall not change its fiscal year-end to a date other than December 31;

8.2.13 notwithstanding anything in this Loan Agreement to the contrary, the Borrower Representative and its Subsidiaries are permitted to enter into, maintain and perform their respective obligations under, the following agreements: (i) the [**], (ii) the [**], (iii) any agreement providing for the sale, financing or other monetization on commercially reasonable terms of non-U.S. royalties or milestones from the Borrowers' proprietary products, vadadustat and Auryxia®, (iv) any agreements providing for the sale, financing or other monetization on commercially reasonable terms of U.S. royalties from vadadustat, subject to (x) a cap of [**]% royalty on net sales and (y) $[**] of total payments under any such outstanding agreements under this clause (iv) (other than any deferred compensation, milestone payments or similar arrangements) (clauses (i) through (iv), together with all documents related thereto, collectively, the "**Permitted Royalty Agreements**") and (v) any Permitted License (together with the Permitted Royalty Agreements, collectively, "**Permitted Agreements**");

8.2.14 notwithstanding anything in this Loan Agreement to the contrary, the Borrower Representative and its Subsidiaries are permitted to complete Capital Raise transactions and maintain and perform their respective obligations under any agreements related thereto; and

8.2.15 each Borrower shall:

(i) not permit any MSC to engage in any business activities or have any assets or liabilities other than its ownership of cash and Cash Equivalents and liabilities incidental thereto;

(ii) not permit any assets owned or held by any MSC or any equity interests issued by any MSC to be subject to any Security Interest (other than Security Interests arising as a matter of law in favor of the financial institution at which any account of an MSC is located); and

(iii) during the continuance of an Event of Default, cause each MSC to, at the option of the Lender Representative, transfer all cash and Cash Equivalents held by such MSC to an account subject to a control agreement in favor of the Lender Representative within [**] of receipt by the Borrower Representative of a written request therefor by the Lender Representative.

8.3 Financial Covenant

8.3.1 The Borrower Representative shall ensure that, as of the last day of each fiscal month (commencing with the month ended February 29, 2024), either:

(i) Liquidity is greater than or equal to $15,000,000; or

(ii) the consolidated revenue of the Group is greater than or equal to $150,000,000 for the 12-month period ending on such applicable test date.

For the avoidance of doubt, only one of the two covenants contained in clauses (i) and (ii) is required to be satisfied, and if the Borrower shall be in compliance with one such covenant but not the other, that shall not constitute a Default or Event of Default.

9. **EVENTS OF DEFAULT**

9.1 An Event of Default occurs if:

9.1.1 [reserved];

9.1.2 any Group Company fails to pay (i) any principal sum payable under any Loan Document or under any document relating to the Loan Documents when due and payable (or, if failure to pay is the result of an administrative error or technical problem, within [**] after the due date therefor), (ii) any interest payment payable under any Loan Document within [**] after the due date therefor or (iii) any other amount payable under any Loan Document within [**] after the due date therefor; provided that, in each case, if there has been a material disruption to those payment or communications systems or to those financial markets which are, in each case, required to operate in order for payments to be made in connection with this Loan Agreement and which disruption is not caused by, and is beyond the control of, any of the parties, failure to make such payment shall not result in an Event of Default so long as such payment is made within [**] after its due date;

9.1.3 any Group Company (as relevant) fails to perform any undertaking contained in Clause 8.1.3 (solely with respect to the Borrower), 8.2 or 8.3;

9.1.4 any Group Company (as relevant) fails to perform any undertaking (other than those described in Clause 9.1.2 or 9.1.3) contained in any Loan Document and such failure continues for [**] after the earlier of the date on which (i) a Financial Officer of any Group Company becomes aware of such failure and (ii) written notice thereof shall have been given to the Borrower Representative by the Lender Representative, unless the Lender Representative (at its sole discretion) notifies the Borrower Representative in writing that it is satisfied that the breach has not put any of the security for the Loan immediately at risk and that it considers that the breach is capable of remedy;

9.1.5 any representation, warranty or statement of fact made by, or by an officer of, any Group Company in any Loan Document or in the Drawdown Notice or any other notice or document relating to any Loan Document is incorrect, untrue or misleading in any material respect when it is made or deemed repeated;

9.1.6 (i) any principal or interest, regardless of amount, due in respect of any Material Financial Indebtedness is not paid when due (after the expiration of any grace periods therefor), (ii) any commitment for any Material Financial Indebtedness is cancelled by a creditor of any Group Company (other than at maturity or the stated expiration of such commitment, or any cancellation that is at the request of a Group Company), (iii) any Security Interest over any of the assets of any Group Company securing any Material Financial Indebtedness is enforced by the creditor thereof, or (iv) any other event or condition occurs that results in any Material Financial Indebtedness becoming due prior to its scheduled maturity or that enables or permits (with or without the giving of notice, but after the expiration of any grace periods therefor) the holder or holders of any Material Financial Indebtedness or any trustee or agent on its or their behalf to accelerate any Material Financial Indebtedness prior to its scheduled maturity; provided that this clause 9.1.6 shall not apply (a) to Financial Indebtedness that becomes due as a result of the sale or transfer or other disposition (including a Casualty Event) of property or assets and such Financial Indebtedness is repaid when required under the documents providing for such Indebtedness, (b) to events of default, termination events or any other similar event under the documents governing swap contracts for so long as such event of default, termination event or other similar event does not result in the occurrence of an early termination date or any acceleration or prepayment of any amounts or other Financial Indebtedness payable thereunder or (c) if the relevant breach under such Financial Indebtedness is remedied or validly waived by the creditors of such Financial Indebtedness prior to any acceleration of the Loans under this Loan Agreement pursuant to Clause 9.2; *provided further*, that this Clause 9.1.6 shall not apply to (x) any redemption, exchange, repurchase, conversion or settlement with respect to any Permitted Convertible Debt, or satisfaction of any condition giving rise to or permitting the foregoing, pursuant to their terms unless (i) such redemption, exchange, repurchase, conversion or settlement results from a default or event of default thereunder or an event of the type that constitutes an Event of Default, (ii) there is a failure to consummate such redemption, exchange, repurchase, conversion or settlement resulting in a default or event of default thereunder or an event of the type that constitutes an Event of Default or (iii) such redemption exchange, repurchase, conversion or settlement is not permitted under the Loan Documents, or (y) early payment requirement or unwinding or termination with respect to any Permitted Bond Hedge Transaction or Permitted Warrant Transaction, or satisfaction of any condition giving rise to or permitting the foregoing, in accordance with the terms thereof, so long as, in any such case, the Borrower Representative is not the "defaulting party" (or substantially equivalent term) under the terms of such Permitted Bond Hedge Transaction or Permitted Warrant Transaction, as applicable;

9.1.7

(i) an involuntary proceeding shall be commenced or an involuntary petition shall be filed in a court of competent jurisdiction seeking (i) relief in respect of the Borrower Representative or any Subsidiary, or of a substantial part of the property or assets of the Borrower Representative or a Subsidiary, under Title 11 of the United States Code, as now constituted or hereafter amended, or any other Federal, state, provincial, territorial or foreign bankruptcy, insolvency, receivership or similar law, (ii) the appointment of a receiver, interim receiver, receiver and manager, administrator, examiner, monitor, trustee, custodian, sequestrator, conservator or similar official for the Borrower Representative or any Subsidiary) or for a substantial part of the property or assets of the Borrower Representative or a Subsidiary or (iii) the winding-up or liquidation of the Borrower Representative or any Subsidiary and, in each case, such proceeding or petition shall continue undismissed or unstayed for [**], or an order or decree approving or ordering any of the foregoing shall be entered; or

(ii) the Borrower Representative or any Subsidiary shall (i) voluntarily commence any proceeding or file any petition seeking relief under Title 11 of the United States Code, as now constituted or hereafter amended, or any other Federal, state, provincial, territorial or foreign bankruptcy, insolvency, receivership or similar law, (ii) consent to the institution of, or fail to contest in a timely and appropriate manner, any proceeding or the filing of any petition described in clause (i) above, (iii) apply for or consent to the appointment of a receiver, interim receiver, receiver and manager, administrator, examiner, monitor, trustee, custodian, sequestrator, conservator or similar official for the Borrower Representative or such Subsidiary or for a substantial part of the property or assets of the Borrower Representative or such Subsidiary, or (iv) make a general assignment for the benefit of creditors;

9.1.8 any final judgment or order of a court, arbitral body or agency for the payment of money is made in relation to the Loan Documents or the transactions contemplated by the Loan Documents or against any member of the Group or its assets which have, or has, or are, or would reasonably be likely to have a Material Adverse Change (solely to the extent not covered by independent third-party insurance or indemnification as to which the insurer or indemnitor has been notified of such judgement, order or award and has affirmed coverage thereof in writing);

9.1.9 there is a Change of Control in any Group Company; for purposes of this Clause 9.1.9, a "Change of Control" shall mean any of the following events (whether in one or in a series of related transactions): (A) the sale of all or substantially all the assets of the Group to any person other than a Group Company or (B) a person or "group" (within the meaning of Rule 13d-5 under the U.S. Securities Exchange Act of 1934, as in effect on the date hereof, but excluding any employee benefit plan of such person and its subsidiaries and any person or entity acting in its capacity as trustee, agent or other fiduciary or administrator of any such plan), acquires beneficial ownership of more than [**]% of the voting stock of the Borrower Representative (determined on a fully diluted basis); provided that the Lender Representative may agree, by written notice to the Borrower Representative, that a Change of Control shall not be deemed an Event of Default, but that nevertheless the consequences set forth in Clause 9.2.1 and 9.2.2 shall apply, and in such event the Loan, all accrued interest and all other amounts accrued, owing or payable under the Loan Documents shall be due and payable simultaneously with the closing of the Change of Control transaction;

9.1.10 (i) Any material provision of the Loan Documents proves to have been or becomes invalid or unenforceable other than as permitted under the Loan Documents, (ii) subject to the Perfection Exceptions, a Security Interest created by the Security Documents over any material portion of the Collateral ceases to be a valid, perfected, first priority Security Interest in the Collateral covered thereby, other than as expressly permitted under the Loan Documents or (iii) the Borrower Representative or any other Loan Party repudiates or rescinds a Loan Document or purports in writing to repudiate or rescind a Loan Document (other than in connection with the end or termination of the Security Period), except, in each case, as a result of the failure of the Lender or the Lender Representative to (x) maintain possession of certificates actually delivered to it representing securities pledged under the Loan Documents, (y) maintain possession of instruments actually delivered to it representing indebtedness pledged under the Loan Documents or (z) file UCC continuation statements or amendments;

9.1.11 any guaranty under the Security Documents for any reason shall cease to be in full force and effect (other than in accordance with its terms or as otherwise permitted under the Loan Documents) or any guarantor shall deny in writing that it has any further liability under the Security Documents (other than as a result of the discharge of such guarantor in accordance with the terms of the Loan Documents);

9.1.12 a Material Adverse Change occurs; or

9.1.13 an ERISA Event or a Foreign Benefit Event shall have occurred that, when taken together with all other such ERISA Events and Foreign Benefit Events, would reasonably be expected to result in liability of any Borrower in an aggregate amount that would result in a Material Adverse Change.

9.2 **Lender's Rights**

At any time during the continuance of any Event of Default, the Lender Representative may:

9.2.1 serve on the Borrower Representative a notice stating that all obligations of the Lender to the Borrower Representative under this Loan Agreement including (without limitation) the obligation to advance the Loan (or any part thereof) are terminated;

9.2.2 serve on the Borrower Representative a notice stating that, the Loan, all interest and all other amounts accrued, owing or payable under the Loan Documents are immediately due and payable;

9.2.3 serve on the Borrower Representative a notice stating that, the Loan, all interest and all other amounts accrued, owing or payable under the Loan Documents are due and payable on demand;

9.2.4 declare the Security Documents to be enforceable; and/or

9.2.5 take any other action which, as a result of the Event of Default or any notice served under Clauses 9.2.1 or 9.2.2 above, the Lender is entitled to take under the Security Documents or any applicable law.

9.3 **End of Lender's Obligations.** At the time of service of a notice under Clause 9.2.1 and/or Clause 9.2.2, all the obligations of the Lender to the Borrower Representative to extend new Loans under this Loan Agreement shall terminate.

9.4 **Acceleration**

(a) Other than with respect to any Event of Default occurring under Clause 9.1.7, on the service of a notice under Clause 9.2.2 the following sums shall become immediately due and payable and (b) with respect to any Event of Default occurring under 9.1.7, the following sums shall automatically become immediately due and payable, in each case without presentment, demand, protest or any other notice of any kind, all of which are hereby expressly waived by the Borrower Representative and each other Group Company:

9.4.1 the outstanding principal amount of the Loan;

9.4.2 all accrued and unpaid interest;

9.4.3 all unpaid End of Loan Payments;

9.4.4 all unpaid fees, costs and expenses; and

9.4.5 all other outstanding sums payable by the Borrowers to the Lender under the Loan Documents.

9.5 **Waiver of Event of Default**

The Lender Representative, at its sole and absolute discretion, may waive any Default or Event of Default hereunder, prior to or after the event or events giving rise thereto, provided that such waiver may be effected only by written notice provided by the Lender Representative to the Borrower Representative to that effect (and subject further to Clause 15.3 below); it being understood and acknowledged, that if and so long as no notice of waiver of a Default or an Event of Default was so provided, such Default or Event of Default shall be deemed as having occurred and in effect for all purposes hereunder (subject to the Borrower Representative's right to remedy or cure a Default).

10. **FEES, EXPENSES AND TAXES**

10.1 **Transaction Fee**

The Transaction Fee shall be paid by the Borrower Representative to the Lender Representative upon the date of this Loan Agreement, or with respect to the portion thereof that is not payable on the date of this Loan Agreement in respect of Tranche B and Tranche C, on the earliest to occur of (i) the date Tranche B or Tranche C, as appliable, is first funded, (ii) the date that the commitments in respect of Tranche B or Tranche C, as applicable, are terminated or cancelled and (iii) the date on which the availability period of Tranche B or Tranche C, as applicable, terminates (in each case in accordance with the Loan Facility Terms).

10.2 **End of Loan Payments**

The End of Loan Payment shall accrue on the amount of each Tranche and shall be payable in respect of each Tranche on the earlier of: (i) the date on which the Loan is prepaid in full or otherwise falls due for repayment in full (whether at maturity or by acceleration); and (ii) the date on which the final payment by the Borrowers in respect of the relevant Tranche is due for payment (whether at maturity or by acceleration).

10.3 **Documentary Costs**

10.3.1 The Borrowers shall promptly pay to the Lender Representative within [**] of the Lender Representative's written demand (accompanied by a reasonably detailed invoice), the reasonable and documented out-of-pocket expenses (including reasonable and documented out-of-pocket legal expenses of one external counsel and one local counsel for each applicable jurisdiction) incurred by the Lender in connection with:

(i) the negotiation, execution, preparation and perfection of the Loan Documents entered into on or around the date of this Loan Agreement and the transactions contemplated hereby and thereby;

(ii) the negotiation, execution, preparation and perfection of Security Documents after the date of this Loan Agreement and the transactions contemplated thereby;

(iii) any amendment or supplement to the Loan Documents, or any proposal for such an amendment to be made; and

(iv) any consent or waiver by the Lender concerned under or in connection with the Loan Documents or any request by the Borrower Representative for such a consent or waiver.

10.3.2 The Borrowers shall promptly pay to the Lender Representative within [**] of the Lender Representative's written demand (together with a reasonably detailed invoice), the reasonable and documented out-of-pocket expenses (including reasonable and documented out-of-pocket legal expenses of one external counsel and one local counsel for each applicable jurisdiction) incurred by the Lender in connection with any step taken by the Lender with a view to the protection or enforcement of any right or Security Interest created by the Loan Documents.

10.4 **Certain Taxes and Duties**

10.4.1 [Reserved].

10.4.2 Where any Borrower is required by the Loan Documents to pay, reimburse or indemnify the Lender for any cost or expense, each Borrower, at the same time as it pays, reimburses or indemnifies (as the case may be) the Lender for such cost or expense, shall also pay, reimburse or indemnify such part thereof as represents VAT, save to the extent that the Lender reasonably determines that it is entitled to a credit or repayment in respect of such VAT from the relevant Tax authority.

10.4.3 All amounts expressed to be payable under a Loan Document by any Borrower to the Lender which (in whole or in part) constitute the consideration for any supply for VAT purposes are deemed to be exclusive of any VAT which is chargeable on that supply, and accordingly, if VAT is or becomes chargeable on any supply made by the Lender to a Borrower under a Loan Document and the Lender is required to account to the relevant tax authority for the VAT, such Borrower must pay to the Lender (in addition to and at the same time as paying any other consideration for such supply) an amount equal to the amount of the VAT (subject to the Lender providing a valid VAT invoice to such Borrower).

10.4.4 In relation to any supply made by the Lender to the Borrower under a Loan Document, if reasonably requested by the Lender Representative, the Borrower must promptly provide the Lender Representative with details of the Borrower's VAT registration and such other information as is reasonably requested in connection with the Lender's VAT reporting requirements in relation to such supply.

10.4.5 Any reference in Clauses 10.4.2, 10.4.3, and 10.4.5 to any Party shall, at any time when such Party is treated as a member of a group for VAT purposes, include (where appropriate and unless the context otherwise requires) a reference to the representative member of such group at such time (the term "representative member" to have the same meaning as in the United Kingdom Value Added Tax Act 1994 and shall include any similar or equivalent term in any other jurisdiction).

10.5 **Liability for Taxes**

10.5.1 Each Borrower shall make all payments to be made by it without any Tax deduction, unless a Tax deduction is required by law. Each Borrower shall promptly upon becoming aware that it must make a Tax deduction (or that there is any change in the rate or the basis of a Tax deduction) notify the Lender Representative.

10.5.2 If any Borrower is required to make any Tax deduction by law from any payment due under the Loan Documents, such Borrower shall be entitled to make such Tax deduction, and, if such Tax is an Indemnified Tax, the payment due from such Borrower shall be increased to an amount which (after making such Tax deduction, including such Tax deduction applicable to additional sums payable under this Clause 10.5) leaves an amount equal to the amount which would have been due for payment if no Tax deduction had been required.

10.5.3 The Borrowers shall timely pay to the relevant Governmental Authority in accordance with applicable law, or at the option of the Lender Representative timely reimburse it for the payment of, any Other Taxes.

10.5.4 The Borrowers shall indemnify each Lender, within [**] after demand therefor, for the full amount of any Indemnified Taxes (including Indemnified Taxes imposed or asserted on or attributable to amounts payable under this Clause 10.5) payable or paid by such Lender or required to be withheld or deducted from a payment to such Lender and any reasonable expenses arising therefrom or with respect thereto, whether or not such Indemnified Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to the Borrower Representative by the Lender Representative shall be conclusive absent manifest error.

10.5.5 If any Borrower is required to make a Tax deduction, such Borrower shall make that Tax deduction and any payment required in connection with that Tax deduction within the time allowed and in the minimum amount required by law.

10.5.6 Within [**] of making either a Tax deduction or any payment required in connection with that Tax deduction, the Borrower Representative shall deliver to the Lender Representative evidence reasonably satisfactory to it that the Tax deduction has been made or (as applicable) any appropriate payment paid to the relevant taxing authority.

10.5.7 Each Lender shall deliver to the Borrower Representative, at the time or times reasonably requested by the Borrower Representative, such properly completed and executed documentation reasonably requested by the Borrower Representative as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, each Lender, if reasonably requested by the Borrower Representative, shall deliver such other documentation prescribed by applicable law or reasonably requested by the Borrower Representative as will enable the Borrowers to determine whether or not such Lender is subject to backup withholding or information reporting requirements. Notwithstanding anything to the contrary in the preceding two sentences, the completion, execution and submission of such documentation (other than such documentation set forth in Clause 10.5.7(i), Clause 10.5.7(ii) and Clause 10.5.7(iv)) shall not be required if in the Lender's reasonable judgment such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of such Lender.

Without limiting the generality of the foregoing,

(i) if a Lender is a U.S. Person, it shall deliver to the Borrower Representative on or prior to the date on which such Lender becomes a Lender under this Loan Agreement (and from time to time thereafter upon the reasonable request of the Borrower Representative), executed copies of IRS Form W-9 certifying that such Lender is exempt from U.S. federal backup withholding tax;

(ii) if a Lender is not a U.S. Person, to the extent it is legally entitled to do so, it shall deliver to the Borrower Representative (in such number of copies as shall be requested by the Borrower Representative) on or prior to the date on which such Lender becomes a Lender under this Loan Agreement (and from time to time thereafter upon the reasonable request of the Borrower Representative), whichever of the following is applicable: (1) if such Lender is claiming the benefits of an income tax treaty to which the United States is a party (x) with respect to payments of interest under any Loan Document, executed copies of IRS Form W-8BEN or IRS Form W-8BEN-E establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "interest" article of such tax treaty and (y) with respect to any other applicable payments under any Loan Document, IRS Form W-8BEN or IRS Form W-8BEN-E establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "business profits" or "other income" article of such tax treaty; (2) executed copies of IRS Form W-8ECI; (3) if such Lender is claiming the benefits of the exemption for portfolio interest under Section 881(c) of the Code, (x) a certificate substantially in the form of Exhibit A-1 to the effect that such Lender is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, a "10 percent shareholder" of any Borrower within the meaning of Section 871(h)(3)(B) of the Code, or a "controlled foreign corporation" related to any Borrower as described in Section 881(c)(3)(C) of the Code (a "**U.S. Tax Compliance Certificate**") and (y) executed copies of IRS Form W-8BEN or IRS Form W-8BEN-E; or (4) if the Lender is not the beneficial owner, executed copies of IRS Form W-8IMY, accompanied by IRS Form W-8ECI, IRS Form W-8BEN, IRS Form W-8BEN-E, a U.S. Tax Compliance Certificate substantially in the form of Exhibit A-2 or Exhibit A-3, IRS Form W-9, or other certification documents from each beneficial owner, as applicable; provided that if such Lender is a partnership and one or more direct or indirect partners of the Lender are claiming the portfolio interest exemption, such Lender may provide a U.S. Tax Certificate substantially in the form of Exhibit A-4 on behalf of each such direct and indirect partner;

(iii) if a Lender is not a U.S. Person, to the extent it is legally entitled to do so, deliver to the Borrower Representative (in such number of copies as shall be requested by the Borrower Representative) on or prior to the date on which such Lender becomes a Lender under this Loan Agreement (and from time to time thereafter upon the reasonable request of the Borrower Representative), executed copies of any other form prescribed by applicable law as a basis for claiming exemption from or a reduction in U.S. federal withholding Tax, duly completed, together with such supplementary documentation as may be prescribed by applicable law to permit the Borrowers to determine the withholding or deduction required to be made; and

(iv) if a payment made to any Lender under any Loan Document would be subject to U.S. federal withholding Tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender shall deliver to the Borrower Representative at the time or times prescribed by law and at such time or times reasonably requested by the Borrower Representative such documentation prescribed by applicable law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by the Borrower Representative as may be necessary for the Borrowers to comply with their obligations under FATCA and to determine that such Lender has complied with such Lender's obligations under FATCA or to determine the amount, if any, to deduct and withhold from such payment. Solely for purposes of this Clause 10.5.7(iv), "FATCA" shall include any amendments made to FATCA after the date of this Loan Agreement.

10.5.8 [Reserved]

10.5.9 If any Lender determines, in its sole discretion exercised in good faith, that it has received a refund of any Taxes as to which it has been indemnified pursuant to this Clause 10.5 (including by the payment of additional amounts pursuant to this Clause 10.5), it shall pay to the Borrowers an amount equal to such refund (but only to the extent of indemnity payments made under this Clause 10.5 with respect to the Taxes giving rise to such refund), net of all out-of-pocket expenses (including Taxes) of such Lender and without interest (other than any interest paid by the relevant Governmental Authority with respect to such refund). The Borrowers, upon the request of a Lender, shall repay to such Lender the amount paid over pursuant to this Clause 10.5.9 (plus any penalties, interest or other charges imposed by the relevant Governmental Authority) in the event that such Lender is required to repay such refund to such Governmental Authority. Notwithstanding anything to the contrary in this Clause 10.5.9, in no event will any Lender be required to pay any amount to the Borrowers pursuant to this Clause 10.5.9 the payment of which would place such Lender in a less favourable net after-Tax position than such Lender would have been in if the Tax subject to indemnification and giving rise to such refund had not been deducted, withheld or otherwise imposed and the indemnification payments or additional amounts with respect to such Tax had never been paid. This Clause 10.5.9 shall not be construed to require any Lender to make available its Tax returns (or any other information relating to its Taxes that it deems confidential) to the Borrowers or any other Person.

10.5.10 Each party's obligations under this Clause 10.5 shall survive the resignation or replacement of any Lender or any assignment of rights by, or the replacement of, any Lender, the termination, expiration or cancellation of the commitments and the repayment, satisfaction or discharge of all obligations under any Loan Document.

10.5.11 If any Lender requests compensation under Clause 10.6 or requests any Borrower to pay any Indemnified Taxes or additional amounts to such Lender pursuant to Clause 10.5, then such Lender shall (at the request of the Borrower Representative) use reasonable efforts to, as applicable, designate a different lending office for funding or booking its Loans hereunder or to assign its rights and obligations hereunder to another of its offices, branches or affiliates, if, in the judgment of such Lender, such designation or assignment (i) would eliminate or reduce amounts payable pursuant to Clause 10.6 or Clause 10.5, as the case may be, in the future, and (ii) would not subject such Lender to any unreimbursed cost or expense and would not otherwise be disadvantageous to such Lender. The Borrowers hereby agree to pay all reasonable costs and out-of-pocket expenses incurred by such Lender in connection with any such designation or assignment.

10.6 **Illegality and Increased Costs**

10.6.1 If it is or becomes contrary to any law or regulation for the Lender to make available the Loan Facility or to maintain its obligations to do so or fund the Loan, the Lender shall promptly notify the Borrower Representative whereupon: (i) the Lender's obligations to make the Loan Facility available shall be terminated; and (ii) the Borrowers shall be obliged to prepay the Loan either: (a) forthwith; or (b) on a future specified date on or before the latest date permitted by the relevant law or regulation.

10.6.2 If the result of any change that occurs after the Closing Date in (or in the interpretation, administration or application of), or to the generally accepted interpretation or application of, or the introduction of, any law or regulation is to subject the Lender to any Increased Cost, then: (i) the Lender shall notify the Borrower Representative in writing of such event promptly upon its becoming aware of the same; and (ii) the Borrowers shall, within [**] of written demand (together with a reasonably detailed invoice), pay to the Lender the amount of the Increased Costs which the Lender has suffered as a result.

11. **INDEMNITIES**

11.1 **Indemnity for Non-Scheduled Payments**

Without derogating from, and without prejudice to the Lender's right under, Clause 10 above, the Borrowers shall indemnify the Lender and its Affiliates and the respective partners, directors, trustees, officers, employees, members, agents, administrators, managers and representatives of the Lender and its Affiliates (the foregoing persons, each an "***Indemnitee***") fully on its demand in respect of all expenses, liabilities and losses (but not lost profit) which are suffered or incurred by such Indemnitee (except for such expenses, liabilities and losses due solely to such Indemnitee's gross negligence or willful misconduct) as a result of or in connection with:

11.1.1 any Tranche not being borrowed on the date specified in the Drawdown Notice for any reason other than a default by the Lender;

11.1.2 any failure (for whatever reason) by the Borrowers to make payment of any amount due under the Loan Documents on the due date or, if so payable, on demand; or

11.1.3 the occurrence and/or continuance of an Event of Default and/or the acceleration of repayment of the Loan under Clause 9.4.

11.2 [Reserved].

11.3 **Third Party Claims Indemnity**

The Borrowers shall indemnify each Indemnitee fully on its demand in respect of claims, demands, proceedings, liabilities, losses and reasonable, documented expenses of every kind, including without limitation legal fees and expenses for one external counsel (and one local counsel for each relevant jurisdiction) ("**liability items**") which may be made or brought against, or incurred by, such Indemnitee (except for such expenses, liabilities and losses due solely to such Indemnitee's gross negligence or willful misconduct), in any country, in relation to:

11.3.1 any action lawfully taken, or omitted or neglected to be taken, under or in connection with the Loan Documents by such Indemnitee or by any receiver appointed under the Security Documents after the occurrence of any Event of Default; and

11.3.2 any breach or inaccuracy of any of the representations and warranties contained in Clause 7 of this Loan Agreement or in the Security Documents or any breach of any undertaking contained in Clause 8 hereof or elsewhere in the Loan Documents.

Notwithstanding anything herein to the contrary, Clause 11 of this Loan Agreement shall not apply with respect to Taxes other than Taxes that represent expenses, liabilities and losses arising from any non-Tax claim.

12. **[RESERVED]**

13. **RELEASE OF SECURITY**

13.1.1 The Lender hereby irrevocably agrees that the Security Interests granted to the Lender Representative or any Lender on any Collateral shall be immediately and automatically released, in each case, without any further action by any person:

(i) upon payment in full of all obligations under the Loan Documents (other than contingent indemnification obligations and expense reimbursement obligations as to which no claim has been asserted);

(ii) upon the sale, disposition, distribution or other transfer of such Collateral, as part of or in connection with any transaction permitted hereunder or under each other Loan Document, in each case to a person that is not a Loan Party;

(iii) that constitutes an Excluded Asset (as defined in the Guarantee and Collateral Agreement) as a result of an occurrence not prohibited under this Loan Agreement; or

(iv) to the extent such Collateral is owned by a Subsidiary Guarantor, upon release of such Subsidiary Guarantor from its obligations under its guaranty pursuant to clause 13.1.2 below;

13.1.2 The Lender hereby irrevocably agrees that a Subsidiary Guarantor shall be immediately and automatically released from any applicable guaranty and all other obligations under the Loan Documents if such Subsidiary Guarantor ceases to be a Subsidiary or otherwise becomes an Excluded Subsidiary as a result of a transaction permitted under this Loan Document.

13.1.3 In each case described in Clauses 13.1.1 and 13.1.2, the Lender Representative shall (at the cost of the Borrowers, to the extent required by Clause 10.3) promptly take all appropriate action, and execute and deliver to the Borrower Representative all documents, required (or reasonably requested by the Borrower Representative) to evidence the release of the Security Interest in the applicable Collateral or the release of the guaranty and other obligations of the applicable Subsidiary Guarantor (including the prompt return of possessory Collateral held by the Lender that is released from the Security Interest created by the Security Documents; provided that in the event that the Lender had previously acknowledged receipt of possessory collateral and loses or misplaces any such possessory collateral, the Lender shall provide a loss affidavit to the Borrower Representative, in a form reasonably satisfactory to the Borrower Representative).

13.1.4 In the case of Clause 13.1.3, upon the Lender Representative's reasonable request, the Borrower Representative shall deliver to the Lender Representative a certificate certifying that the applicable transaction causing the release of Security Interests or release of the Subsidiary Guarantor has been consummated in compliance with this Loan Agreement and the other Loan Documents and that such release is permitted by this Loan Agreement (and for the avoidance of doubt, no other documentation or information shall be required to be provided by the Borrower Representative or any other Group Company).

14. **NOTICES**

14.1 Any notice, demand or other communication ("**Notice**") to be given by any Party under, or in connection with, this Loan Agreement shall be in writing and signed by or on behalf of the Party giving it. Any Notice shall be served by sending it by email to the address set out in Clause 14.2, or delivering it by hand or by pre-paid first class post to the address set out in Clause 14.2 and in each case marked for the attention of the relevant Party set out in Clause 14.2 (or as otherwise notified from time to time in accordance with the provisions of this Clause 14). Any Notice so served by email, post or hand shall be deemed to have been duly given or made as follows:

14.1.1 if sent by email, at the time of transmission; or

14.1.2 in the case of delivery by hand, when delivered, or

14.1.3 in the case of delivery by first class post, on the second Business Day after posting,

provided that in each case where delivery by hand occurs after 5pm on a Business Day (local time in the place of receipt) or on a day which is not a Business Day, service shall be deemed to occur at 9am on the next following Business Day (local time in the place of receipt).

References to time in this Clause are to local time in the country of the addressee.

14.2 The addresses and email addresses of the Parties for the purpose of Clause 14 are as follows:

14.2.1 **Lender**:

Address: Kreos Capital VII (UK) Limited, c/o BlackRock Investment Management (UK) Limited – Private Debt-EMEA Venture & Growth Lending Group

12 Throgmorton Avenue, London EC2N 2DL

For the attention of: [**]

Email: [**]

with copies to:

Email: [**]

For the attention of: [**]
and:

The Office of the General Counsel (EMEA) (Legal Transactions Group)

Email: [**]

For the attention of: [**]

14.2.2 **Borrowers**:

Address 245 First Street, Cambridge, MA 02142

For the attention of: Chief Financial Officer and Chief Legal Officer

Email: [**]

with a copy to:

Latham & Watkins LLP

555 11th Street NW, Suite 1000

Washington, DC 20004

Attention: [**]

Email: [**]

14.3 A Party may notify the other Party to this Loan Agreement of a change to its name, relevant addressee, address or email address for the purposes of this Clause 14, provided that such notice shall only be effective on:

14.3.1 the date specified in the notification as the date on which the change is to take place; or

14.3.2 if no date is specified or the date specified is less than five (5) Business Days after the date on which notice is given, the date following five (5) Business Days after notice of any change has been given.

14.4 In proving service it shall be sufficient to prove that the envelope containing such notice was properly addressed and sent or delivered to the address shown thereon or that the facsimile transmission was made and a facsimile confirmation report was received, as the case may be.

15. **GENERAL**

15.1 All agreements, covenants, representations, warranties and indemnities of the Borrowers contained in this Loan Agreement or in the Drawdown Notices or other documents delivered pursuant hereto or in connection herewith and continuing, shall survive and remain binding following the execution and delivery, and the expiration, cancellation or other termination of this Loan Agreement and/or the Drawdown Notice.

15.2 [Reserved].

15.3 No failure to exercise, nor any delay in exercising, on the part of the Lender, any right or remedy hereunder shall operate as a waiver, nor shall any single or partial exercise of any right or remedy prevent any further or other exercise, or the exercise of any other right or remedy. The rights and remedies provided in this Loan Agreement are cumulative and not exclusive of any rights or remedies provided by law or in equity. Waiver by the Lender of any default shall not constitute waiver of any other default.

15.4 During the continuance of an Event of Default, the Lender may set off any matured obligation due from the Borrowers or any other Loan Party under the Loan Documents against any matured obligation owed by the Lender to that party, regardless of the place of payment, booking branch or currency of either obligation. If the obligations are in different currencies, the Lender may convert either obligation at a market rate of exchange in its usual course of business for the purpose of the set-off.

15.5 No Borrower may assign or transfer its rights, benefits or obligations under this Loan Agreement. The Lender shall have the right, in its sole discretion, to assign, sell, pledge, grant a Security Interest in or otherwise encumber its rights under the Loan Documents and/or one or more Drawdown Notices to any third party (an "**Assignee**"), and/or may act as an agent for any Assignee in accepting any Drawdown Notice; provided that (A) the Lender may not assign the Loan to any competitor of the Borrower or the Group (as identified in writing to the Lender Representative from time to time) or any Loan to Own Investor (collectively, "**Disqualified Institutions**") and (B) as long as no Event of Default has occurred and is continuing, the Lender may not assign the Loan (other than assignments made to Affiliates and Related Funds) without the prior written consent of the Borrower Representative. Each Borrower agrees that if it receives notice from the Lender that it is to make payments under this Loan Agreement and/or any Drawdown Notice to such Assignee rather than to the Lender, or that any of its other obligations under the relevant Drawdown Notice are to be owed to the named Assignee, each Borrower shall comply with any such notice (to the extent the assignment to such Assignee was made in accordance with the terms of this Loan Agreement). Subject to the foregoing, this Loan Agreement and each Drawdown Notice inures to the benefit of, and is binding upon, the successors and assigns of the Lender. The Lender, or any agent appointed by it, in either case acting solely for this purpose as an agent of the Borrowers, shall maintain a register (the "**Register**") for the recordation of (i) the name and address of the Lender, and the commitments of, and principal amounts (and stated interest) of the Loans owing to, the Lender pursuant to the terms thereof from time to time and (ii) any transfers. The entries in the Register shall be conclusive absent manifest error. The Register shall be available for inspection by the Borrowers and the Lender at any reasonable time and from time to time upon reasonable prior notice. The obligations of the Borrowers under the Loan Agreement and the Security Documents are registered obligations and the right, title and interest of the Lender and its Assignees in and to such obligations shall be transferable only upon notation of such transfer in the Register. This Clause 15.5 shall be construed so that such obligations are at all times maintained in “registered form” within the meaning of Sections 163(f), 871(h)(2) and 881(c)(2) of the Code and any related regulations (and any other relevant or successor provisions of the Code or such regulations).

15.6 The Lender agrees to keep all Confidential Information confidential and not to disclose it to anyone, save to the extent permitted by Clauses 15.7 to 15.9, and to ensure that all Confidential Information is protected with security measures and a degree of care that would apply to its own confidential information.

15.7 The Lender may disclose:

15.7.1 to any of its Affiliates and Related Funds, limited partners, investors and any of its or their officers, directors, employees, professional advisers, auditors, partners and Representatives such Confidential Information as the Lender shall consider appropriate if any person to whom the Confidential Information is to be given pursuant to this clause is informed in writing of its confidential nature and that some or all of such Confidential Information may be price-sensitive information except that there shall be no such requirement to so inform if the recipient is subject to professional obligations to maintain the confidentiality of the information or is otherwise bound by requirements of confidentiality in relation to the Confidential Information;

15.7.2 to any person appointed by the Lender or by a person to whom clause 15.8.1 or 15.8.2 applies to provide administration or settlement services (including sustainability service providers, valuation advisors, custodians and depositaries) in respect of one or more of the Loan Documents such Confidential Information as may be required to be disclosed to enable such service provider to provide services if the service provider to whom the Confidential Information is to be given has entered into a form of confidentiality undertaking agreed between the Borrower Representative and Lender; and

15.7.3 to any rating agency (including its professional advisers) such Confidential Information as may be required to be disclosed to enable such rating agency to carry out its normal rating activities in relation to the Loan Documents and/or the Group Companies.

15.8 The Lender may additionally disclose to any person:

15.8.1 to (or through) whom it assigns or transfers (or may potentially assign or transfer) all or any of its rights and/or obligations under the Loan Documents, and to any of that person's Affiliates, Related Funds, Representatives and professional advisers;

15.8.2 with (or through) whom it enters into (or may potentially enter into), whether directly or indirectly, any sub-participation in relation to, or any other transaction under which payments are to be made or may be made by reference to, one or more Loan Document and/or one or more Group Company and to any of that person's Affiliates, Related Funds, Representatives and professional advisers;

15.8.3 appointed by the Lender or by a person to whom clause 15.8.1 or 15.8.2 applies to receive communications, notices, information or documents delivered pursuant to the Loan Documents on its behalf;

15.8.4 who invests in or otherwise finances (or may potentially invest in or otherwise finance), directly or indirectly, any transaction referred to in clause 15.8.1 or 15.8.2 or leverage providers;

15.8.5 to whom information is required or requested to be disclosed by any court of competent jurisdiction or any governmental, banking, taxation or other regulatory authority or similar body, the rules of any relevant stock exchange or pursuant to any applicable law or regulation;

15.8.6 to whom information is required to be disclosed in connection with, and for the purposes of, any litigation, arbitration, administrative or other investigations, proceedings or disputes;

15.8.7 party to the Loan Documents; or

15.8.8 with the consent of the Borrower Representative,

in each case, such Confidential Information as the Lender shall consider appropriate if: (i) in relation to Clauses 15.8.1 to 15.8.3, the person to whom the Confidential Information is to be given has entered into a Confidentiality Undertaking except that there shall be no requirement for a Confidentiality Undertaking if the recipient is a professional adviser and is subject to professional obligations to maintain the confidentiality of the Confidential Information; (ii) in relation to Clause 15.8.4, the person to whom the Confidential Information is to be given has entered into a Confidentiality Undertaking or is otherwise bound by requirements of confidentiality in relation to the Confidential Information they receive and is informed that some or all of such Confidential Information may be price-sensitive information; and (iii) in relation to Clauses 15.8.5 and 15.8.6, the person to whom the Confidential Information is to be given is informed of its confidential nature and that some or all of such Confidential Information may be price-sensitive information except that there shall be no requirement to so inform if, in the opinion of the Lender, it is not practicable so to do in the circumstances.

15.9 The Lender may disclose to any national or international numbering service provider appointed by it to provide identification numbering services in respect of this Loan Agreement, the Loans and/or one or more Group Company the following information:

15.9.1 the names, country of domicile and place of incorporation of the Group Companies;

15.9.2 the date of this Loan Agreement (and any amendment and restatement agreement);

15.9.3 the governing law and jurisdiction of this Loan Agreement;

15.9.4 the amount, currencies, types, ranking and term of the Loans;

15.9.5 changes to any of the information previously supplied pursuant to the above; and

15.9.6 such other information agreed between the Lender and the Borrower Representative,

to enable such numbering service provider to provide its usual syndicated loan numbering identification services.

15.10 The Parties acknowledge and agree that each identification number assigned to this Loan Agreement, the Loans and/or one or more Group Companies by a numbering service provider and the information associated with each such number may be disclosed to users of its services in accordance with the standard terms and conditions of that numbering service provider.

15.11 The Borrowers and each other Group Company shall keep confidential the terms of this Loan Agreement except:

(a) as may be required by law (including SEC disclosure rules and regulations, it being understood that a copy of this Loan Agreement shall be publicly filed) or a court of competent jurisdiction, or as requested or required by any governmental or regulatory authority;

(b) to the extent the relevant information is already in the public domain other than by reason of improper disclosure by a Group Company in violation of any confidentiality obligations hereunder;

(c) the Group Companies may disclose the terms of this Loan Agreement and the other Loan Documents to its Affiliates and to the officers, directors, agents, employees, attorneys, accountants, advisors or controlling persons (and, in each case, each of their attorneys and advisors) of any Group Company or any of its Affiliates;

(d) to the extent necessary in connection with the enforcement of the Group's rights under the Loan Documents; and

(e) if the Lender Representative consents in writing to such proposed disclosure.

15.12 [Reserved].

15.13 [Reserved].

15.14 This Loan Agreement may not be modified except in writing executed by the Lender Representative and the Borrowers. No supplier or agent of the Lender is authorised to bind the Lender or to waive or modify any term of this Loan Agreement.

15.15 In any litigation or arbitration proceedings arising out of or in connection with a Loan Document, the entries made in the accounts maintained by the Lender are *prima facie* evidence of the matters to which they relate.

15.16 Any certification or determination by the Lender Representative of a rate or amount under any Loan Document is, in the absence of manifest error, conclusive evidence of the matters to which it relates.

15.17 This Loan Agreement may be executed in counterparts (including facsimile and .pdf copies), each of which shall be an original, but all such counterparts shall together constitute one and the same instrument.

15.18 Each of the parties hereto agrees and acknowledges that (a) the transaction consisting of this Loan Agreement may be conducted by electronic means, (b) it is such party's intent that, if such party signs this Loan Agreement using an electronic signature, it is signing, adopting and accepting this Loan Agreement and that signing this Loan Agreement using an electronic signature is the legal equivalent of having placed its handwritten signature on this Loan Agreement on paper and (c) it is being provided with an electronic or paper copy of this Loan Agreement in a usable format. The words "execution," "signed," "signature," and words of like import in any Loan Document or any amendment or other modification thereof (including waivers and consents) shall be deemed to include electronic signatures or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

15.19 THIS LOAN AGREEMENT AND THE OTHER LOAN DOCUMENTS (OTHER THAN AS EXPRESSLY SET FORTH IN OTHER LOAN DOCUMENTS) SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAWS OF THE STATE OF NEW YORK.

15.20 This Loan Agreement shall become effective when it shall have been executed by the Borrowers and the Lender and when the Lender Representative shall have received counterparts hereof which, when taken together, bear the signatures of each of the other parties hereto.

15.21 Notwithstanding anything herein to the contrary, if at any time the interest rate applicable to any Loan, together with all fees, charges and other amounts which are treated as interest on such Loan under applicable law (collectively the "**Charges**"), shall exceed the maximum lawful rate (the "**Maximum Rate**") that may be contracted for, charged, taken, received or reserved by the Lender or participation in accordance with applicable law, the rate of interest payable in respect of such Loan or participation hereunder, together with all Charges payable in respect thereof, shall be limited to the Maximum Rate and, to the extent lawful, the interest and Charges that would have been payable in respect of such Loan or participation but were not payable as a result of the operation of this Section shall be cumulated and the interest and Charges payable to the Lender in respect of other Loans or participations or periods shall be increased (but not above the Maximum Rate therefor) until such cumulated amount, together with interest thereon at the Federal Funds Effective Rate to the date of repayment, shall have been received by such Lender.

15.22 This Loan Agreement and the other Loan Documents constitute the entire contract between the parties relative to the subject matter hereof. Any other previous agreement among the parties with respect to the subject matter hereof is superseded by this Loan Agreement and the other Loan Documents. Nothing in this Loan Agreement or in the other Loan Documents, expressed or implied, is intended to confer upon any person (other than the parties hereto and thereto, their respective successors and assigns permitted hereunder and, to the extent expressly contemplated hereby, the related parties of the Lender) any rights, remedies, obligations or liabilities under or by reason of this Loan Agreement or the other Loan Documents.

15.23 EACH PARTY HERETO HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS LOAN AGREEMENT OR ANY OF THE OTHER LOAN DOCUMENTS. EACH PARTY HERETO (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HERETO HAVE BEEN INDUCED TO ENTER INTO THIS LOAN AGREEMENT AND THE OTHER LOAN DOCUMENTS, AS APPLICABLE, BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION.

15.24 In the event any one or more of the provisions contained in any Loan Document should be held invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein and therein shall not in any way be affected or impaired thereby (it being understood that the invalidity of a particular provision in a particular jurisdiction shall not in and of itself affect the validity of such provision in any other jurisdiction). The parties shall endeavor in good-faith negotiations to replace the invalid, illegal or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the invalid, illegal or unenforceable provisions.

15.25 Each party hereto irrevocably and unconditionally submits, for itself and its property, to the exclusive jurisdiction of any New York State court or Federal court of the United States of America sitting in the Borough of Manhattan in New York City, and any appellate court from any thereof, in any action or proceeding arising out of or relating to this Loan Agreement or the other Loan Documents, or for recognition or enforcement of any judgment, and each of the parties hereto irrevocably and unconditionally agrees that all claims in respect of any such action or proceeding may be heard and determined in such New York State or, to the extent permitted by law, in such Federal court. Each of the parties hereto agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Nothing in this Loan Agreement shall affect any right that the Lender may otherwise have to bring any action or proceeding relating to this Loan Agreement or the other Loan Documents against any Borrower or its properties in the courts of any jurisdiction.

15.26 Each party hereto irrevocably and unconditionally waives, to the fullest extent it may legally and effectively do so, any objection which it may now or hereafter have to the laying of venue of any suit, action or proceeding arising out of or relating to this Loan Agreement or the other Loan Documents in any New York State or Federal court. Each of the parties hereto irrevocably waives, to the fullest extent permitted by law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

15.27 The Lender notifies the Borrowers that pursuant to the requirements of the USA PATRIOT Act, it is required to obtain, verify and record information that identifies the Borrowers, which information includes the name and address of the Borrowers and other information that will allow the Lender to identify the Borrowers in accordance with the USA PATRIOT Act.

15.28 Notwithstanding anything to the contrary in any Loan Document or in any other agreement, arrangement or understanding among any such parties, each party hereto acknowledges that any liability of any Affected Financial Institution arising under any Loan Document, to the extent such liability is unsecured, may be subject to the write-down and conversion powers of the applicable Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

15.28.1 the application of any Write-Down and Conversion Powers by the applicable Resolution Authority to any such liabilities arising hereunder which may be payable to it by any party hereto that is an Affected Financial Institution; and

15.28.2 the effects of any Bail-In Action on any such liability, including, if applicable:

(i) a reduction in full or in part or cancellation of any such liability;

(ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such Affected Financial Institution, its parent undertaking, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under any Loan Document; or

(iii) the variation of the terms of such liability in connection with the exercise of the write-down and conversion powers of the applicable Resolution Authority.

15.29 Each Borrower hereby irrevocably appoints the Borrower Representative, as the agent for such Borrower on its behalf, to (i) request Loans from the Lender, (ii) to give and receive notices under the Loan Documents and (iii) take all other action which the Borrower Representative or the Borrowers are permitted or required to take under this Loan Agreement (including entering into amendments to any Loan Document). Each warranty, covenant, agreement and undertaking made on behalf of a Borrower or the Borrower Representative shall be deemed for all purposes to have been made by such Borrower and shall be binding upon and enforceable against such Borrower to the same extent as if the same had been made directly by such Borrower. Each Borrower hereby agrees that such Borrower is jointly and severally liable for, and hereby absolutely and unconditionally guarantees to the Lender, the full and prompt payment (whether at stated maturity, by acceleration or otherwise) and performance of, all obligations owed or hereafter owing to the Lender by each other Borrower.

[Remainder of page left blank intentionally]

Duly executed by the Parties on the date first set out on the first page of this Loan Agreement.

BORROWER and BORROWER REPRESENTATIVE

AKEBIA THERAPEUTICS, INC.

By: /s/ Ellen Snow
Name: Ellen Snow
Title: Chief Financial Officer

LENDER and LENDER REPRESENTATIVE

Signed

For and on behalf of
KREOS CAPITAL VII (UK) LIMITED
Authorised signatory

By: /s/ Aris Constantinides
Name: Aris Constantinides
Title: Director

Exhibit 10.103

Execution Version

WARRANT AGREEMENT

THIS WARRANT AGREEMENT (this "Agreement"), is made and entered into as of January 29, 2024 (the "Effective Date"), by and between Akebia Therapeutics, Inc., a Delaware corporation (the "Company"), and Kreos Capital VII Aggregator SCSp ("Holder").

Recitals

In order to induce Kreos Capital VII (UK) Limited ("Lender") to enter into that certain Loan Agreement dated as of January 29, 2024 (the "Loan Agreement"), between the Company, as borrower, and Lender, as lender, the Company has agreed to issue to Holder (an Affiliate of the Lender), upon the occurrence of certain events, Warrants (as defined below) to purchase such number of shares of Common Stock, par value $0.00001 (the "Common Stock"), of the Company (the "Warrant Shares" and, together with such Warrants and all shares of Common Stock (as defined below) or other securities, if any, issuable upon conversion of the Warrants, the "Securities"), and at such exercise price, as determined pursuant to this Agreement.

Terms

1. Definitions. Terms used in this Agreement and not otherwise defined shall have the meaning given to them in the Loan Agreement. In addition to terms separately defined in this Agreement, as used in this Agreement, the following terms have the following meanings:

"**Affiliate**" means with respect to any specified entity, any other entity that, directly or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, the specified entity, where the term "control", "controlled", or "controlling" as used in this definition means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of an entity, whether through the ownership of voting securities, by contract or otherwise.

"**Related Fund**" in relation to a fund or account (the "first fund"), means: (i) a fund or account which is managed or advised by the same investment manager or investment adviser as the first fund; or (ii) if it is managed by a different investment manager or investment adviser, a fund or account whose investment manager or investment adviser is an Affiliate of the investment manager or investment adviser of the first fund; or (iii) that investment manager or investment adviser itself.

"**Warrant**" means a warrant to purchase Warrant Shares issued by the Company pursuant to this Agreement and in the form set forth on Exhibit A.

2. Issuance of Warrants.

(a) Initial Warrant. The Company shall issue a Warrant (the "Initial Warrant") reflecting the Holder's right to purchase 3,076,923 Warrant Shares upon the closing of the transactions contemplated by the Loan Agreement (the "Initial Issue Date").

(b) Tranche C Warrant. The Company shall issue a Warrant (the "Tranche C Warrant") reflecting the Holder's right to purchase 1,153,846 Warrant Shares upon the first drawdown of Tranche C as contemplated by the Loan Agreement (the "Tranche C Issue Date" and together with the Initial Issue Date, as applicable, the "Issue Date").

(c) Shares; Exercise Price. The Exercise Price per Warrant Share for the Initial Warrant and the Tranche C Warrant shall be equal to $1.30 (the "Exercise Price").

(d) Warrant Closings; Deliveries. The closing of a Warrant issuance (a "Warrant Closing") shall take place remotely via exchange of documents. At the Warrant Closing, the Company shall deliver an original Warrant dated as of the date of the Warrant Closing, duly executed by an authorized officer of the Company.

3. Representations and Warranties of the Company. The Company represents and warrants to, and agrees with, the Holder as follows:

(a) The Warrant Shares and all shares of Common Stock or other securities, if any, issuable upon conversion of the Warrant Shares shall, upon issuance in accordance with the terms of the applicable Warrant, be duly authorized, validly issued, fully paid and non-assessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under applicable federal and state securities laws. The Company covenants that it shall, if applicable, at all times following an Issue Date described in Section 2(a) or Section 2(b) of this Agreement, as applicable, cause to be reserved and kept available out of its authorized and unissued capital stock such number of shares of Common Stock and other securities as will be sufficient to permit the exercise in full of the Warrant and the conversion of the Warrant Shares into Common Stock or such other securities.

(b) If the issuance of any of the Securities require approvals or registrations under applicable state "blue sky" or federal securities laws, the Company will use its commercially reasonable efforts to obtain such approvals or registrations as may be appropriate.

(c) Any corporate action required to be taken by the Board of Directors and/or stockholders of the Company in order to authorize the Company to enter into this Agreement and the Warrant, and to issue the applicable Securities has been taken or, with respect to the Securities, will be taken prior to the date of issuance of such Securities. All action on the part of the officers of the Company necessary for the execution and delivery of this Agreement and the Warrant and the performance of all respective obligations of the Company thereunder has been taken or, in the case of the Warrant, will be taken prior to date of issuance of the Warrant. This Agreement constitutes, and the Warrant will constitute, valid and legally binding obligations of the Company, enforceable against the Company in accordance with their respective terms except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, or other laws of general application relating to or affecting the enforcement of creditors' rights generally and (ii) as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

(d) Assuming the accuracy of the Holder's representations and warranties in Section 4 of this Agreement, the execution, delivery and performance of the Agreement will not result in any violation or be in conflict with or constitute, with or without the passage of time and giving of notice, (i) a default under any law applicable to the Company or any instrument, judgment, order, writ, decree, contract or agreement to which the Company is a party or by which its assets are bound except such defaults as would not reasonably be expected to materially and adversely affect the Company; or (ii) an event which results in the creation of any lien, charge or encumbrance upon any assets of the Company or the suspension, revocation, forfeiture, or nonrenewal of any material permit or license applicable to the Company.

4. Representations and Warranties of Holder. Holder represents and warrants to the Company as of the date hereof, and as of the date of issuance of the Warrant, as follows:

(a) Purchase for Own Account. The applicable Securities are being acquired for investment for Holder's account, not as a nominee or agent, and not with a view to the public resale or distribution within the meaning of the U.S. Securities Act of 1933, as amended (the "Securities Act"). Holder also represents that it has not been formed for the specific purpose of acquiring any of the Securities.

(b) Disclosure of Information. Holder is aware of the Company's business affairs and financial condition and has received or has had access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of the applicable Securities. Holder further has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the applicable Securities and to obtain additional information (to the extent the Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to Holder or to which Holder has access.

(c) Investment Experience. Holder understands that the purchase of the Securities involves substantial risk. Holder has experience as an investor in securities of companies in the development stage and acknowledges that Holder can bear the economic risk of such Holder's investment in the Securities and has such knowledge and experience in financial or business matters that Holder is capable of evaluating the merits and risks of its investment in the applicable Securities and/or has a preexisting personal or business relationship with the Company and certain of its officers, directors or controlling persons of a nature and duration that enables Holder to be aware of the character, business acumen and financial circumstances of such persons.

(d) Accredited Investor Status. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Securities Act.

(e) The Securities Act. Holder understands that the applicable Securities will not be registered under the Securities Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of the Holder's investment intent as expressed herein. Holder understands any Securities issued must be held indefinitely unless subsequently registered under the Securities Act and qualified under applicable state securities laws, or unless exemption from such registration and qualification are otherwise available.

5. Restrictive Legends.

(a) Legend. Holder understands that any certificates representing the Securities shall be stamped or imprinted with a legend substantially similar to the following (in addition to any other legend required by applicable law):

> THIS WARRANT AND THE SHARES ISSUABLE HEREUNDER AND ANY SHARES ISSUABLE UPON CONVERSION THEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "**SECURITIES ACT**"), OR THE SECURITIES LAWS OF ANY STATE AND MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR, IN THE OPINION OF LEGAL COUNSEL IN FORM AND SUBSTANCE SATISFACTORY TO THE ISSUER, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

(b) Instructions Regarding Transfer Restrictions. Holder consents to the Company making a notation on its records and giving instructions to any transfer agent, if applicable, in order to implement the restrictions on transfer established in Section 5(a) of this Agreement.

(c) Removal of Legend. The legend identified in Section 5(a) of this Agreement stamped or imprinted on any certificate evidencing any Securities and any stock transfer instructions and record notations with respect to such Securities, if applicable, shall be removed and the Company shall issue a certificate without such legend to the holder of such Securities if (i) such Securities are registered under the Securities Act, or (ii) such holder provides the Company with an opinion of counsel reasonably satisfactory to the Company and its transfer agent, if applicable, to the effect that a sale or transfer of such Securities may be made without registration or qualification. The Company agrees that it shall not require an opinion of counsel if (x) there is no material question as to the availability of Rule 144 (without restriction, including the provisions of Rule 144(c), (e) or (f)) promulgated under the Securities Act or (y) the transfer is to an Affiliate or Related Fund of Holder, provided that any such transferee is an "accredited investor" as defined in Regulation D promulgated under the Securities Act.

6. Transfer of the Securities. The Securities may not be transferred or assigned in whole or in part except in compliance with applicable federal and state securities laws by the transferor and the transferee.

7. General Provisions.

(a) Entire Agreement. This Agreement (including the Exhibit) constitutes the entire agreement among the parties and supersedes and cancels any prior agreements, representations, warranties, or communications, whether oral or written, among the parties relating to the subject matter of, or the transactions contemplated by, this Agreement. Neither this Agreement nor any of its provisions may be modified, changed, waived, discharged, or terminated orally. This Agreement may only be modified, changed, waived, discharged, or terminated by an agreement in writing signed by the party against whom or which the enforcement of such modification, change, waiver, discharge, or termination is sought.

(b) Assignment, Successors and Assigns. The rights and obligations under this Agreement may be assigned by Holder. The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

(c) Notices. All notifications, requests, demands, and other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed given when mailed (with return receipt requested), emailed, faxed (which is confirmed), or sent via a recognized overnight courier service such as Federal Express, to the parties at the addresses set forth on the signature page, or pursuant to such other instructions as may be designated in writing by the party to receive such notice.

(d) Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York, without giving effect to its principles regarding conflicts of law.

(e) Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including PDF) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

(f) Attorney's Fees. If any action at law or in equity (including arbitration) is necessary to enforce or interpret the terms of this Agreement, the prevailing party in such shall be entitled to receive from the non-prevailing party the prevailing party's reasonable attorney's fees, costs and necessary disbursements in addition to any other relief to which it may be entitled.

(g) No Further Obligations. The Company acknowledges and agrees that the Holder has not made any representation, undertaking, commitment or agreement to provide or assist the Company in obtaining any financing, investment or other assistance, other than with regard to the Loan Agreement. In addition, the Company acknowledges and agrees that (i) no statements, whether written or oral, made by the Holder or its representatives on or after the date of this Agreement shall create an obligation, commitment or agreement to provide or assist the Company in obtaining any financing or investment, (ii) the Company shall not rely on any such statement by any the Holder or its representatives and (iii) an obligation, commitment or agreement to provide or assist the Company in obtaining any financing or investment may only be created by a written agreement, signed by the Holder and the Company, setting forth the terms and conditions of such financing or investment and stating that the parties intend for such writing to be a binding obligation or agreement. The Holder shall have the right, in its sole and absolute discretion, to refuse or decline to participate in any other financing of or investment in the Company, and shall have no obligation to assist or cooperate with the Company in obtaining any financing, investment or other assistance.

(h) Certain Remedies. Each party acknowledges and agrees that the other party would be damaged irreparably if this Agreement is not performed in accordance with its terms or otherwise is breached and that a party will be entitled to an injunction and other equitable relief (without posting any bond or other security) to prevent breaches hereof and to enforce specifically this Agreement and its terms in addition to any other remedy to which such party may be entitled hereunder.

(i) Tax Treatment. The Holder and the Company intend and agree that (i) the Initial Warrant and Tranche A drawn on the Initial Issue Date pursuant to the Loan Agreement are to be treated as an "investment unit" within the meaning of Section 1273(c)(2) of the Code and Treasury Regulation Section 1.1273-2(h), (ii) the Tranche C Warrant and the first drawn portion of the Tranche C pursuant to the Loan Agreement are to be treated as an "investment unit" within the meaning of Section 1273(c)(2) of the Code and Treasury Regulation Section 1.1273-2(h), and (iii) the fair market values of the Initial Warrant, Tranche C Warrant, Tranche A and Tranche C shall be reasonably determined by the Company with the consent of the Holder (not to be unreasonably withheld, delayed or conditioned). The parties hereto agree not to take a position inconsistent with this Section 7(i) for U.S. federal and applicable state and local income tax purposes unless required by a final "determination" within the meaning of Section 1313 of the Code to the contrary.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the duly authorized representatives of the parties have executed and delivered this Agreement as of the Effective Date.

AKEBIA THERAPEUTICS, INC.

By: /s/ Ellen Snow

Name: Ellen Snow
Title: Chief Financial Officer

Address per Section 7(c):

245 First Street
Cambridge, MA 02142

Attn: Chief Financial Officer and Chief Legal Officer
Email: [**]

KREOS CAPITAL VII AGGREGATOR SCSp

By: /s/ Mark Collins

Name: Mark Collins
Title: Manager

Address per Section 7(c):

1 Boulevard de la Foire
1528, Luxembourg

Attn: Sonia Benhamida, Guy Arbib, Alexander Babulevich
Email: [**]

EXHIBIT A

Form of Warrant

Incorporated by reference to Exhibit 4.7 of this Annual Report on Form 10-K filed with the Securities Exchange Commission on March 14, 2024

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-8 No. 333-196748) pertaining to the Amended and Restated 2008 Equity Incentive Plan, the 2014 Incentive Plan, and the 2014 Employee Stock Purchase Plan of Akebia Therapeutics, Inc.,

(2) Registration Statement (Form S-8 No. 333-209469) pertaining to the 2014 Incentive Plan and the 2014 Employee Stock Purchase Plan of Akebia Therapeutics, Inc.,

(3) Registration Statement (Form S-8 No. 333-216475) pertaining to the 2014 Incentive Plan and the 2016 Inducement Award Program of Akebia Therapeutics, Inc.,

(4) Registration Statement (Form S-8 No. 333-222728) pertaining to the 2014 Incentive Plan and the 2016 Inducement Award Program of Akebia Therapeutics, Inc.,

(5) Registration Statement (Form S-8 No. 333-228772) pertaining to the 2014 Incentive Plan of Akebia Therapeutics, Inc. and the 1999 Share Option Plan, 2004 Long-Term Incentive Plan, 2007 Incentive Plan, Amended and Restated 2013 Incentive Plan, and 2018 Equity Incentive Plan of Keryx Biopharmaceuticals, Inc.,

(6) Registration Statement (Form S-8 No. 333-229366) pertaining to the 2014 Incentive Plan, the 2014 Employee Stock Purchase Plan, and the Inducement Grant Awards (January 2018 – December 2018) of Akebia Therapeutics, Inc.,

(7) Registration Statement (Form S-8 No. 333-233140) pertaining to the Amended and Restated 2014 Employee Stock Purchase Plan of Akebia Therapeutics, Inc.,

(8) Registration Statement (Form S-8 No. 333-236060) pertaining to the 2014 Incentive Plan and the Inducement Grant Awards (January 2019 – December 2019) of Akebia Therapeutics, Inc.,

(9) Registration Statement (Form S-8 No. 333-252336) pertaining to the 2014 Incentive Plan and the Inducement Grant Awards (January 2020 – December 2020) of Akebia Therapeutics, Inc.,

(10) Registration Statement (Form S-8 No. 333-262392) pertaining to the 2014 Incentive Plan, as amended, and the Inducement Grant Awards (January 2021 – December 2021) of Akebia Therapeutics, Inc.,

(11) Registration Statement (Form S-8 No. 333-269457) pertaining to the 2014 Incentive Plan, as amended, and the Inducement Stock Option Awards (January 2022 – December 2022) of Akebia Therapeutics, Inc.,

(12) Registration Statement (Form S-8 No. 333-272453) pertaining to the 2023 Stock Incentive Plan of Akebia Therapeutics, Inc., and

(13) Registration Statement (Form S-8 No. 333-276770) pertaining to the Inducement Stock Option Awards (January 2023 – December 2023) of Akebia Therapeutics, Inc.;

of our reports dated March 14, 2024, with respect to the consolidated financial statements of Akebia Therapeutics, Inc. and the effectiveness of internal control over financial reporting of Akebia Therapeutics, Inc. included in this Annual Report (Form 10-K) of Akebia Therapeutics, Inc. for the year ended December 31, 2023.

/s/ Ernst & Young LLP
Boston, Massachusetts
March 14, 2024

Exhibit 31.1

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

I, John P. Butler, certify that:

1. I have reviewed this Annual Report on Form 10-K of Akebia Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the Audit Committee of the registrant's Board of Directors (or persons performing the equivalent functions):

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

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

Date:	March 14, 2024	By:	/s/ John P. Butler
			John P. Butler President, Chief Executive Officer and Director (Principal Executive Officer)

Exhibit 31.2

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

I, Ellen E. Snow, certify that:

1. I have reviewed this Annual Report on Form 10-K of Akebia Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the Audit Committee of the registrant's Board of Directors (or persons performing the equivalent functions):

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

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

Date:	March 14, 2024	By:	/s/ Ellen E. Snow
			Ellen E. Snow Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002 (18 U.S.C. Section 1350)

In connection with the accompanying Annual Report of Akebia Therapeutics, Inc., or the Company, on Form 10-K for the fiscal year ended December 31, 2023, or the Report, I, John P. Butler, as Chief Executive Officer and President of the Company, and I, Ellen E. Snow, as Senior Vice President, Chief Financial Officer and Treasurer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date:	March 14, 2024	By:	/s/ John P. Butler
			John P. Butler President, Chief Executive Officer and Director (Principal Executive Officer)
Date:	March 14, 2024	By:	/s/ Ellen E. Snow
			Ellen E. Snow Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer)

Akebia Therapeutics, Inc.

Dodd-Frank Compensation Recovery Policy

This Compensation Recovery Policy (this "Policy") is adopted by Akebia Therapeutics, Inc. (the "Company") in accordance with Nasdaq Listing Rule 5608 ("Rule 5608"), which implements Rule 10D-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act") (as promulgated pursuant to Section 954 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010). This Policy is effective as of October 2, 2023 (the "Effective Date").

1. Definitions

(a) **"Accounting Restatement"** means a requirement that the Company prepare an accounting restatement due to the material noncompliance of the Company with any financial reporting requirement under the U.S. federal securities laws, including any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements, or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period. Changes to the Company's financial statements that do not represent error corrections are not an Accounting Restatement, including: (A) retrospective application of a change in accounting principle; (B) retrospective revision to reportable segment information due to a change in the structure of the Company's internal organization; (C) retrospective reclassification due to a discontinued operation; (D) retrospective application of a change in reporting entity, such as from a reorganization of entities under common control; and (E) retrospective revision for stock splits, reverse stock splits, stock dividends or other changes in capital structure.

(b) **"Committee"** means the Compensation Committee of the Company's Board of Directors (the "Board").

(c) **"Covered Person"** means a person who served as an Executive Officer at any time during the performance period for the applicable Incentive-Based Compensation.

(d) **"Erroneously Awarded Compensation"** means the amount of Incentive-Based Compensation that was Received that exceeds the amount of Incentive-Based Compensation that otherwise would have been Received had the amount of Incentive-Based Compensation been determined based on the restated amounts, computed without regard to any taxes paid by the Covered Person or by the Company on the Covered Person's behalf. For Incentive-Based Compensation based on stock price or total shareholder return, where the amount of Erroneously Awarded Compensation is not subject to mathematical recalculation directly from the information in an Accounting Restatement, the amount of Erroneously Awarded Compensation will be based on a reasonable estimate by the Committee of the effect of the Accounting Restatement on the stock price or total shareholder return upon which the Incentive-Based Compensation was Received. The Company will maintain documentation of the determination of that reasonable estimate and provide such documentation to Nasdaq.

(e) **"Executive Officer"** means the Company's officers as defined in Rule 16a-1(f) under the Exchange Act.

(f) **"Financial Reporting Measures"** means (A) measures that are determined and presented in accordance with the accounting principles used in preparing the Company's financial statements, and any measures that are derived wholly or in part from such measures (whether or not such measures are presented within the Company's financial statements or included in a filing made with the U.S. Securities and Exchange Commission), (B) stock price and (C) total shareholder return.

(g) **"Incentive-Based Compensation"** means any compensation that is granted, earned, or vested based wholly or in part upon the attainment of a Financial Reporting Measure.

(h) Incentive-Based Compensation is deemed to be **"Received"** in the Company's fiscal period during which the Financial Reporting Measure specified in the applicable Incentive-Based Compensation award is attained, even if the payment or grant of the Incentive-Based Compensation occurs after the end of that period or is subject to additional time-based vesting requirements.

(i) **"Recovery Period"** means the three completed fiscal years immediately preceding the earlier of: (A) the date the Board, a committee of the Board, or the officer or officers of the Company authorized to take such action if Board action is not required, concludes, or reasonably should have concluded, that the Company is required to prepare an Accounting Restatement; or (B) the date a court, regulator, or other legally authorized body directs the Company to prepare an Accounting Restatement. In addition, if there is a change in the Company's fiscal year end, the Recovery Period will also include any transition period to the extent required by Rule 5608.

2. Recovery of Erroneously Awarded Compensation

Subject to the terms of this Policy and the requirements of Rule 5608, if the Company is required to prepare an Accounting Restatement, the Company will attempt to recover, reasonably promptly from each Covered Person, any Erroneously Awarded Compensation that was Received by such Covered Person during the Recovery Period pursuant to Incentive-Based Compensation that is subject to this Policy.

3. Interpretation and Administration

(a) Role of the Committee. This Policy will be interpreted by the Committee in a manner that is consistent with Rule 5608 and any other applicable law and will otherwise be interpreted in the business judgment of the Committee. All decisions and interpretations of the Committee that are consistent with Rule 5608 will be final and binding.

(b) Compensation Not Subject to this Policy. This Policy does not apply to Incentive-Based Compensation that was Received before the Effective Date. With respect to any Covered Person, this Policy does not apply to Incentive-Based Compensation that was Received by such Covered Person before beginning service as an Executive Officer.

(c) Determination of Means of Recovery. Subject to the requirement that recovery be made reasonably promptly, the Committee will determine the appropriate means of recovery, which may vary between Covered Persons or based on the nature of the applicable Incentive-Based Compensation, and which may involve, without limitation, establishing a deferred repayment plan or setting off against current or future compensation otherwise payable to the Covered Person. Recovery of Erroneously Awarded Compensation will be made without regard to income taxes paid by the Covered Person or by the Company on the Covered Person's behalf in connection with such Erroneously Awarded Compensation.

(d) Determination That Recovery is Impracticable. The Company is not required to recover Erroneously Awarded Compensation if a determination is made by the Committee that either (A) after the Company has made and documented a reasonable attempt to recover such

Erroneously Awarded Compensation, the direct expense paid to a third party to assist in enforcing this Policy would exceed the amount to be recovered or (B) recovery of such Erroneously Awarded Compensation would likely cause an otherwise tax-qualified retirement plan, under which benefits are broadly available to employees of the registrant, to fail to meet the requirements of Section 401(a)(13) or 411(a) of the Internal Revenue Code and regulations thereunder.

(e) No Indemnification or Company-Paid Insurance. The Company will not indemnify any Covered Person against the loss of Erroneously Awarded Compensation and will not pay or reimburse any Covered Person for the purchase of a third-party insurance policy to fund potential recovery obligations.

(f) Interaction with Other Clawback Provisions. The Company will be deemed to have recovered Erroneously Awarded Compensation in accordance with this Policy to the extent the Company actually receives such amounts pursuant to any other Company policy, program or agreement, pursuant to Section 304 of the Sarbanes-Oxley Act or otherwise.

(g) No Limitation on Other Remedies. Nothing in this Policy will be deemed to limit the Company's right to terminate employment of any Covered Person, to seek recovery of other compensation paid to a Covered Person, or to pursue other rights or remedies available to the Company under applicable law.

Adopted by the Board on November 21, 2023.