



# 2024 Annual Report



# A Letter from Our Co-Founder and CEO

Dear Shareholders,

As we step into 2025, I want to take a moment to reflect on where Recursion stands today and where we are headed. The future of our company—and of the broader pharmaceutical industry—depends on our ability to maintain an unwavering commitment to a bold, audacious vision. This is even more true in challenging times where funding, both for biotech companies and the early research that drives our industry forward, are facing headwinds. At Recursion, we are driven by a singular mission: to decode biology to radically improve lives. We are harnessing the power of cutting-edge technology, vast datasets, and foundation models to transform the way drugs are discovered and developed. And while we've adjusted our sails to the winds of our industry, capital markets and more, we've never altered our destination. We won't settle for anything less than achieving this mission, and I'm proud to lead a company where we take that approach, from our employees, to our leadership, and to our Board of Directors. Our boldness in the face of stormy weather is one of the things that makes us the leader in TechBio.

## Largest merger or acquisition

IN THE TECHBIO SPACE TO DATE WITH EXSCIENTIA



Recursion's commitment to revolutionizing drug development took a major leap forward last year with the announcement of the largest merger or acquisition in the TechBio space to date—our combination with Exscientia. This was not just a transaction; it was the formation of a first-of-its-kind, fully integrated, technology-first drug discovery platform, and it was a transaction that we've known could be transformative for years. By uniting Recursion's strength in scaling biological insights and clinical translation with Exscientia's precision chemistry and small-molecule expertise, we have created a seamless, AI-driven approach spanning from early discovery to clinical development.

Through this combination, we have built a unique full-stack platform. Way back in 2013, we started with a point-solution; leveraging computer vision to unlock all of the information in cell morphology. Our pioneering work in phenomics, which is now a part of nearly every large pharmaceutical company's discovery workflow, was just the beginning. While hundreds of TechBio startups today are optimizing their first point-solution, we've continued advancing our tech-enabled philosophy to build, buy and combine point solutions across virtually all major steps in drug discovery from target discovery to clinical development. We've continued investing, from scaling new high-dimensional -omics assays, to building BioHive-2, the most advanced supercomputer in the pharmaceutical industry, all because we believe more than ever that a technology-driven approach is what will finally unlock the much needed and anticipated shift in the way drugs are discovered and developed.

And while I'm proud that we have led the burgeoning TechBio space for more than a decade, I'm even happier to see hundreds of companies, big and small, following in our footsteps. For years we preached the potential of combining sophisticated computational techniques with large biological and chemical dataset creation to a skeptical (and sometimes hostile) audience. Today, the naysayers are part of a slimming minority and the progressive visionaries of the industry are all plotting their path to this inevitable future of drug discovery. The era of TechBio is truly here, and we are proud to be such a big part of it.

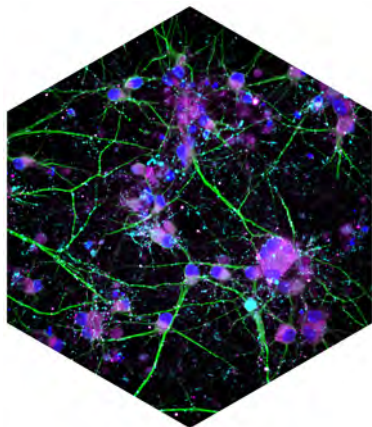
# 10 key clinical milestones

EXPECTED OVER THE NEXT  
18 MONTHS



## >\$450 Million

IN COLLABORATION PAYMENTS  
TO DATE



## A Look Back at 2024: Delivering on the Promise of AI and Data-Driven Drug Discovery

The strength of our approach is evident in our growing portfolio. We now have 10 clinical and preclinical programs, with approximately 10 key clinical milestones expected over the next 18 months. Beyond that, we have more than 10 advanced discovery programs advancing rapidly toward the clinic alongside some incredibly exciting programs and molecules that are a part of our discovery collaborations.

One compelling example is REC-1245, a potential first-in-class RBM39 degrader for biomarker-enriched solid tumors and lymphoma. This program, one of the first to result from our end-to-end AI-enabled platform, leveraged advanced maps of biology to identify RBM39 as a critical target and our early AI-enabled chemistry platform to advance the molecule to candidate. Through preclinical models, we validated that RBM39 degradation disrupts key DNA damage response (DDR) networks, potentially halting cancer growth. The journey from target identification to IND-enabling studies was completed in just 18 months—less than half of the industry average—leading to our first patient being dosed in the fourth quarter of 2024.

Another breakthrough is REC-617, our precision-designed CDK7 inhibitor, which has shown promising interim results in the Phase 1/2 ELUCIDATE trial. Early data demonstrates robust target engagement, a favorable pharmacokinetic and pharmacodynamic profile, and compelling initial clinical activity. Notably, a confirmed partial response was observed in a heavily pre-treated patient with platinum-resistant ovarian cancer, lasting more than six months, alongside four additional patients achieving stable disease. Designed entirely using our AI-led platform, REC-617 was synthesized from hit to candidate in just under 12 months, requiring only 136 novel molecules—an order of magnitude more efficient than conventional drug discovery.

Beyond our own programs, we continue to collaborate with leading biopharma partners like Roche and Genentech, Sanofi, Bayer, and Merck KGaA, Darmstadt, Germany. These partnerships validate our platform and amplify our impact. For example, our collaboration with Roche and Genentech achieved a groundbreaking milestone: the world's first genome-scale Neuromap, a comprehensive AI-powered model of neurobiology built from human-induced pluripotent stem cell (hiPSC)-derived neurons. This effort, which required generating over a trillion neurons, led to a first-of-its-kind neuroscience phenomap that Roche-Genentech optioned for \$30 million.

Similarly, our work with Sanofi continues to drive value. In 2024, we received \$15 million in milestone payments after advancing two discovery programs into lead optimization, each showing strong differentiation and best-in-class potential. To date, we have generated over \$450 million in collaboration payments, not only through upfront payments, but by consistently delivering on milestones, a feat achieved by few other biotech companies in history. As we look ahead, we are well on our way toward unlocking up to \$20 billion in potential milestone payments before royalties—fueling the next generation of AI-driven drug discovery and development.



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## 2025 and Beyond: The Dawn of the Virtual Cell

For the small set of leaders in TechBio—spanning companies, institutes and academics - we are converging around a breakthrough in the coming years that has the potential to create a transformational shift. We are approaching a future where many biological processes can be accurately simulated—a concept we call the "virtual cell." Today, our wet labs primarily generate the data needed to train AI models. But in the near future, these labs will primarily validate AI-driven predictions, fundamentally flipping the paradigm of drug discovery.

### Four interconnected layers of biology

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- **Population-Scale Patient-Level Data**
- **Pathway-Level Data**
- **Protein-Level Insights**
- **Atomistic-Level Simulations**

We believe that achieving this vision will require excellence across four interconnected layers of biology:

1. **Population-Scale Patient-Level Data:** Thanks to the genomic revolution and the progressive thinking of a small number of governments around the world, we and many others have had access to population-scale -omics data from patients. In the last 18 months, we have dramatically expanded the power of our approach by signing deals with companies like Tempus and Helix to bring tens of petabytes of proprietary data to support our discovery and development.
2. **Pathway-Level Data:** We are far ahead in systematically mapping gene networks across multiple cellular contexts, using techniques like whole-genome CRISPR knockout and high-dimensional -omics analysis across hundreds of millions of proprietary experiments.
3. **Protein-Level Insights:** AlphaFold and similar tools have revolutionized protein modeling. By integrating state-of-the-art protein-protein interaction and ligand-binding predictions, we remain at the forefront of this rapidly evolving space.
4. **Atomistic-Level Simulations:** With Exscientia's quantum mechanics/molecular dynamics (QM/MD) expertise now part of Recursion, we are uniquely positioned to lead in simulating molecular interactions at atomic precision.

By integrating these layers, Recursion is building one of the most advanced predictive models of human biology ever created. This will allow us to explore the vast landscape of potential drugs and disease mechanisms in *silico* before ever stepping into the lab—dramatically accelerating drug development timelines and reducing costs.

## Transforming Clinical Development with AI and Automation

In 2025, we are also doubling down on transforming clinical development through our ClinTech platform, powered by AI, automation, and real-world evidence. Our partnerships with Tempus, Helix and a growing cohort of other data sources provide us with access to critical patient data, allowing us to:

- Use AI-driven simulations to optimize trial design and enhance our probability of success.
- Automate critical processes like patient recruitment and site activation, dramatically reducing enrollment timelines.
- Leverage real-world evidence to inform regulatory strategies and increase the likelihood of clinical success.

And through partnerships with Faro Health and other industry leaders, we are industrializing clinical workflows, reducing trial costs, and streamlining operations—all while increasing the speed at which we bring new medicines to patients. We are in the early days of this work, but I am so excited at the potential I am already seeing. Coupling these advances with our discovery and translational platform will magnify all of our clintech work and continue to accelerate our lead in the TechBio space.

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“This is not just about technology for the sake of technology. It is about ensuring that the boldest ideas in biotech are realized and that the future of medicine is shaped by those who are willing to embrace the extraordinary.”



## The Future of TechBio: A Call to Boldness

The path we are charting is not an easy one. It is filled with challenges, and it requires taking risks that others shy away from. But if we are to fulfill our promise—to revolutionize drug discovery and improve patient lives at scale—we must push forward with conviction.

This is not just about technology for the sake of technology. It is about ensuring that the boldest ideas in biotech are realized and that the future of medicine is shaped by those who are willing to embrace the extraordinary. As we step into 2025, I am more confident than ever that Recursion is leading the way. With a solid foundation, a world-class team, and a relentless commitment to innovation, we are poised to make this year our most transformative yet.

Thank you for your continued belief in our mission. Together, we are unlocking the future of medicine.



**Chris Gibson, Ph.D.**

Founder and CEO, Recursion

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## PART I

# Risk Factor Summary

Below is a summary of the principal factors that make an investment in the common stock of Recursion Pharmaceuticals, Inc. (Recursion, the Company, we, us, or our) risky or speculative. This summary does not address all of the risks we face. Additional discussion of the risks summarized below, and other risks that we face, can be found in the section titled “Item 1A. Risk Factors” in this Annual Report on Form 10-K.

### ***Risks Related to Our Limited Operating History, Financial Position, and Need for Additional Capital***

- We are a clinical-stage biotechnology company with a limited operating history and no products approved by regulators for commercial sale, which may make it difficult to evaluate our current and future business prospects
- We have incurred significant operating losses since our inception and anticipate that we will incur continued losses for the foreseeable future.
- We will need to raise substantial additional funding. If we are unable to raise capital when needed, we would be forced to delay, reduce, or eliminate at least some of our product development programs, business development plans, strategic investments, and potential commercialization efforts, and to possibly cease operations.
- Raising additional capital and issuing additional securities may cause dilution to our stockholders, restrict our operations, require us to relinquish rights to our technologies or drug candidates, and divert management’s attention from our core business.
- We may be required to repurchase for cash all, or to facilitate the purchase by a third party of all, of the shares of Class A common stock that were issued to the Bill & Melinda Gates Foundation, or the Gates Foundation, in exchange for the Exscientia American Depositary Shares (ADSs) that the Gates Foundation purchased from Exscientia in an October 2021 private placement if we default under the global access commitments agreement with Exscientia, which could have an adverse impact on us.
- We are engaged in strategic collaborations and we intend to seek to establish additional collaborations, including for the clinical development or commercialization of our drug candidates. If we are unable to establish collaborations on commercially reasonable terms or at all, or if current and future collaborations are not successful, we may have to alter our development and commercialization plans.
- We have no products approved for commercial sale and have not generated any revenue from product sales. We or our current and future collaborators may never successfully develop and commercialize our drug candidates, which would negatively affect our results of operation and our ability to continue our business operations.
- If we engage in future acquisitions or strategic partnerships, this may increase our capital requirements, dilute our stockholders’ equity, cause us to incur debt or assume contingent liabilities, and subject us to other risks.

### ***Risks Related to the Discovery and Development of Drug Candidates***

- Our approach to drug discovery is unique and may not lead to successful drug products for various reasons, including, but not limited to, challenges identifying mechanisms of action for our candidates.
- Our drug candidates are in preclinical or clinical development, which are lengthy and expensive processes with uncertain outcomes and the potential for substantial delays.
- If we experience delays or difficulties in the enrollment of patients in clinical trials, our receipt of necessary regulatory approvals could be delayed or prevented.
- Our planned clinical trials, or those of our current and potential future collaborators, may not be successful or may reveal significant adverse events not seen in our preclinical or nonclinical studies, which may result in a safety profile that could inhibit regulatory approval or market acceptance of any of our drug candidates.
- We may develop drug candidates for use in combination with other therapies, which exposes us to additional risks.
- We conduct clinical trials for our drug candidates outside the United States, and the FDA and similar foreign regulatory authorities may not accept data from such trials.
- It is difficult to establish with precision the incidence and prevalence for target patient populations of our drug candidates. If the market opportunities for our drug candidates are smaller than we estimate, or if any approval that we obtain is based on a narrower definition of the patient population, our revenue and ability to achieve profitability will be adversely affected, possibly materially.
- We may never realize a return on our investment of resources and cash in our drug discovery collaborations.
- We face substantial competition, which may result in others discovering, developing, or commercializing products before, or more successfully than, we do.
- Because we have multiple programs and drug candidates in our development pipeline and are pursuing a variety of target indications and treatment modalities, we may expend our limited resources to pursue a particular drug candidate and fail to

capitalize on development opportunities or drug candidates that may be more profitable or for which there is a greater likelihood of success.

- Our product candidates may cause significant adverse events, toxicities or other undesirable side effects when used alone or in combination with other approved products or investigational new drugs that may result in a safety profile that could prevent regulatory approval, prevent market acceptance, limit their commercial potential or result in significant negative consequences.

#### ***Risks Related to Our Platform and Data***

- We have invested, and expect to continue to invest, in research and development efforts to further enhance our drug discovery platform, which is central to our mission. If the return on these investments is lower or develops more slowly than we expect, our business and operating results may suffer.
- Our information technology systems and infrastructure may fail or experience security breaches and incidents that could adversely impact our business and operations and subject us to liability.
- Interruptions in the availability of server systems or communications with internet or cloud-based services, or failure to maintain the security, confidentiality, accessibility, or integrity of data stored on such systems, could harm our business.
- Our solutions utilize third-party open source software (OSS), which presents risks that could adversely affect our business and subject us to possible litigation.
- Issues relating to the use of artificial intelligence and machine learning in our offerings could adversely affect our business and operating results.

#### ***Risks Related to Our Operations/Commercialization***

- Even if any drug candidates we develop receive marketing approval, they may fail to achieve the degree of market acceptance by physicians, patients, healthcare payors, and others in the medical community necessary for commercial success.
- If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to sell and market any drug candidates we may develop, we may not be successful in commercializing those drug candidates, if and when they are approved.
- We are subject to regulatory and operational risks associated with the physical and digital infrastructure at both our internal facilities and those of our external service providers.
- The manufacture of drugs is complex, and our third-party manufacturers may encounter difficulties in production or supply chain. If any of our third-party manufacturers encounter such difficulties, our ability to provide adequate supply of our product candidates for clinical trials or our products for patients, if approved, could be delayed or prevented.

#### ***Risks Related to Our Intellectual Property***

- Our success significantly depends on our ability to obtain and maintain patents of adequate scope covering our proprietary technology and drug candidate products. Obtaining and maintaining patent assets is inherently challenging, and our pending and future patent applications may not issue with the scope we need, if at all.
- Our current proprietary position for certain drug product candidates depends upon our owned or in-licensed patent filings covering components of such drug product candidates, manufacturing-related methods, formulations, and/or methods of use, which may not adequately prevent a competitor or other third party from using the same drug candidate for the same or a different use.
- We may not be able to protect our intellectual property and proprietary rights throughout the world.
- If we do not obtain patent term extension and data exclusivity for any drug product candidates we may develop, our business may be materially harmed.
- We may need to license certain intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms.
- Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.
- Issued patents covering our drug product candidates and proprietary technology that we have developed or may develop in the future could be found invalid or unenforceable if challenged in court or before administrative bodies in the United States or abroad.

#### ***Risks Related to Acquisitions***

- The failure to integrate successfully the businesses of Recursion and Exscientia in the expected timeframe would adversely affect Recursion's future business and financial performance.
- The anticipated benefits of the business combination with Exscientia may vary from expectations.
- As a company with substantial operations outside of the United States, we are subject to economic, political, regulatory and other risks associated with international operations.

***Risks Related to Government Regulation***

- We may be unable to obtain U.S. or foreign regulatory approval and, as a result, may be unable to commercialize our product candidates.
- The FDA, EMA and other comparable foreign regulatory authorities may not accept data from trials conducted in locations outside of their jurisdiction.
- Even if we receive FDA or other regulatory approval for any of our drug candidates, we will be subject to ongoing regulatory obligations and other conditions that may result in significant additional expense, as well as the potential recall or market withdrawal of an approved product if unanticipated safety issues are discovered.
- The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses.
- Though we have been granted orphan drug designation for certain of our drug candidates, we may be unsuccessful or unable to maintain the benefits associated with such a designation, including the potential for market exclusivity.
- We are subject to U.S. and foreign laws regarding privacy, data protection, and data security that could entail substantial compliance costs, while the failure to comply could subject us to significant liability.
- Regulatory and legislative developments related to the use of AI could adversely affect our use of such technologies in our products, services, and business.

***Other Risks***

- Third parties that perform some of our research and preclinical testing or conduct our clinical trials may not perform satisfactorily or their agreements may be terminated.
- Third parties that manufacture our drug candidates for preclinical development, clinical testing, and future commercialization may not provide sufficient quantities of our drug candidates or products at an acceptable cost, which could delay, impair, or prevent our development or commercialization efforts.
- We may not realize all of the anticipated outcomes and benefits of our Acquisitions.
- Our future success depends on our ability to retain key executives and experienced scientists, and to attract, retain, and motivate qualified personnel.
- We have identified a material weakness in our internal control over financial reporting.



# Cautionary Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K contains “forward-looking statements” about us and our industry within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements other than statements of historical facts are forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “would,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential,” or “continue” or the negative of these terms or other similar expressions. Forward-looking statements contained in this report may include without limitation those regarding:

- our research and development programs;
- the initiation, timing, progress, results, and cost of our current and future preclinical and clinical studies, including statements regarding the design of, and the timing of initiation and completion of, studies and related preparatory work, as well as the period during which the results of the studies will become available and key milestones will be met;
- our ability to use our combined assets from our recent business combination to create a fully integrated, technology-first drug discovery platform;
- the timing and likelihood of our ability to shift our wet-lab from a source of data generation to a model for validating data from AI-generated results;
- the ability and willingness of our collaborators to continue research and development activities relating to our development candidates and investigational medicines;
- future agreements with third parties in connection with the commercialization of our investigational medicines and any other approved product;
- the timing, scope, and likelihood of regulatory filings and approvals, including the timing of Investigational New Drug applications and final approval by the U.S. Food and Drug Administration, or FDA, of our current drug candidates and any other future drug candidates, as well as our ability to maintain any such approvals;
- the timing, scope, or likelihood of foreign regulatory filings and approvals, including our ability to maintain any such approvals;
- the size of the potential market opportunity for TechBio companies, including the expected impact of AI-enabled technologies;
- the size of the potential market opportunity for our drug candidates, including our estimates of the number of patients who suffer from the diseases we are targeting;
- our ability to identify viable new drug candidates for clinical development and the rate at which we expect to identify such candidates, whether through an inferential approach or otherwise;
- our expectation that the assets that will drive the most value for us are those that we will identify in the future using our datasets and tools;
- our ability to develop and advance our current drug candidates and programs into, and successfully complete, clinical studies;
- our ability to reduce the time or cost or increase the likelihood of success of our research and development relative to the traditional drug discovery paradigm, including the use of data sets from our partners to accelerate the development of our AI-enabled technologies;
- our ability to improve, and the rate of improvement in, our infrastructure, datasets, biology, technology tools, and drug discovery platform, and our ability to realize benefits from such improvements;
- our ability to effectively use machine learning and artificial intelligence in our drug development process;
- our ability to leverage our collaborations and partnerships to develop our products and grow our business;
- our expectations related to the performance and benefits of our BioHive-2 supercomputer, Recursion OS, and our digital chemistry platform;
- our ability to realize a return on our investment of resources and cash in our drug discovery collaborations;
- our ability to sell or license assets and re-invest proceeds into funding our long-term strategy;
- our ability to scale like a technology company and to add more programs to our pipeline each year;
- our ability to acquire and generate datasets to train and develop our AI-enabled technologies;
- our ability to successfully compete in a highly competitive market;
- our manufacturing, commercialization, and marketing capabilities and strategies;
- our plans relating to commercializing our drug candidates, if approved, including the geographic areas of focus and sales strategy;
- our expectations regarding the approval and use of our drug candidates in combination with other drugs;
- the rate and degree of market acceptance and clinical utility of our current drug candidates, if approved, and other drug candidates we may develop;
- our competitive position and the success of competing approaches that are or may become available, including with respect to our AI-enabled technologies;
- our estimates of the number of patients that we will enroll in our clinical trials and the timing of their enrollment;

- the beneficial characteristics, safety, efficacy, and therapeutic effects of our drug candidates;
- our plans for further development of our drug candidates, including additional indications we may pursue;
- our ability to adequately protect and enforce our intellectual property and proprietary technology, including the scope of protection we are able to establish and maintain for intellectual property rights covering our current drug candidates and other drug candidates we may develop, receipt of patent protection, the extensions of existing patent terms where available, the validity of intellectual property rights held by third parties, the protection of our trade secrets, and our ability not to infringe, misappropriate or otherwise violate any third-party intellectual property rights;
- the impact of any intellectual property disputes and our ability to defend against claims of infringement, misappropriation, or other violations of intellectual property rights;
- our ability to keep pace with new technological developments, including with respect to AI;
- our ability to utilize third-party open source software and cloud-based infrastructure, on which we are dependent;
- the adequacy of our insurance policies and the scope of their coverage;
- the potential impact of a pandemic, epidemic, or outbreak of an infectious disease, such as COVID-19, or natural disaster, global political instability, or warfare, and the effect of such outbreak or natural disaster, global political instability, or warfare on our business and financial results;
- our ability to achieve net-zero greenhouse gas emissions across our operations;
- our ability to maintain our technical operations infrastructure to avoid errors, delays, or cybersecurity breaches;
- our continued reliance on third parties to conduct additional clinical trials of our drug candidates, and for the manufacture of our drug candidates for preclinical studies and clinical trials;
- our ability to obtain, and negotiate favorable terms of, any collaboration, licensing or other arrangements that may be necessary or desirable to research, develop, manufacture, or commercialize our platform and drug candidates;
- the pricing and reimbursement of our current drug candidates and other drug candidates we may develop, if approved;
- our estimates regarding expenses, future revenue, capital requirements, and need for additional financing;
- our financial performance;
- the period over which we estimate our existing cash and cash equivalents will be sufficient to fund our future operating expenses and capital expenditure requirements;
- our ability to raise substantial additional funding;
- the impact of current and future laws and regulations, and our ability to comply with all regulations that we are, or may become, subject to;
- the need to hire additional personnel and our ability to attract and retain such personnel;
- the impact of any current or future litigation, which may arise during the ordinary course of business and be costly to defend;
- our ability to maintain effective internal control over financial reporting and disclosure controls and procedures, including our ability to remediate the material weakness in internal control over financial reporting;
- our anticipated use of our existing resources and the net proceeds from our public offerings; and
- other risks and uncertainties, including those listed in the section titled “Risk Factors.”

We have based these forward-looking statements largely on our current expectations and projections about our business, the industry in which we operate, and financial trends that we believe may affect our business, financial condition, results of operations, and prospects. These forward-looking statements are not guarantees of future performance or development. These statements speak only as of the date of this report and are subject to a number of risks, uncertainties and assumptions described in the section titled “Risk Factors” and elsewhere in this report. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we undertake no obligation to update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, or otherwise.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this report. While we believe such information forms a reasonable basis for such statements, the information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to unduly rely upon them.

ITEM 1

# BUSINESS



# Item 1. Business.

## Recursion At-a-Glance

### The Problem

Discovering and developing effective new medicines is among the most challenging human pursuits due to the incredible complexity of biology, the vastness of chemical space, and both the ineffectiveness and inefficiencies in clinical development. Today more than 90% of clinical trials fail.

### Our Mission and Philosophy

Recursion was founded in 2013 to decode biology to radically improve lives by building the next generation biopharma company from the ground-up, leveraging the latest technology tools to help map and navigate the incredible complexity of biology, vastness of chemical space, and the broken drug development process. We believe that rapid commoditization of artificial intelligence creates a once-in-a-generation market opportunity for companies with the ability to build the right datasets in biology and chemistry to win.

### Our Competitive Advantage

That's why we have invested heavily in creating one of the most sophisticated automated wet-laboratories in the world where robots and sensors help us conduct and digitize millions of real-life experiments each week, spanning cellular systems, chemical systems, tissue systems, and animal models. We also partner with select companies to aggregate and relate data from patients and health systems at scale. In addition, we command industry-leading computational capabilities including BioHive-2 (the fastest supercomputer wholly owned and operated by any biopharma company), and employ hundreds of data scientists, software engineers, and AI researchers who build software to automate our work and foundational AI models that help us see patterns in our data at scale. Together our laboratories, data, software, compute, and team comprise what we believe is one of the most sophisticated operating systems for drug discovery on earth, The Recursion OS.

### How we Create Value

We leverage the Recursion OS to deliver value in three ways: 1) our own pipeline of clinical and preclinical potential medicines focused in precision oncology, rare disease, and other niche areas of unmet need; 2) by discovering new medicines with large biopharmaceutical companies in some of the biggest areas of unmet need like neuroscience and inflammation; and 3) by leveraging our tools, technology, and data for the benefit of other partners in targeted and limited ways.



**Figure 1.** Portfolio poised for value creation from a unified operating system. <sup>1</sup>Includes preclinical programs (programs expected to enter the clinic within the next 18 months). <sup>2</sup>Program milestones include data readouts, preliminary data updates, regulatory submissions, trial initiation, etc.

## 2024 Highlights & Progress

In 2024, we accelerated the next wave of AI-driven drug discovery and development, delivering key milestones across multiple clinical programs, advancing our transformative partnerships, unveiling major breakthroughs in foundation models, and by consolidating some of the best tools, technologies, and talent into what we believe is the leading company in the burgeoning field of TechBio.

### Advancements in the Pipeline:

- **REC-617:** A potential best-in-class CDK7 inhibitor optimized using our AI platform, delivered early Phase 1/2 results demonstrating promising safety and preliminary efficacy, including a durable partial response in a late-stage metastatic ovarian cancer patient and stable disease across four other patients with solid tumors (e.g. CRC, NSCLC)
- **REC-994:** A potential first-in-disease oral superoxide scavenger for symptomatic CCM, confirmed safety and tolerability of chronic dosing in a Phase 2 study, with exploratory analyses suggesting lesion volume reduction on MRI and symptom stabilization as evaluated by change in mRS scores
- **Clinical Advancements and Regulatory Milestones:** Initiated three clinical studies: DAHLIA (Phase 1/2, REC-1245 for solid tumors and lymphoma), TUPELO (Phase 1b/2, REC-4881 for FAP), and ALDER (Phase 2, REC-3964 for recurrent *C. difficile* infection), received IND clearance for REC-4539 (small cell lung cancer), CTA approval for REC-3565 (b-cell malignancies), and progressed REC-4209 (idiopathic pulmonary fibrosis) to IND-enabling studies

### Advancements in Partnerships:

- **Roche and Genentech:** Generated whole-genome and chemical perturbation maps in a gastrointestinal oncology indication and a whole genome neuroscience phenomap. The neuro phenomap resulted in the exercise of a \$30M milestone
- **Sanofi:** Achieved \$15M in milestones, advancing multiple targets in immunology and oncology into lead optimization
- **Bayer:** Completed 25 multimodal oncology data packages and delivery of LOWE, our LLM-orchestrated workflow software, to enhance research capabilities
- **Merck KGaA (Darmstadt, Germany):** Advanced alliance to identify first-in-class or best-in-class targets across oncology and immunology

### Advancements in Platform:

- **Full Stack AI Powered Platform:** Our constantly evolving Recursion OS spans target discovery through clinical development, enabling efficient molecule design and testing for both first-in-class and best-in-class opportunities
- **Breakthroughs in Foundation Models:** We've developed both unimodal and multimodal AI models like Phenom, MolPhenix, and MolGPS that accelerate our ability to make high-confidence predictions in our therapeutics programs
- **Advancement in Causal AI Models:** Through collaborations with Tempus and Helix, we integrate real-world, scaled patient datasets with our proprietary internal data to deepen biological insights and better match our therapeutic candidates with target populations
- **Emerging Focus on ClinTech:** We are using AI and machine learning to optimize clinical trial design, accelerate patient enrollment, and enhance evidence generation through data-driven methodologies

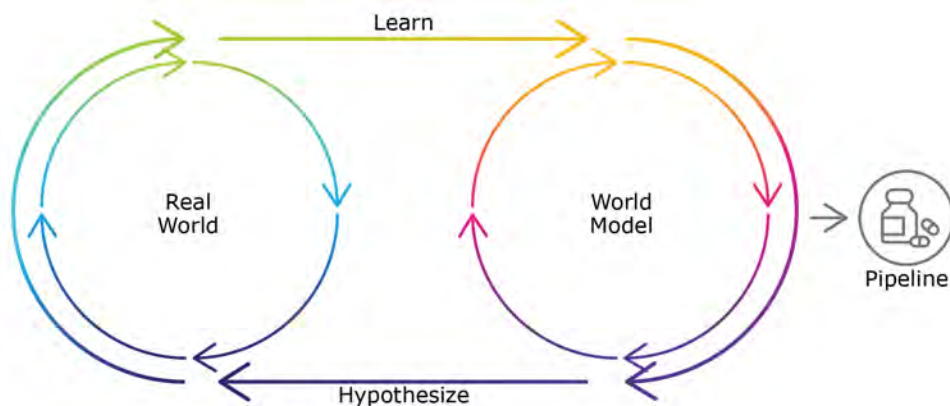
## What's Next

In 2025, we plan to accelerate our pipeline with additional clinical readouts, deepen existing partnerships, and further expand our proprietary data suite. We anticipate up to 10 additional clinical program milestones over the next 18 months, exciting milestone achievements in our R&D collaborations, and continued breakthroughs in AI-driven discovery, advancing our mission to decode biology to radically improve lives. Significant milestones from our portfolio of pharma R&D partnerships and a focus on monetizing select assets in our pipeline will help to subsidize continued investment to expand our leading position in the TechBio space, which we view as a generational opportunity for value creation.

## Business Overview

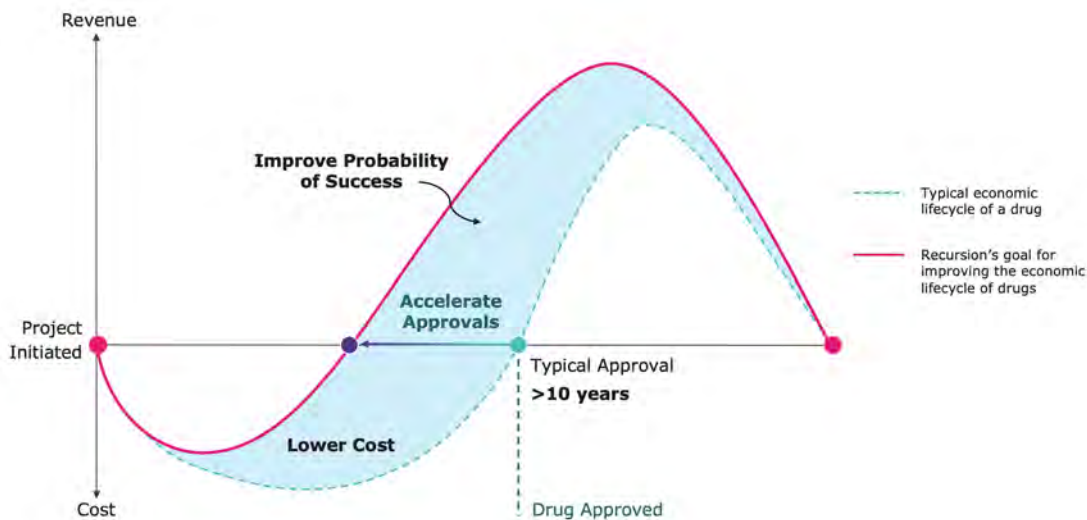
Recursion is a leading clinical stage TechBio company with a mission to decode biology to radically improve lives. We aim to achieve our mission by industrializing drug discovery using the Recursion Operating System (OS), a vertical platform of diverse technologies that enables us to map and navigate trillions of biological, chemical, and patient-centric relationships utilizing approximately 65 petabytes of proprietary data.

The Recursion OS integrates 'Real World' data generated in our own wet-laboratories or by select partners and a 'World Model' which is a collection of AI computational models we also build in-house. Today, our scaled 'wet-lab' biology, chemistry, and patient-centric experimental data feed our 'dry-lab' computational tools to identify, validate, and translate therapeutic insights, which we can then validate in our wet-lab to both advance drug discovery programs and to generate data to further refine our world model.



**Figure 2.** The Recursion OS. Recursion generates massive quantities of rich, high-dimensional real world –omics data (e.g., phenomics, transcriptomics and proteomics) and chemical data. We build and train ML and AI models that take the data and learning from the real world to understand and identify patterns and insights, using the fastest supercomputer wholly owned and operated by any pharmaceutical company globally (based on available data). This creates a virtuous cycle of learning and iteration based on real-world data and models that learn to simulate that real world. This virtuous cycle, i.e., the Recursion OS, generates value through our pipeline, in addition to building pipelines for our partners.

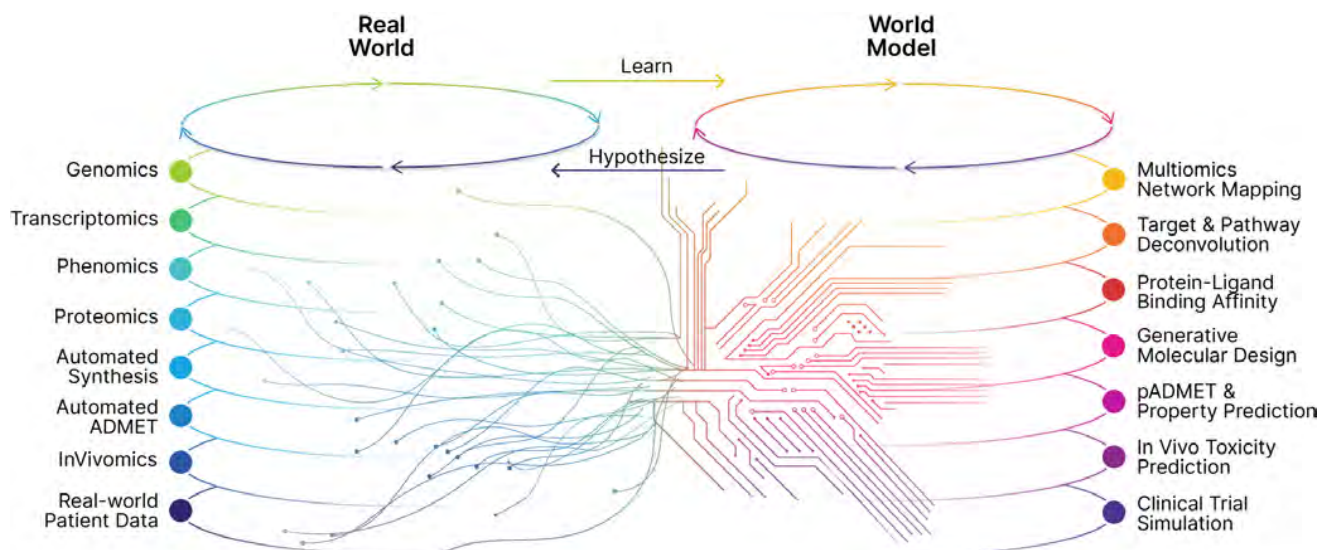
We have demonstrated that the Recursion OS already accelerates the timelines and scale of drug discovery, and we hope to prove in the coming years that we not only meet the industry average probability of success in clinical development but exceed it. If successful in achieving our mission, we may be able to build one of the most valuable businesses in our industry while also improving the lives of patients and pushing down the cost of healthcare.



**Figure 3.** Over time, we believe our transformational way of designing and developing drugs can change the industry's underlying pharmacoeconomic model, what we call 'shifting the curve'. We aim to demonstrate that it is simultaneously possible to improve probability of success through designing better quality drugs while also reducing investment requirements through improved technologies and process. Recursion was created to take advantage of the discontinuity between these fields and harness the power of accelerating technological innovations to improve the efficiency of drug discovery and development.

## The Recursion OS – A Platform that Powers a Portfolio

The Recursion OS is a full-stack solution delivering technology-enabled first-in-class and best-in-class molecules with speed, efficiency, and scale from target discovery through early clinical development. We generate and aggregate enormous quantities of high-quality, high-dimensional data spanning hundreds of millions of cellular perturbations across biology and chemistry, translational experiments, ADMET experiments, in vivo experiments, patient data, and from scaled automated chemical synthesis. In parallel, we have built foundation models that leverage those data to learn and understand the underlying biological and chemical interactions with broad predictive capabilities.

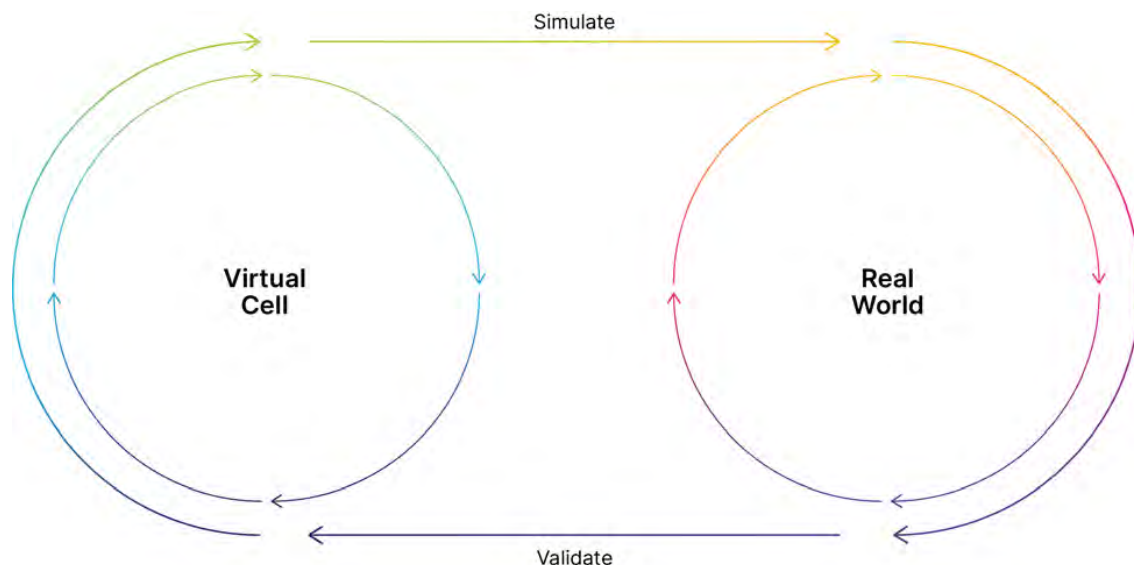


**Figure 4.** Recursion's World Model approach (1) Profile biological and chemical systems using automation to scale a small number of data-rich assays, including phenomics, transcriptomics, InVivomics, and ADME to generate massive, high quality empirical data; (2) aggregate and analyze the resultant data using a variety of machine learning models, in a process coordinated with in-house software systems and tools; and (3) map and navigate leveraging proprietary software tools to infer properties and relationships in biology and chemistry. These inferred properties and relationships serve as the basis of our ability to predict how to navigate between biological states using chemical or biological perturbations, which we can then validate in our automated laboratories, completing a virtuous cycle of learning and iteration.

Our competitive advantage compared to the hundreds of companies both large and small that seek to follow our path is the intense focus and early success in verticalizing this approach. The company began by pioneering a point solution to scaled target discovery and hit ID based on phenomics, the use of cell morphology and computer vision. Today, we are generating, aggregating, or simulating data from patients to cells, cells to pathways, pathways to proteins, proteins to atomistic interactions, cells to organoids, organoids to animals, and animals to people in the clinic. We're systematically capturing complex, high-dimensional datasets, training specialized machine learning and AI models, and building foundation models that synthesize insights across diverse data layers. As we combine and coalesce these foundation models, spanning target discovery through clinical development, we are increasingly building a 'world model' that contains within it a virtual representation of how biology and chemistry are working. Today, our world model is enabling us to make many high-confidence predictions about the result of previously untried or untested questions.

In the coming years we believe that our world model will attain a level of understanding of biology and chemistry of sufficient quality that our wet lab will move from data generation for model improvement as its primary use to 'scaled validation of simulated solutions.' In essence, our world model will become a 'virtual cell' where we can simulate an inexhaustible quantity of 'experiments,' identify those targets and chemistries that have the highest probability of success in modulating disease and achieving a desired (and automatically generated) Target Product Profile, and then our wet lab can validate those predictions at scale.





**Figure 5.** Over time, models can become broadly applicable and performant enough to be the first rather than last step in the process, that is “move to the left” in the diagram, with Real World Models serving to validate individual insights “on the right.”

## Building a Pipeline

Building on a first-in-class and best-in-class OS platform after the business combination with Exscientia, Recursion’s pipeline now encompasses 10 clinical and preclinical programs and over 10 advanced discovery programs across oncology, rare diseases, and other areas of high unmet need. This broad and rapidly evolving portfolio reflects our commitment to advancing discovery and clinical development through unbiased, scaled scientific insights and AI-driven discovery. Programs in our internal pipeline are built on unique biological and chemical insights surfaced through the Recursion OS where:

- The etiology of the disease is well defined, but the subsequent impacts of the disease are generally obscure and/or the primary targets are typically considered undruggable,
- There is a high unmet medical need, no approved therapies, or significant limitations to existing treatments.

|                                                           | Candidate           | Target             | Indication                                         | Preclinical | IND-Enabling | Phase 1/2 | Pivotal / Phase 3 |
|-----------------------------------------------------------|---------------------|--------------------|----------------------------------------------------|-------------|--------------|-----------|-------------------|
| ONCOLOGY                                                  | REC-617             | <b>CDK7</b>        | Advanced solid tumors <sup>1</sup>                 | ELUCIDATE   |              |           |                   |
|                                                           | REC-1245            | <b>RBM39</b>       | Biomarker-enriched solid tumors & lymphoma         | DAHLIA      |              |           |                   |
|                                                           | REC-3565            | <b>MALT1</b>       | B-cell malignancies                                | EXCELERIZE  |              |           |                   |
|                                                           | REC-4539            | <b>LSD1</b>        | Small-cell lung cancer (SCLC)                      | ENLYGHT     |              |           |                   |
| RARE                                                      | REC-994             | <b>Superoxide</b>  | Cerebral cavernous malformations (CCM)             | SYCAMORE    |              |           |                   |
|                                                           | REC-4881            | <b>MEK1/2</b>      | Familial adenomatous polyposis (FAP)               | TUPELO      |              |           |                   |
|                                                           | REC-2282            | <b>HDAC</b>        | Neurofibromatosis type 2 (NF2)                     | POPLAR      |              |           |                   |
|                                                           | REV102 <sup>2</sup> | <b>ENPP1</b>       | Hypophosphatasia (HPP)                             |             |              |           |                   |
| OTHER                                                     | REC-3964            | <b>TcdB</b>        | Prevention of recurrent <i>C. difficile</i> (rCDI) | ALDER       |              |           |                   |
|                                                           | REC-4209            | <b>Undisclosed</b> | Idiopathic pulmonary fibrosis (IPF)                |             |              |           |                   |
| ~10 advanced discovery programs including a PI3Kα H1047Ri |                     |                    |                                                    |             |              |           |                   |

**Figure 6.** The power of our Recursion OS exemplified by our expansive therapeutic pipeline. <sup>1</sup>Includes non-small cell lung cancer (NSCLC), colorectal cancer, breast cancer, pancreatic cancer, ovarian cancer, head and neck cancer. <sup>2</sup>Joint venture with Rallybio.

## Advancing our Pipeline

We are accelerating critical clinical milestones while delivering measurable progress against diseases with high unmet medical needs. At the same time, we continue to validate various components of the Recursion OS, which has played a role in advancing every program in our portfolio, reinforcing its potential to accelerate drug discovery and development.

We have already demonstrated promising safety and preliminary efficacy data for two of our programs. REC-994, a superoxide scavenger in development as a potential first-in-disease therapy for symptomatic CCM, was featured in a late-breaking oral presentation at the 2025 International Stroke Conference. Phase 2 data highlighted MRI-based lesion volume reduction and symptom stabilization trends. Next steps in this program will be informed by regulatory discussions and long-term extension data expected in 2025. REC-617, a potential best-in-class CDK7 inhibitor has demonstrated early clinical activity in advanced solid tumors, including a durable partial response in metastatic ovarian cancer and stable disease across patients with multiple tumor types. These findings support further clinical development as we continue to explore its potential in combination regimens.

In parallel, Recursion has recently initiated three other clinical studies: DAHLIA (Phase 1/2, REC-1245 for solid tumors and lymphoma), TUPELO (Phase 1b/2, REC-4881 for FAP), and ALDER (Phase 2, REC-3964 for prevention of recurrent *C. difficile* infection). Additionally, REC-3565 (B-cell malignancies) and REC-4539 (SCLC) are expected to enter dose escalation studies. REC-4209 (idiopathic pulmonary fibrosis) has progressed to IND-enabling studies and REV102 (HPP) IND-enabling studies have been initiated, further expanding our pipeline across oncology, rare diseases, and other areas of high unmet need.

**Anticipated Near-term Catalysts.** Recursion is poised for a catalyst-rich period, with multiple programs reaching critical milestones over the next 18 months. REC-3565 (MALT-1i) will enter Phase 1 for B-cell malignancies, with the first patient expected to be dosed in the first half of 2025. REC-617 (CDK7i) will initiate combination studies in advanced solid tumors in the first half of 2025. REC-4881 (MEK1/2i) will report Phase 1b/2 safety and early efficacy data for FAP during the same period. REC-2282 (HDACi) for NF2-related meningioma will undergo PFS6 futility analysis and REC-4539 (LSD-1i) will begin Phase 1 dose escalation in SCLC during the same period. Additional Phase 1 data from the ELUCIDATE trial for REC-617 (CDK7i) in advanced solid tumors is expected in the second half of 2025. Furthermore, we continue to rapidly advance development programs such as a PI3K $\alpha$  H1047Ri and an ENPP1i towards the clinic.

## Impact Through Partnerships

Through our business combination with Exscientia, we have doubled our partnership footprint with leading pharmaceutical companies including Roche and Genentech, Sanofi, Bayer and Merck KGaA (Darmstadt, Germany), securing \$450M million in upfront milestone payments to date with the potential for over \$20 billion in additional milestones before royalties. These global collaborations not only provide near-term cash flows but also combine our scaled biology, precision chemistry, and automated synthesis capabilities to pave the way for transformative therapies in oncology, neuroscience, immunology, and other therapeutic areas with high unmet need. By partnering with some of the best biopharmaceutical companies on earth in their respective areas, our platform and team have an opportunity to learn from some of the most experienced teams in the industry. By uniting our AI-driven platforms, vast proprietary data, and deep scientific expertise, we continue to unlock powerful innovations and expand patient impact. Below are some of the latest developments illustrating this momentum:

### Roche and Genentech

- **Gastrointestinal-Oncology Advancements:** In partnership with Roche and Genentech, we generated multiple whole-genome phenomaps with chemical perturbations across various disease-relevant cell types, enabling deeper insights into how different cellular contexts respond to gene knockouts and chemicals.
- **Neuro-specific CRISPR KO Phenomap:** In partnership with Roche and Genentech, we have developed the first whole-genome CRISPR knockout map in neural iPSC cells, providing valuable data to identify potential new targets in neuroscience, an area with limited new discoveries.
- **Milestones and Collaboration:** The neuroscience phenomap work led to a \$30M option from Roche and Genentech in August 2024, and we're moving forward with target validation projects.

### Sanofi

- **Immunology & Oncology Achievements:** We reached milestones in three programs, generating \$15M in aggregate payments from Sanofi for two of these programs in 2024.

### Bayer

- **Oncology Achievements:** Completed 25 multimodal oncology data packages utilizing the Recursion OS platform. Multiple programs rapidly progressing to Lead Series nomination.
- **LOWE:** Additionally, Bayer was the first beta-user of our LOWE LLM-orchestrated workflow software to enhance their research capabilities.

## Merck KGaA (Darmstadt, Germany)

- Our ongoing alliance with Merck KGaA, Darmstadt, Germany is focused on leveraging Recursion's discovery engine to identify first-in-class and best-in-class targets across oncology and immunology, driving innovation in these key therapeutic areas.

## Leading indications of success in our business combination with Exscientia

We believe that to truly redefine the way drugs are discovered and developed, we need to build technology tools and data across the full-stack of drug discovery and development. Doing this well also requires the best talent from across many different fields. While Recursion has, in our view, achieved more than any other TechBio company, we constantly survey the market to find potential opportunities to augment and accelerate our business. The business combination with Exscientia was one such opportunity, bringing together the best biology-first TechBio platform in Recursion and one of the most comprehensive chemistry-first TechBio platforms in Exscientia, a compelling set of both first and best-in-class clinical programs, sector-leading partnerships and some of the best talent in the industry.

Given the compressed timeline between signing and close of the transaction (just over 3 months), prior to the close we prioritized in-depth assessments of each company's programs, partnerships, technology, capabilities, and ways of working. With this information in hand, we then conducted an organizational design process that allowed us to provide go-forward status and role clarity for each employee within 48 hours of close. We also outlined a set of goals to be accomplished in the first 90 days post close that will help us rapidly demonstrate the exponential value of the business combination and help employees to rapidly integrate across teams, portfolio, partnerships, and technologies. We are already seeing the benefits of this approach in terms of amplifying delivery, though much more work remains to be completed through 2025.

In the weeks post-close we focused on ensuring all employees understood where they were situated within the go-forward organization (role, manager, etc.) and connected them with new members of their teams. We wrapped 2024 with a 2-day Welcome Event in London, giving former Exscientians the opportunity to learn about Recursion, meet new colleagues across a variety of teams, celebrate their contributions to the deal close, and begin to shift their professional identity to that of a Recursionaut.

## 90 Day Goals

Before the transaction closed, we established a set of key goals to be achieved within approximately 90 days. These goals were designed to quickly demonstrate early indicators of the value of combining the companies. The goals largely focus on deploying relatively mature and unique elements of each company's technology to accelerate the other party's programs and processes. These goals also require key members of each legacy team to sprint together, accelerating the team forming and norming process. Key updates are as follows:

### Pipeline

*Using Recursion's causal AI to optimize Exscientia clinical programs - LSD1 Patient Stratification:*

- Recursion is utilizing AI models and Tempus data to build a patient stratification framework in small cell lung cancer (SCLC). This work is informing clinical strategies for the planned REC-4539 Phase 1 study that originated at Exscientia and is commencing in the first half of 2025.
- We have expanded this work to explore indications for REC-4539 beyond SCLC and laboratory validation work is beginning imminently.
- This work will be used as a template to expand causal modeling for many programs beyond LSD1.

*Use Exscientia's Centaur Platform to Accelerate Recursion's Internal Programs:*

- Programs from legacy Recursion in early chemistry design cycles have already entered Exscientia's Centaur precision chemistry platform, where significant improvements in potency have been demonstrated.
- Advanced protein structure predictions are guiding compound optimization, aiming to enhance binding conformation and optimize key properties.
- In-progress synthesis and cryo-EM work are enhancing our understanding of binding interactions, informing the next design cycles and optimizing compound characteristics.

### Partnerships

*Use Recursion's Maps of Biology to Identify New Targets for Legacy Exscientia Partners:*

- The Recursion OS has been used to identify hit compounds in 7 immune-relevant targets or dual target pairs and early validation work has commenced to prepare reports for our partners.

#### *Accelerate Recursion's Partnered Programs Leveraging Exscientia's Centaur Chemistry Platform:*

- We integrated Centaur into more than 10 design cycles for programs Recursion has previously partnered, with early validation work achieved and progress accelerating across multiple additional partnered programs.
- We have successfully delivered compounds for wet-lab testing on Recursion's platform using the legacy Exscientia automated synthesis platform for partnered programs.
- Applied a newly built pipeline using structural bioinformatics and molecular dynamics for more precise compound design, focused on addressing specific design challenges on partnered programs.

#### **Platform**

##### *Incorporate Exscientia Tech into Recursion's Workflows:*

- Reduced manual effort by 60% for evidence collection for hit nomination packages supporting entry into hit-to-lead, through knowledge graphs and LLM-based data aggregation with further reduction expected with additional data layers.
- Mapped 1.4 million active ligands to binding pockets for structure-based drug discovery and target deconvolution.
- Working to leverage Exscientia's tools to achieve a 75% reduction in time-to-program nomination by increasing alignment with portfolio strategy and bridge phenotypic- to target-based drug discovery and facilitating target-centric and structure-based drug discovery within Centaur Chemist.

##### *Integrate Recursion models into Centaur:*

- To augment Exscientia's chemical design platform with additional filters, experimental data for >950,000 compounds profiled in living cells were used to build two new models for (1) measurable cellular activity and (2) cytotoxicity. These large datasets provide highly generalizable models demonstrating a >2.5x increased efficiency in detecting new bioactive scaffolds with a >40% reduction in the flagging of likely cytotoxic compounds.
- 18 new combined ADMET data products and respective models representing the combined organization's datasets, and five program-specific phenomics response models have been added to Centaur, enabling use of legacy Exscientia's active learning based precision design technology with Recursion internal programs.

#### **Corporate Updates**

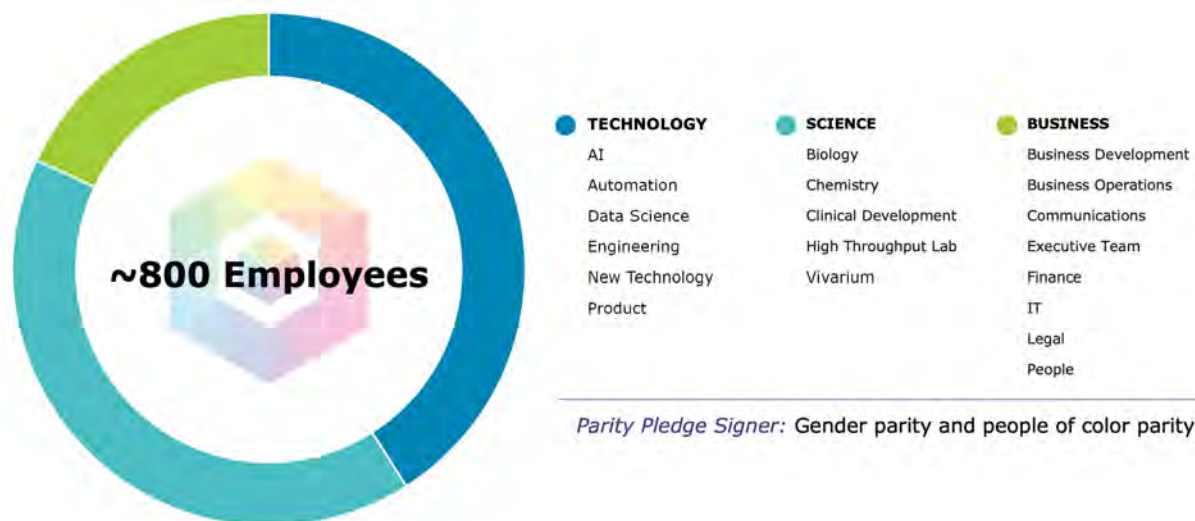
- In order to continue to streamline its operations and focus on its core geographic footprint, the Company's fully owned subsidiary, Exscientia AI Limited ("EXAI"), will carve out its Austrian operations. On February 27, 2025, the Company entered into an agreement to invest in and acquire 49% of the share capital of Alpha Biotechnology GmbH ("Alpha"), an Austrian startup that will leverage a patient-tissue platform for the development of precision therapeutics for the treatment of hematological and solid cancers, while focusing its efforts and moderating spend. Alpha will in turn acquire 100% of the share capital of Exscientia GmbH, a wholly-owned Austrian subsidiary of EXAI which holds certain intellectual property assets crucial to Alpha's operations and business activities. The closing of the transaction is expected in the first half of 2025, subject to customary closing conditions.

### **A clear vision, durable mission and a focus on people and culture drive success**

Recursion was founded in 2013 with a vision to capitalize on the convergence of advancements in computation and machine learning to address the decreasing efficiency of drug discovery and development. We believe that this opportunity represents one of the most positively impactful applications of ML and AI. Our vision is to leverage technology to map and navigate biology, chemistry, and patient-centric outcomes to increasingly transition the process of developing medicines from discovery to design. We believe that advanced computational approaches, massive datasets or human intelligence alone cannot fundamentally shift the efficiency curve of drug discovery and development; instead, we believe that those companies that augment their teams with sophisticated computational tools and focus deeply on generating and aggregating the right datasets will have a significant advantage. Our success and the success of the burgeoning TechBio sector has the promise to drive more, new, and better medicines to patients at higher scale and lower prices in the coming decades. We are working to not only lead this space – but define it.

Our mission at Recursion, **Decoding Biology to Radically Improve Lives**, flows naturally from our vision. We interpret our mission expansively and believe it to be a durable direction and source of inspiration for our team. We seek not only to radically improve the lives of patients who could benefit from the medicines we help to deliver, but the lives of those who care for those patients, the lives of our employees and their families, as well as the communities in which we operate our company.

We've intentionally designed our culture to fuel the pursuit of our mission. Our Founding Principles are guideposts for scientific and technical decisions and our Values underpin how our employees engage day-to-day with colleagues inside and outside the company. The Recursion Mindset, a deep commitment to achieving impact at unprecedented scale through new industrialized approaches, is an essential component of building our TechBio ecosystem. Our employees bring all these to life, contributing their unique expertise and experiences from their incredible breadth of fields and industries. For all of our employees, Recursion is a unique company with a different way of working.



**Figure 7.** Recursion's team requires operating at the interface of many diverse fields. Building a TechBio company requires fluency in operating at the interface of many disciplines and fields not previously attuned to working as closely in traditional biopharma.





## OUR MISSION

# DECODE BIOLOGY TO RADICALLY IMPROVE LIVES

## FOUNDING PRINCIPLES



**Explore the  
Uncharted**



**Create Virtuous  
Cycles**



**Build Connected  
Data**



**Industrialize  
to Scale**



**Optimize for  
the Portfolio**



**Challenge  
Assumptions**

## VALUES

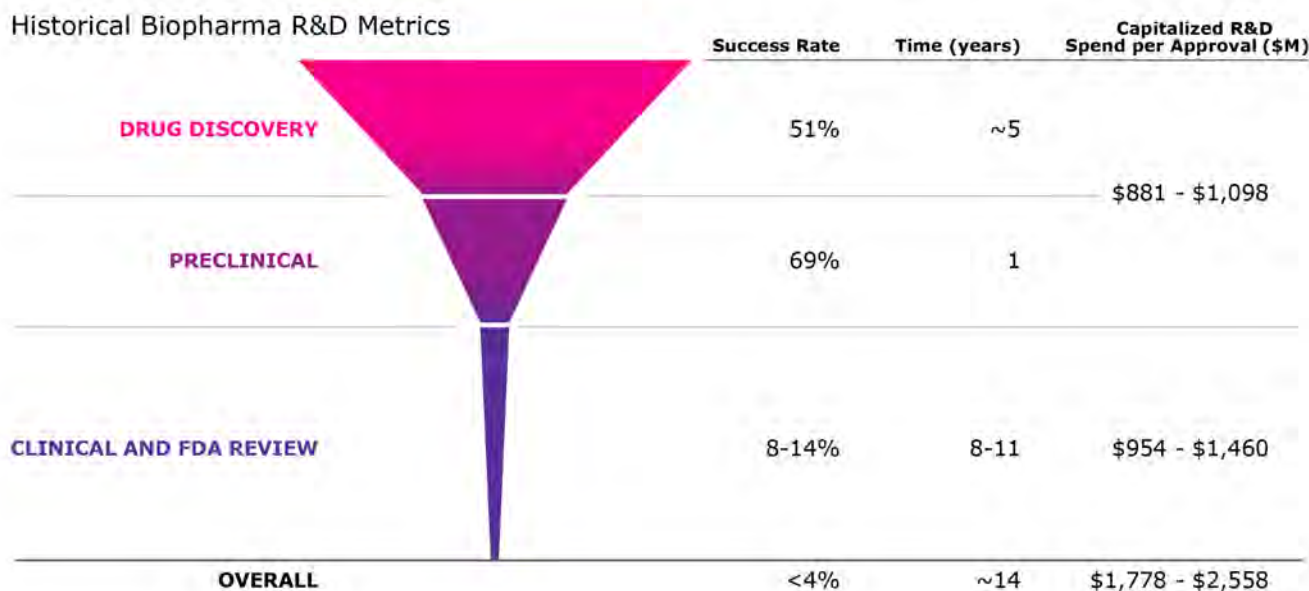
**We Care, We Learn, We Deliver,  
We Act Boldly with Integrity,  
We Are One Recursion**

**Figure 8.** Recursion's Founding Principles and Values support our ambitious mission. Together, these elements shape Recursion's culture by guiding our people to high-impact decision-making and behaviors.

## Recursion In-Depth

### TechBio: The Industrialization of Drug Discovery and Development Problem

The traditional drug discovery and development process is characterized by substantial financial risks, with increasing and long-term capital outlays for development programs that often fail to reach patients as marketed products. Historically, it has taken over ten years and an average capitalized R&D cost of approximately \$2 billion per approved medicine to move a drug discovery project from early discovery to an approved therapeutic. Such productivity outcomes have culminated in a rapidly declining internal rate of return for the biopharma industry.



**Figure 9.** Historical biopharma industry R&D metrics. The primary driver of the cost to discover and develop a new medicine is clinical failure. Less than 4% of drug discovery programs that are initiated result in an approved therapeutic, resulting in a risk-adjusted cost of approximately \$2.3 billion per new drug launched.<sup>1,2,3,4,5</sup>

Despite significant investment and brilliant scientists, these metrics point to the need to evolve a more efficient drug discovery process and explore new tools. Traditional drug discovery relies on basic research discoveries from the scientific community to elucidate disease-relevant pathways and targets to interrogate. Coupled with biology's incredible complexity, this approach has forced the industry to rely on reductionist hypotheses of the critical drivers of complex diseases, which can create a 'herd mentality' as multiple parties chase a limited number of therapeutic targets. The situation has been exacerbated by human bias (e.g., confirmation bias and sunk-cost fallacy). Accentuating this problem, the sequential nature of current drug discovery activities and the challenges with aggregation and interoperability of data across projects, teams and departments lead to frequent replication of work and long timelines to discharge the scientific risk of such hypotheses. Despite decades of accumulated knowledge, the result is that drug discovery has unintentionally created hurdles for innovation.

Simultaneously, exponential improvements in computational speed and reductions in data storage costs driven by the technology industry, coupled with the rapid rise of LLMs, generative AI and other ML tools, have transformed complex industries from media to transportation to e-commerce. Historically, the biopharma sector has been slow to embrace such innovations. Over the past 2-3 years, there have been remarkable shifts in perception among technology and biopharma companies as well as among regulators and policymakers, who highlight the utility of AI/ML for broad drug discovery and development from novel target discovery to automated chemistry synthesis and next-generation manufacturing. We believe this rapid acceleration and adoption of these technologies demonstrates the growing consensus that AI/ML is a catalyst for substantial leaps in drug discovery.

<sup>1</sup> Zhou, S. and Johnson, R. (2018). *Pharmaceutical Probability of Success*. Alacrita Consulting, 1-42

<sup>2</sup> Steedman M, and Taylor K. (2024). *Measuring the return from pharmaceutical innovation*. Deloitte. 1-28.

<sup>3</sup> DiMasi et al. (2016). *Innovation in the pharmaceutical industry: New estimates of R&D costs*. *Journal of Health Economics*. 47, 20-33.

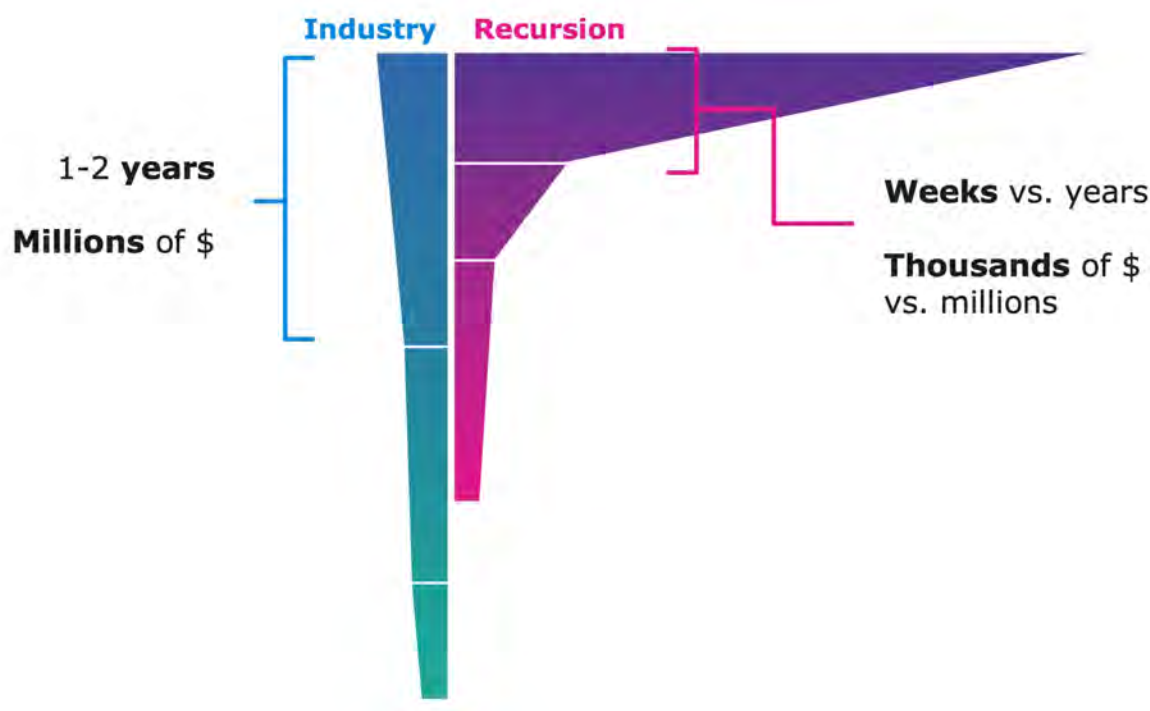
<sup>4</sup> Paul, et al. (2010). *How to improve R&D productivity: the pharmaceutical industry's grand challenge*. *Nature Reviews Drug Discovery*. 9, 203-214

<sup>5</sup> Martin et al. (2017). *Clinical trial cycle times continue to increase despite industry efforts*. *Nature Reviews Drug Discovery*. 16, 157



## Opportunity

Late-stage clinical failures are the primary driver of reduced impact and IRR in today's pharmaceutical R&D model. Reducing the rate of costly, late-stage failures would be the most compelling way to achieve a more productive drug discovery and development process, though expanding the areas of biology that can be explored, accelerating the timeline from hit to a clinical candidate, decreasing the costs of discovery and creating more scalable systems would also create a more sustainable R&D model, all else held equal. To achieve this more sustainable model, we believe that in its ideal state, a drug discovery funnel would morph from the being shaped like the letter 'V' to being shaped like the letter 'T,' where a broad set of possible therapeutics could be narrowed rapidly to the best candidate in a scaled and efficient way. Subsequently, programs that advance through the remaining steps of the discovery and development process would proceed quickly and with no attrition. While such a path is impossible to fully achieve, rapidly improving technology tools across biology, chemistry and computation are creating the conditions where, in the right hands, progress towards this 'T'-shaped funnel is possible.



**Figure 10.** Reshaping the drug discovery funnel. Recursion's goal is to leverage technology to reshape the typical drug discovery funnel towards its ideal state by moving failure as early as possible to rapidly narrowing the funnel into programs with the highest probability of success.<sup>6,7,8,9</sup>

The Recursion OS provides an opportunity for mapping and navigating massive biological and chemical datasets that contain trillions of inferred relationships between disease-causative perturbations and potentially therapeutic compounds. Collectively, the components of the Recursion OS can be joined together in a modular way to identify, validate and advance a broad portfolio of novel therapeutic programs quickly, cost-effectively and with minimal human intervention and bias - industrializing drug discovery and development. We use standardized, automated workflows to identify programs and advance them through key stages of the drug discovery and development process which includes:

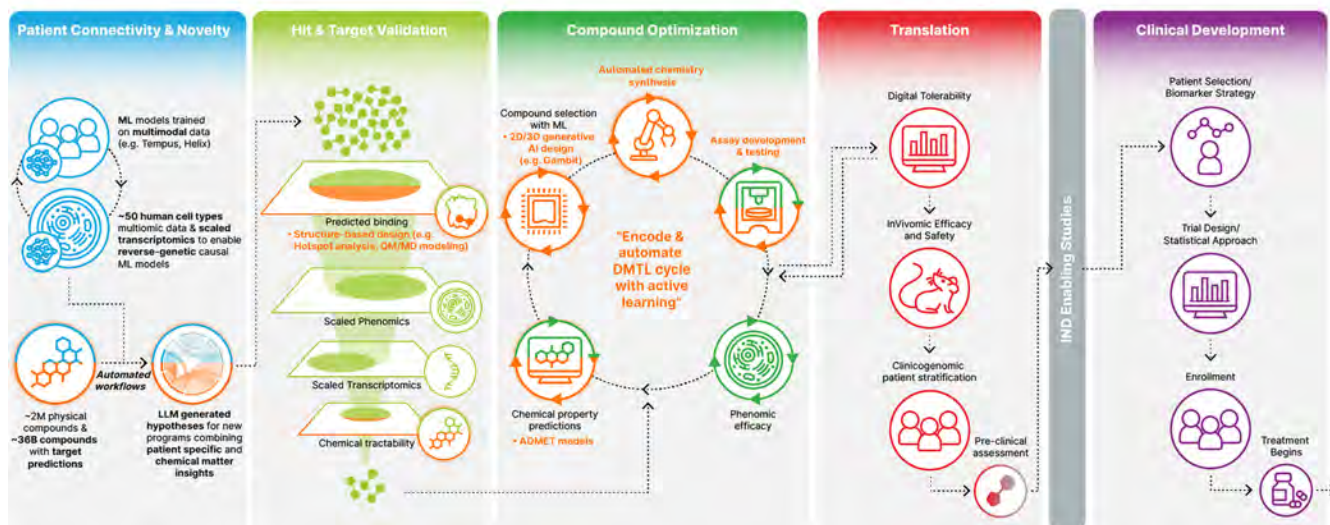
- Patient Connectivity and Novelty (i.e., program initiation)
- Hit and Target Validation
- Compound Optimization
- Translation
- IND-Enabling Studies
- Clinical Development

<sup>6</sup> Steedman M, and Taylor K. (2020). Ten years on: Measuring the return from pharmaceutical innovation. Deloitte. 1-44.

<sup>7</sup> DiMasi et al. (2016). Innovation in the pharmaceutical industry: New estimates of R&D costs. *Journal of Health Economics*. 47, 20-33.

<sup>8</sup> Paul, et al. (2010). How to improve R&D productivity: the pharmaceutical industry's grand challenge. *Nature Reviews Drug Discovery*. 9,203-214

<sup>9</sup> Martin et al. (2017). Clinical trial cycle times continue to increase despite industry efforts. *Nature Reviews Drug Discovery*. 16, 157



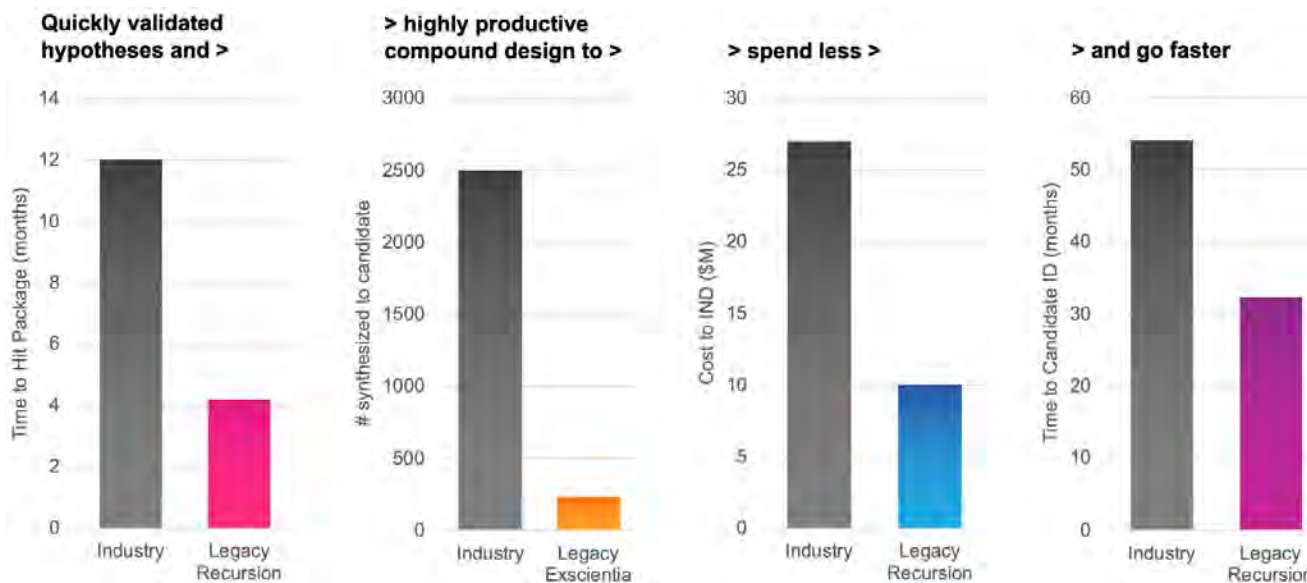
**Figure 11.** Multiple -omics modalities within Recursion OS form a full-stack platform that spans the drug development pathway, incorporating patient-centric scaled biology, target exploration, hit discovery, lead optimization, precision chemistry design, automated chemical synthesis, predictive ADMET (absorption, distribution, metabolism, excretion, and toxicity), biomarker selection, translational capabilities, and clinical development. Areas from legacy Exscientia platform indicated in orange.

We believe we have made progress in reshaping the traditional drug discovery funnel in the following ways:

- **Broaden the funnel of therapeutic starting points.** Our flexible and scalable mapping tools and infrastructure enable us to infer trillions of relationships between human cellular disease models and therapeutic candidates based on real empirical data from our own wet labs.
- **Identify failures earlier when they are relatively inexpensive.** Our proprietary navigation tools enable us to explore our massive biological, chemical, and patient-centric datasets to validate more and varied hypotheses rapidly. While this strategy results in an increase in early-stage attrition, the system is designed to rapidly prioritize programs with a higher likelihood of downstream success because they have been explored in the context of high-dimensional, systems-biology data. Over time, and as our OS improves, we expect that moving failure earlier in the pipeline will result in an overall lower cost of drug development.
- **Optimize molecular design and synthesis through Centaur Chemist.** Our Centaur Chemist platform integrates AI-driven generative design with automated synthesis, enabling rapid iteration and optimization of new chemical entities. By leveraging predictive modeling for potency, selectivity, and ADMET properties, we can efficiently generate high-quality, differentiated drug candidates while reducing synthesis timelines and experimental bottlenecks.
- **Accelerate delivery of high-potential drug candidates to the clinic.** The Recursion OS contains chemistry tools that enable highly efficient exploration of chemical space as well as translational tools that improve the robustness and utility of in vivo studies.
- **Enhance clinical development efficiency through ClinTech.** We are applying machine learning and AI to optimize clinical trial design, accelerate patient enrollment, and enhance evidence generation. By integrating scaled patient data with predictive analytics, we aim to improve patient stratification, match therapies with the right populations, and reduce trial failure rates—advancing high-potential medicines to patients faster and more efficiently.

By leveraging our Recursion OS to explore and advance our programs, we have shown leading indicators of improvement when compared to the traditional drug discovery process, particularly with respect to cost and time. We believe that combining Exscientia's state of the art chemical platform with Recursion's cutting edge OS will further enable us to (i) identify candidate compounds earlier in the research cycle, (ii) spend less per program, and (iii) expedite our drug discovery progress compared to industry. Across >280 Recursion programs from late 2017 through 2024 the average amount of time to reach the validated lead stage is less than 13 months. We also use AI/ML tools to better understand which molecules to make and test and ultimately design better quality molecules that can solve complex problems – on average, the industry synthesizes about 2,500 molecules to candidate, both legacy Recursion and legacy Exscientia synthesized 250, respectively.

Ultimately, we believe that future iterations of the Recursion OS will enable even greater improvements minimizing the total dollar-weighted failure and maximizing the likelihood of success allowing us to deliver better quality medicines to more patients in need.

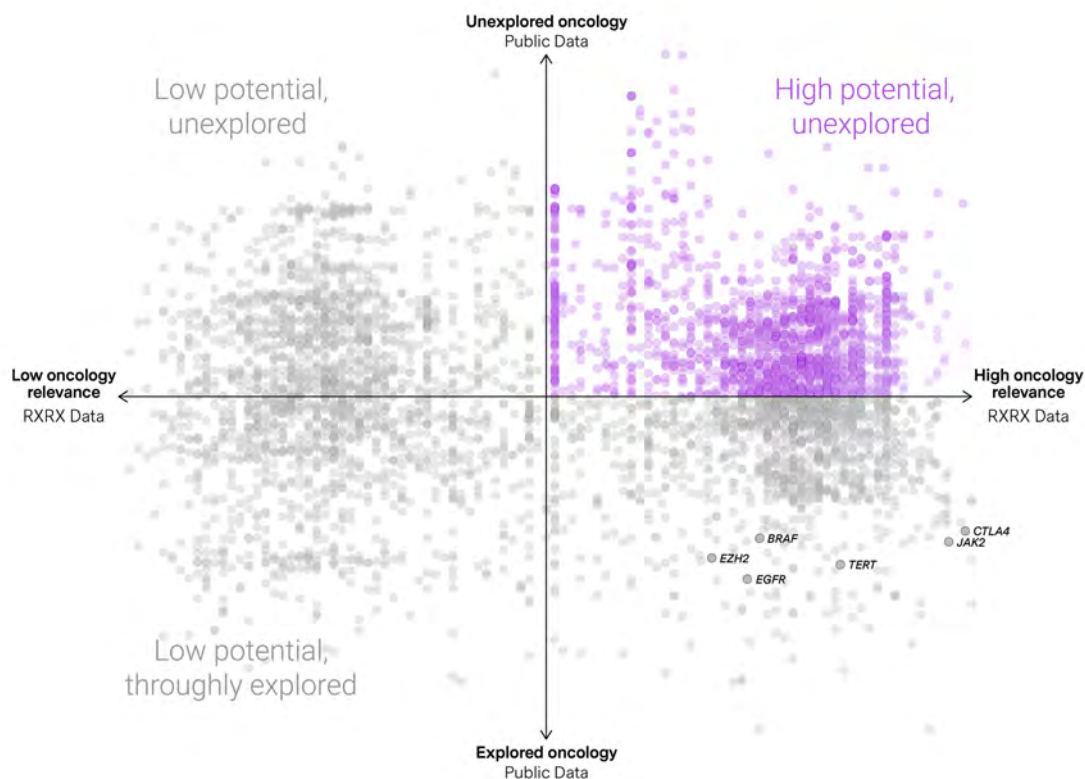


**Figure 12.** (Far Left): Time from hypothesis screening to validated hit package for legacy Recursion programs. (Center Left): Legacy Exscientia compounds synthesized from hit to candidate ID. (Center Right): Total spend from hypothesis screening to the completion of IND-enabling studies for legacy Recursion novel chemical entity (NCE) programs that advanced to clinical trials. The cost to IND has been inflation-adjusted using the US Consumer Price Index (CPI) (Far Right). Time to validated lead is the average of >280 legacy Recursion programs since late 2017 through 2024.<sup>10</sup>

The Recursion OS has not only improved speed and cost but also led us to explore novel targets which could give us a competitive advantage where multiple parties often simultaneously pursue a limited number of similar target hypotheses. Below one can see quantitative measures for how we prioritize programs characterized by (i) strong genetically driven biological evidence and (ii) differentiated novel biology.

<sup>10</sup> Paul, et al. (2010). How to improve R&D productivity: the pharmaceutical industry's grand challenge. *Nature Reviews Drug Discovery*. 9,203-214



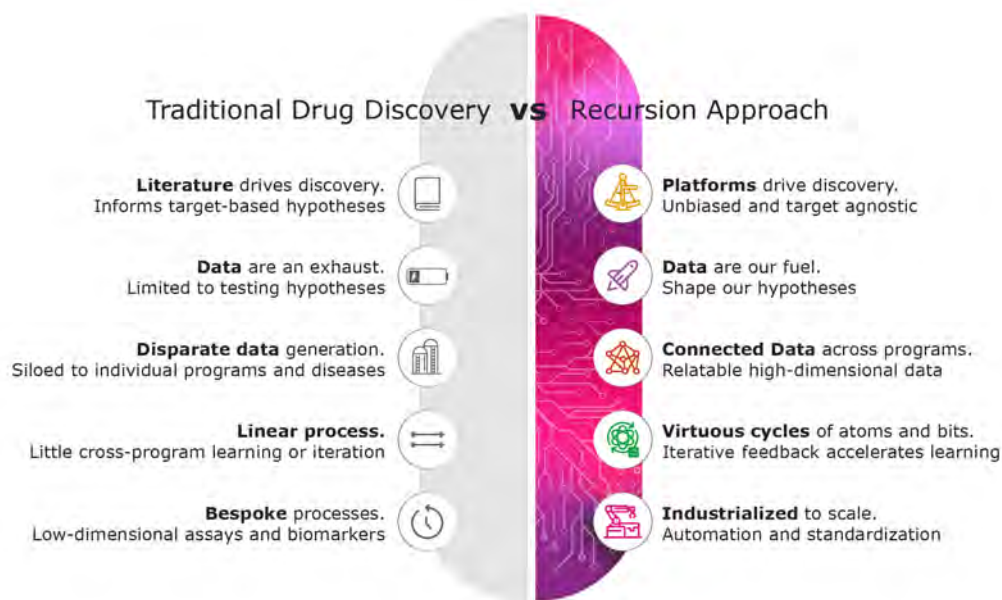


**Figure 13.** We use LLMs and software tools to organize and initiate internal programs using both proprietary and public data. We prioritize programs at scale by focusing on targets where our proprietary data provides a distinct arbitrage that suggests we can drive towards novel target identification and selection in oncology. Each circle represents a gene that can be searched by the Recursion OS across several biological and pharmacological factors. LLMs harness public datasets such as Cancer Dependency Map, Open Targets, TCGA, CCLE, and COSMIC and Recursion proprietary datasets such as phenomap inferences, Matchmaker assessments, InVivomics experiments, and ADME predictions.<sup>11</sup>

## Approach

At Recursion, we are pioneering the integration of innovations across biology, chemistry, automation, data science and engineering to industrialize drug discovery in a full-stack solution across dozens of key workflows and processes critical in discovering and developing a drug. For example, by combining advances in high content microscopy with arrayed CRISPR genome editing techniques, we can rigorously profile massive, high-dimensional biological and chemical perturbation libraries in multiple human cellular contexts to create digital ‘maps’ of human biology. Leveraging advances in scaled computation, we can conduct massive virtual screens to predict the protein targets for billions of chemical compounds. Similarly, data generated from our automated DMPK module and InVivomics platform enables us to predict ADMET properties and identify toxicity signals, respectively, significantly faster than traditional methods. And now, with the business combination with Exscientia complete, we can drive many of our programs from hit to development candidate using an automated internal chemical synthesis platform.

<sup>11</sup> Ochoa, et al. (2023). The next-generation Open Targets Platform: reimaged, redesigned, rebuilt. *Nucleic acids research*. 51(D1): D1353-D1359



**Figure 14.** Recursion's approach to drug discovery. We utilize our Founding Principles on the right to build datasets which are scalable, reliable and relatable in order to elucidate novel biological and chemical insights and industrialize the drug discovery process.

We have used our approach to generate, aggregate, and integrate one of the largest proprietary biological, chemical, and patient-centric datasets in the world at approximately 65 petabytes at the end of 2024. This dataset includes proprietary phenomics, transcriptomics, predicted protein-ligand binding interactions, InVivomics, ADMET data, and more across many biological and chemical contexts as well as preferred access to over 20 petabytes of multimodal oncology patient data from Tempus. Additionally, we have built a proprietary suite of software applications within the Recursion OS which has identified over 7 trillion predicted biological and chemical relationships. With our approach, we endeavor to turn drug discovery into a search problem where we map and navigate biology in an unbiased manner to discover new insights and translate them into potential new medicines at scale.

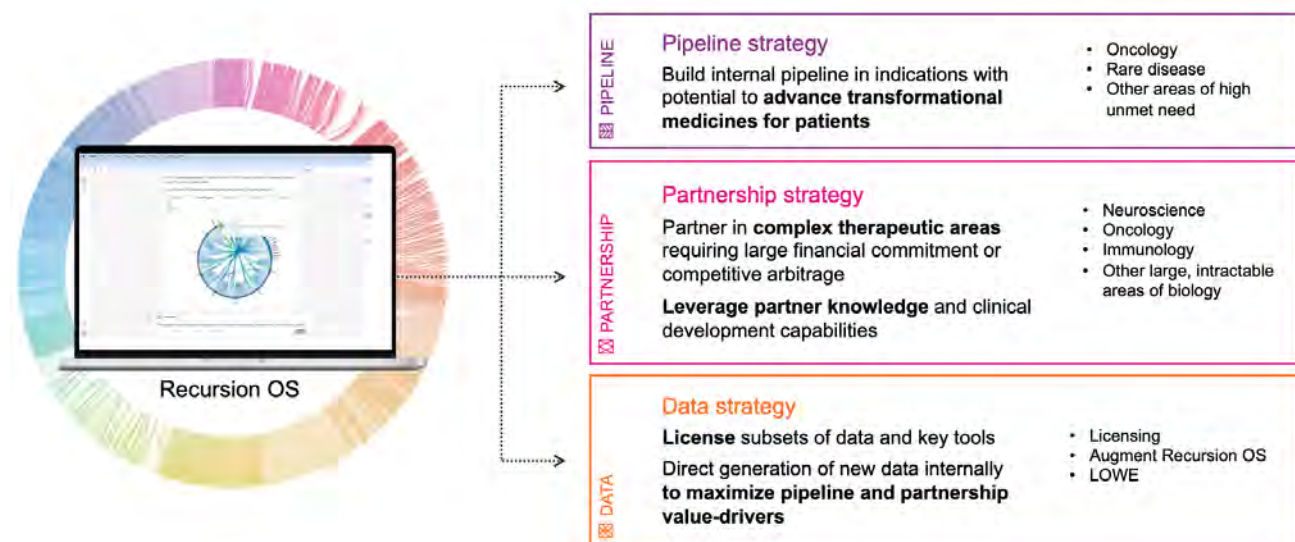
### Competitive Landscape and Differentiation

There are a few key factors that differentiate Recursion from other technology-enabled drug discovery companies.

1. Recursion has built a full-stack platform utilizing many biology, chemistry, and patient-centric proprietary datasets and modular tools to industrialize drug discovery, while most other competitor companies rely on a point solution to solve one important step in drug discovery. We recognize that drug discovery is made up of many steps, and a point solution is insufficient to generate efficiencies across the entire process. To decode biology, we must construct a full-stack technology platform capable of integrating and industrializing many complex workflows.
2. Recursion integrates wet-lab and dry-lab capabilities in-house to create a virtuous cycle of iteration. Fit-for-purpose wet-lab experimental data are translated by dry-lab digital tools into in silico hypotheses and testable predictions, which in turn generates more wet-lab data from which improved predictions can be made. Recursion is well positioned compared to companies of a similar stage either focused more specifically on the wet-lab only (traditional biotech or pharma companies) or dry-lab only (companies facing rapidly commoditized algorithms and a challenge differentiating on non-proprietary data).
3. Recursion has achieved a significant scale with respect to its scientific, technological, and business endeavors. With eight clinical-stage programs, an exciting preclinical pipeline, four of the largest discovery partnerships in the biopharma industry with Roche/Genentech, Sanofi, Bayer and Merck KGaA (Darmstadt, Germany), and four technology-focused partnerships, Recursion has achieved a scale, level of integration, and stage that few other TechBio companies have.

## Value Drivers

While most small to medium-sized biopharma companies are focused on a narrow slice of biology or a single therapeutic area, the Recursion OS allows us to discover and translate at scale across biology. However, we are cognizant that building disease-area expertise, especially in clinical development, is essential. We have developed a multi-pronged, capital-efficient business model focused on key value-drivers that enable us to demonstrate our progress over time while continuing to invest in the development of the Recursion OS, which we believe is the engine of value creation in the long-term. While our mapping, navigating and designing tools have the plasticity to be applied across therapeutic areas and modalities, our business model is tailored to maximize value and advance programs cost-effectively based on the nature of market and regulatory dynamics associated with our three value drivers (internal pipeline, transformational partnerships, and fit-for-purpose proprietary biological, chemical, and patient-centric data).



**Figure 15.** We harness the value and scale of our Recursion OS using a capital efficient business strategy. Our business strategy is segmented into our following value-drivers: (1) internally developed programs in capital-efficient therapeutic areas; (2) partnered programs in resource-intensive therapeutic areas; and (3) proprietary, fit-for-purpose data and models.

### *Value Driver 1 - Internally Developed Programs in Capital Efficient Therapeutic Areas*

We believe that the primary currency of any biotechnology company today is clinical-stage assets. These programs can be valued using a variety of models by stakeholders in the biopharma ecosystem and most importantly, present the potential to meet critical patient needs. For Recursion, these assets have a variety of additional benefits, including: (i) validation of key elements of the Recursion OS, (ii) growing our expertise in clinical development and (iii) building in-house processes to facilitate smooth interaction with regulatory agencies and advance medicines towards the market. If the Recursion OS evolves as designed, then it will continuously improve with more iterations such that future programs could be more novel and potentially more valuable than today's programs. Operating as a vertically integrated TechBio company that leverages technology at every step from target discovery through clinical development (and even marketing and distribution) may be the long-term business model with the most upside for our stakeholders, including both investors and patients. We may be opportunistic about selling or licensing assets after they achieve key value-inflection milestones so that we can re-invest in our long-term strategy.

### *Value Driver 2 - Partnered Programs in Resource Intensive Therapeutic Areas*

We believe that in its current form, our Recursion OS is already capable of delivering many more therapeutic insights than we would be able to shepherd alone today. As such, we have chosen to partner with experienced, top-tier biopharma companies like Roche and Genentech, Sanofi, Bayer, and Merck KGaA (Darmstadt, Germany) to explore intractable and resource-intensive areas of biology. The key advantages of these partnerships are that: (i) we are able to deploy the Recursion OS to turn latent value into tangible value in areas of biology where it would be challenging for us to do so alone; (ii) the clinical development paths for these large therapeutic areas are often resource-intensive and highly complex; and (iii) we are able to learn from our colleagues at these top-tier companies such that it could give us a competitive advantage in the industry over the longer term. This strategy also embeds us in the discovery process of large pharmaceutical companies and gives rise to an alternative long-term business model whereby we become a valued partner of many such companies. Based on how value is ascribed across our industry today, this model alone is not yet feasible to maximize our business impact. However, we feel that due to shifts within the biopharmaceutical industry there is some potential for this portion of our business model to accrete notable value over the long-term.

### *Value Driver 3 - Proprietary, Fit-for-Purpose Training Data and Models*

As has been demonstrated in many other industries, a value driver and competitive advantage can be generated from the creation of a proprietary dataset. At Recursion, we have generated what we believe to be one of the largest fit-for-purpose, reliable biological, chemical, and patient-centric datasets on Earth. Spanning multiple omics technologies and more than 300 million unique experiments, the approximately 65 petabytes of data that Recursion generates, aggregates, and integrates has the fundamental purpose of being used to train machine learning models. Through intensive internal work, Recursion uses this data and our own models, algorithms, and software to advance our own internal pipeline of medicines (Value Driver 1) as well as in partnership with our collaborators to advance additional discovery programs (Value Driver 2). As our field increasingly recognizes the potential for a technology-driven revolution in drug discovery, our data has increasing potential to drive value directly. We increasingly see the potential to license select models and subsets of our data to a growing universe of collaborators for which internal efforts would be minimal, but value could be significant.

## **A Platform to Industrialize Drug Discovery**

We have generated one of the largest reliable data sets in biopharma using our automated high throughput labs, which run over 2 million experiments per week. Our data includes cellular phenomics, captured using Brightfield microscopy, as well as chemical synthesis, transcriptomics, proteomics, ADMET, InVivomics, genomics and patient data. In total, we have approximately 65 petabytes of proprietary data which we use to train our algorithms and build our Maps of Biology.

In our relentless drive to continue building the most advanced full-stack AI-enabled discovery and development platform, we have now integrated Exscientia's Centaur Chemist platform for molecule design and automated synthesis capabilities with the Recursion OS, allowing us to rapidly move from target discovery to in silico design to physical compound testing.

And while we work daily to continue solidifying our data moat through wet-lab experimentation and simulation, our partnerships with Helix and Tempus give us access to hundreds of thousands of patient insights – including whole exome and whole genome sequencing – across a wide range of chronic diseases and in oncology. By integrating even limited patient data into the Recursion OS, we can derive powerful new insights that directly fuel our pipeline. We're also using patient data to match our drugs to the specific patient population most likely to benefit, to improve the probability of success of clinical trials – where 90% of drugs in development fail.

Our unique platform approach has continued to evolve over time and we continue to lead the industry in innovation and delivery of potential treatments through our pipeline and partnerships. When we first developed our phenomics-based biological map-making methods using HUVEC cells – creating over 100 billion cells per year for high throughput experiments, our work was dismissed by many. Now, the early success of our pipeline and partnerships, and the broad adoption of our phenomics approaches across nearly every large pharma company in the industry, suggests a much deeper impact. While others onboard technology we pioneered over a decade ago, we have moved to live-cell brightfield imaging and in partnership with Roche and Genentech, we built specific cell manufacturing technologies that derive neurons from hiPSCs at scale – ultimately producing over 1 trillion hiPSC-derived neuronal cells to build the world's first whole-genome neuronal phenotype or "Neuromap," triggering a \$30 million payment.

Through our unique dataset and compute power, in the past year, we've launched a number of breakthroughs in foundation models – including powerful multimodal models like Phenom, MolPhenix and MolGPS. These models give Recursion deeper insights into underlying disease biology and how cells might respond to treatment with new drug candidates, and provide the company with a distinct advantage when driving decisions about which therapeutic programs to pursue.

## **The Recursion OS**

The Recursion OS is the integrated technical and scientific vertical platform that underpins drug discovery and development at Recursion, from program initiation through our clinical trials. Collectively, the components of the Recursion OS can be joined together in a modular way to identify, validate, and advance a broad portfolio of novel therapeutic programs quickly, cost-effectively, and with minimal human intervention and bias. Connecting modules into a system allows us to quantitatively measure impact and make transformative improvements not just within local point solutions, but across the end-to-end drug pipeline, today and into the future.

To achieve this pipeline impact, the modules of the Recursion OS are connected by industrialized workflows that have been standardized, scaled, and automated. To drive greater efficiency, we approach the building of modules and workflows similar to modular programming, but for biology and chemistry, so that the same fundamental capabilities are transferable across drug discovery and development activities and reflected in a diverse portfolio for both our internal pipeline and large pharma partnerships.

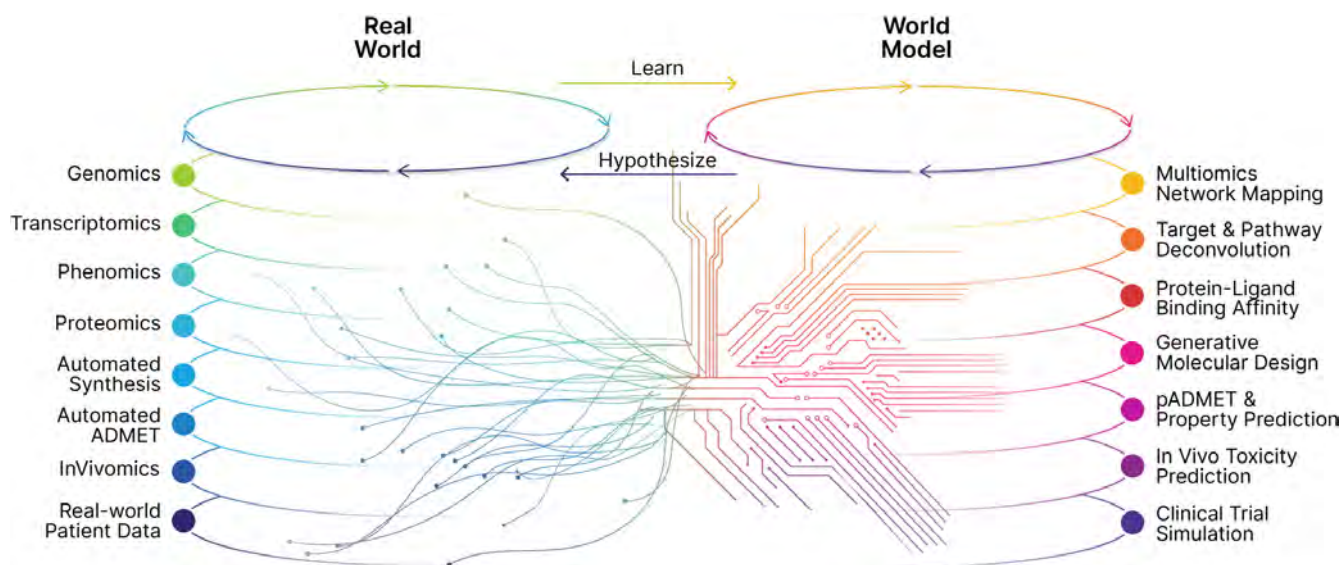


In 2024, we:

- Increased the sophistication of modules that improve earlier parts of the pipeline by integrating chemistry-centric models from Exscientia, including our industrialized workflows for chemical optimization enabling both functional- and target-based discovery, biology- and chemistry-centric approaches, and first-in-class and best-in-class compound opportunities.
- Integrated causal models and other analytics based on real patient data into both program initiation phases, ensuring patient connectivity and novelty, as well as clinical development activities, including patient stratification.

A unique advantage of this modular approach is that assay and model outputs become a long-lasting data asset. This consistency, reliability and standardization allows us to build petabytes of data that can be connected across biological, chemical, and patient-centric sources, and across years of experiment execution, model insights, and data types.

Each type of data that Recursion generates in this manner becomes a vertical layer: a computable dataset that can be used to build increasingly ever more complete and generalizable machine learning models to infer biological and chemical states (properties) and relationships, iteratively mapping and navigating trillions of inferred relationships between disease-causative perturbations and potentially therapeutic compounds.

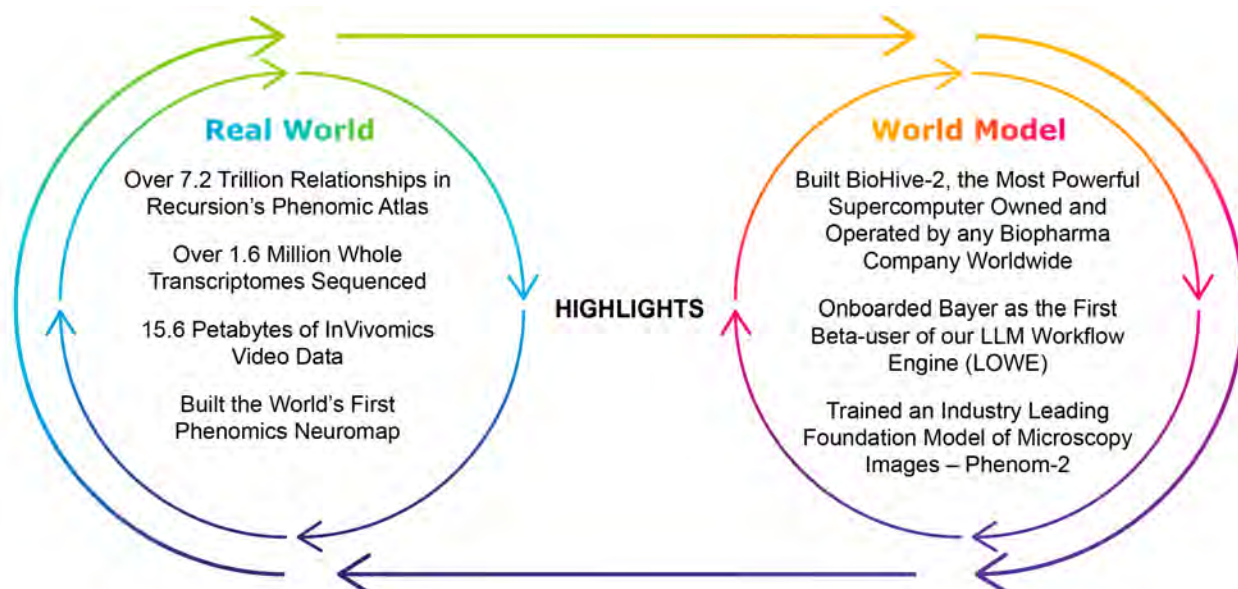


**Figure 16.** Recursion's World Model approach (1) Profile biological and chemical systems using automation to scale a small number of data-rich assays, including phenomics, transcriptomics, InVivomics, and ADMET to generate massive, high quality empirical data; (2) aggregate and analyze the resultant data using a variety of machine learning models, in a process coordinated with in-house software systems and tools; and (3) map and navigate leveraging proprietary software tools to infer properties and relationships in biology and chemistry. These inferred properties and relationships serve as the basis of our ability to predict how to navigate between biological states using chemical or biological perturbations, which we can then validate in our automated laboratories, completing a virtuous cycle of learning and iteration.

The creation of virtuous cycles of physical experiments and in silico models has been a competitive advantage for leaders in many industries outside of biopharma. In drug discovery, virtuous cycles of experimentation and machine learning predictions is an approach to efficiently map and navigate biology and chemistry at unparalleled scale and efficiency. Critically, at the scale Recursion operates, whole systems can be systematically and experimentally evaluated, such as the cellular level effect of individual gene knockouts not just for individual genes of interest, but across the whole genome. Such comprehensive Real World data sets can underpin new generation AI-enabled Model World predicted states, where rather than individual model predictions, we create model representations to reason about and prioritize opportunities across large swaths of biology or chemistry, such as the hundreds of thousands of protein-protein interactions across the human interactome.

Traversing across layers can allow us to extract more insights and higher confidence than any layer on its own. For example, patient data is the most relevant to human health and disease of all data modalities, but it suffers deeply from being intrinsically noisy, incomplete, expensive and difficult to collect. In comparison, cellular phenomics data can be collected cheaply, at scale, with extreme data reliability and completeness.

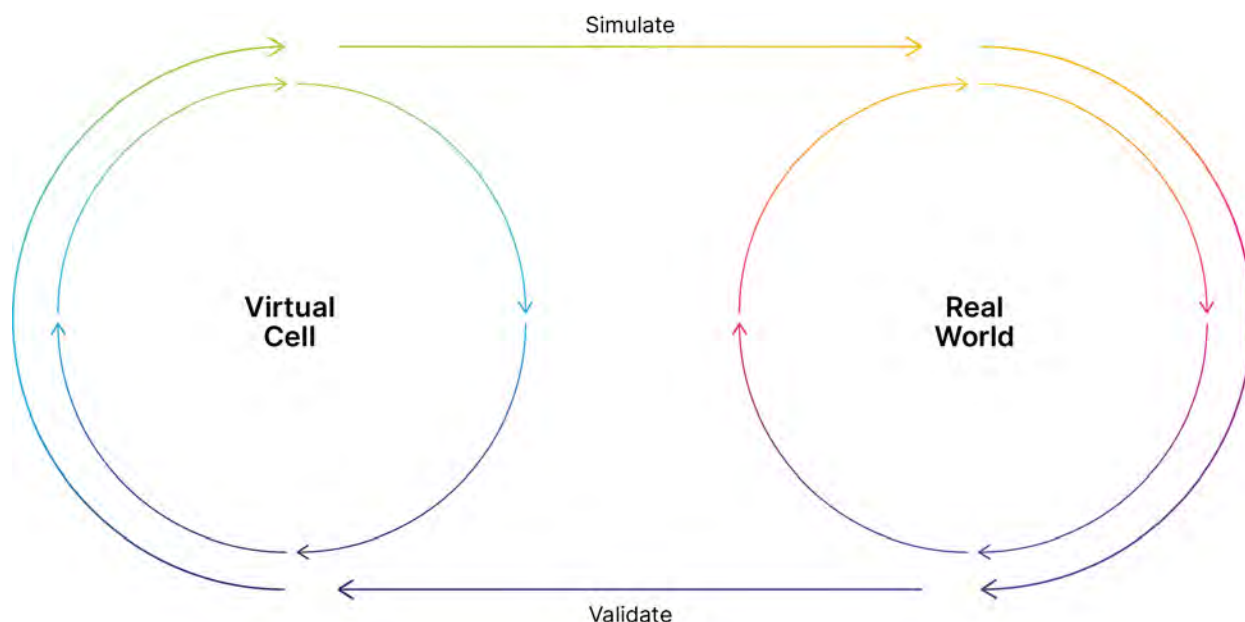
In 2024, we have demonstrated that by combining patient level data with cellular level data, we can extract genetic causal targets from small (24,000) patient data sets that had previously required patient data sets of over one million in some cases to overcome challenges with patient data quality. Similarly, we are exploring how protein-level data can add pathway interpretability and completeness to our cellular level data. We believe that by computationally combining data layers across the micro-meso-macro, we can unlock many new, powerful efficiencies and insights along the drug discovery pipeline.



**Figure 17.** Highlights of Recursion's achievements to-date in generating real world data and building a world model demonstrate progress on our delivery of Recursion's mission to decode biology.<sup>12,13</sup>

### Towards a Virtual Cell – How Recursion is combining data and compute across different scales

By closely integrating real world experimentation and AI in an iterative manner, and across multiple 'levels' of biology, one can create cycles of virtuous learning, where large fit-for-purpose wet-lab datasets support better in silico model generation and enable more focused future wet-lab experiments. Over time, this allows something powerful to emerge: rather than a data-first approach underpinning World Model creation, our drug discovery opportunities emerge from the World Model, and Real World physical experimentation serves to validate the most promising insights. The order of operations has swapped from experiments underpinning the creation of models, to a more scientifically comprehensive yet still more efficient approach: World Model predictions being selectively confirmed by Real World experiments. In essence, we will have created a Virtual Cell which we can test in nearly unlimited ways, selecting the most promising outcomes for validation in a Real World cellular system.



**Figure 18.** Over time, models can become broadly applicable and performant enough to be the first rather than a step in the process, that is "move to the left" in the diagram, with Real World Models serving to validate individual insights "on the right"

<sup>12</sup> Internal data and analysis (2025).

<sup>13</sup> TOP500 List (2024). <https://top500.org/lists/top500/list/2024/06/>

Because the utility and impact on drug discovery would be so profound if achieved, a handful of compelling organizations, spanning academics to institutions to companies, are competing to build a Virtual Cell. Success in this endeavor requires scaled high-quality data, spanning multiple levels of biology alongside cutting-edge compute approaches. We believe Recursion is uniquely positioned to lead at the intersection of these needs.

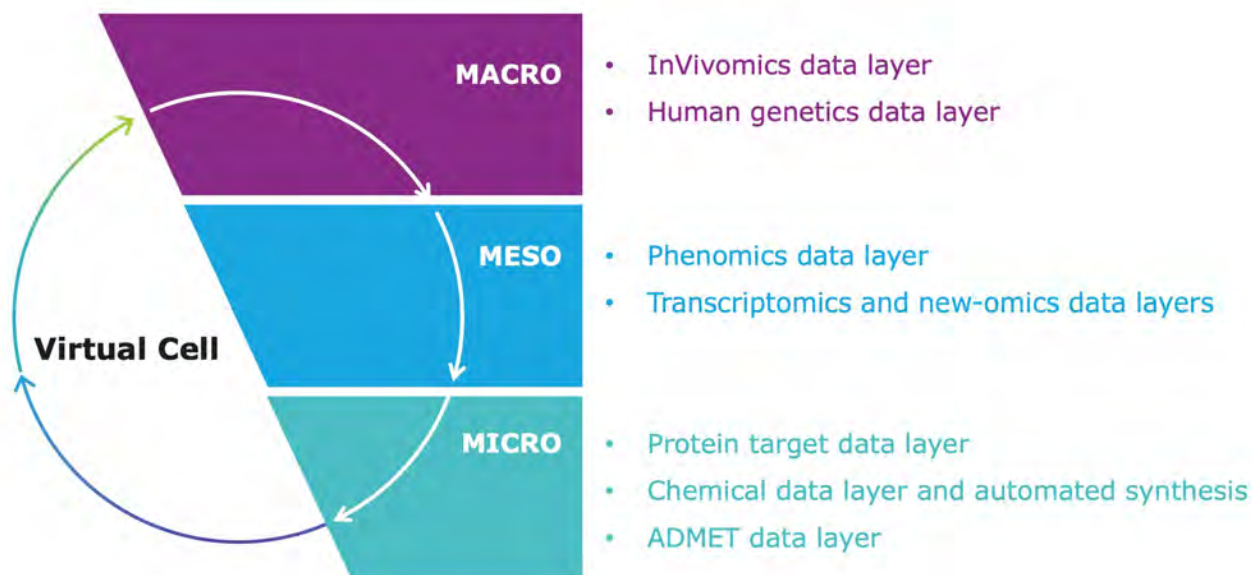
**Scale and Quality.** Scale is achieved through three pillars:

- **Automation:** Automation powers our labs, ensuring we create high-quality data outputs at industry leading scale.
- **Relatability:** Output data is highly relatable allowing us to infer relationships and identify connections across many experiments.
- **In silico models:** Scaled relatable data is used to train in-silico models to infer and predict experimental outcomes at scale far exceeding what is possible in the real world, which can then be validated at scale in our automated labs.

## Spanning multiple layers of biology

Our Real World data layer and World model are built to use data across three scales: macro, meso and micro. The following section provides examples of these models based on each scale.

- **Macro:** At the highest level, macroscale data informs on organism-level phenotypes and is typically deeply associative rather than causal – one can find associations between clinical outcomes and human observables, but the causal chain of how to go from variant to macro-scale phenotype is usually hidden. Different size scales and data generation formats tend to have differing levels of interpretability, data quality and noise, costs, and data completeness.
- **Meso:** In the middle, mesoscale data is measurements on cellular biological systems, such as phenomics and transcriptomics. Here, we built our first in silico maps of biology and have historically executed our largest laboratory experiments.
- **Micro:** At the smallest end, microscale data informs on molecular-level events like protein-small molecule binding and interactions and can enable insights at the level of target- and protein-interactions and properties. It is the realm of many of our physics- and chemistry-centric models, and our protein sciences and biochemical laboratory assays.



**Figure 19.** Formation of a highly predictive Virtual Cell from scales of data layers that form Real World data and World model. The macro data layer aims to find associations between clinical outcomes and human observables and determine causal chains of biology. The mesoscale data uses measurements on cellular biological systems, such as phenomics and transcriptomics, to build in silico maps of biology. Microscale data uses molecular-level events, such as protein-small molecule binding and interactions using our protein sciences, biochemical assays, and physics- and chemistry-centric models, to enable insights at the level of target- and protein-interactions and properties.

## Macro Scale Data Layers

Macroscale data informs on tissue-, organism-, and population-scale biology, enabling us to connect insights at the molecular (micro) and cellular (meso) levels to the behavior of drug candidates in patients, and to perform “reverse translation” of insights from patient populations to direct the initiation of programs at the beginning of discovery. In 2024, Recursion built investments in macroscale biology in both model organisms for in vivo testing (InVivomics) and human populations, spanning cancer –omic data, population genetics data for non-oncology indications, and real-world clinical data.

## InVivomics Data Layer

Recursion's data layers combine to tell the story that our therapeutics will safely provide benefit to a patient. Currently, in vivo experimentation is necessary to confidently translate the initial insights from high throughput experimentation in biology and chemistry to applications in the real world. Our InVivomics platform removes human toil and bias from animal data collection. Leveraging this platform maximizes data collection while minimizing human effort in key in vivo experimentation areas, in vivo pharmacology and toxicology.

### REAL WORLD

Vivarium: Physical observations of animals including one million hours of video

Physical measurements (body weight, blood work, etc.)

Microchipping / collecting digital biomarkers for all animals

149,000 environmental datapoints

### WORLD MODEL

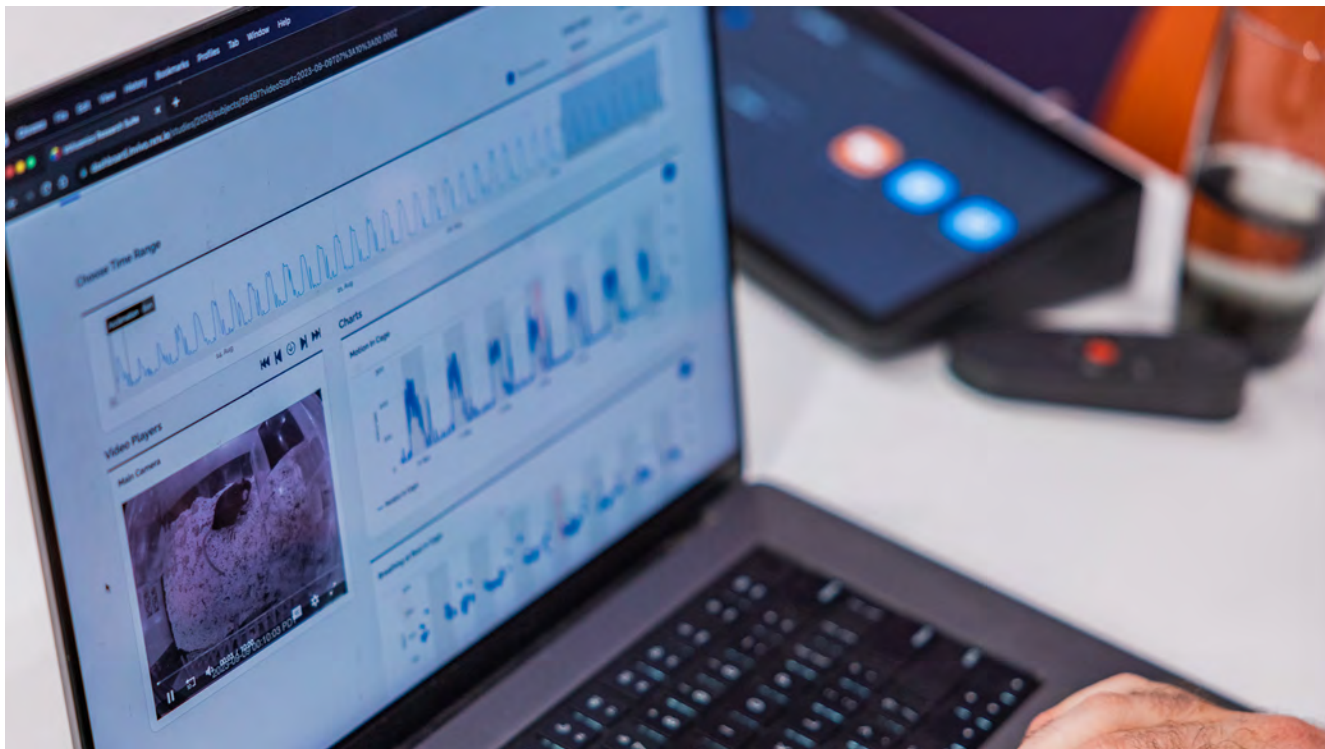
IVP-1: InVivoPrints Foundation Model to detect organ toxicities as early as possible and prioritize new drug candidates

In 2024, InVivomics produced important data that drove decisions across disease models in fibrosis, neuroscience, and oncology. We integrated tolerability studies into our automated industrial workflows, streamlining the process from hit compound identification to animal model testing through a standardized set of experiments and decision criteria. Our in-house execution of a lung fibrosis model helped accelerate the delivery of a molecule now progressing to clinical trials. We also piloted studies in oncology and neuroscience. In neuroscience, we introduced new endpoint measurements like rotarod and CMAP. Developing this skill set and assessing how digital biomarkers can enhance and accelerate data not only supported an internal project decision but will also play a key role in advancing our partnership projects.

In total in 2024, we ran 62 InVivomic-informed studies at our Milpitas, CA facility. Of those, 27 were mouse tolerability studies, delivering richer data to project teams as they design downstream in vivo pharmacology studies. Across our internal portfolio, 7 projects leveraged this technology to inform dose selection as well as to evaluate impacts on specific tissues of interest. We are also exploring the use of our digital system in rat toxicology studies, evaluating the advantage gained both with the richer constant-monitoring data as well as better connection to our other data layers. We expect a data-driven evaluation in early 2025.

To extract maximum insights from this data, we also built a deep learning model called InVivoPrint V1 (IVP-1) that increases our ability to decode signals coming from these smart cages – detecting liabilities such as inflammation or toxicity earlier than our previous digital biomarker approach. IVP-1 allows us to detect organ toxicities linked to a compound or dose candidate as early as possible during in vivo tolerability studies – and to prioritize new drug candidates for the efficacy phase. Our current InVivomics dataset includes 1 million hours of video; 1 million hours of digital biomarkers such as locomotion, body temperature, wheel speed, and cage humidity levels; 149,000 environment data points, including cage slottings, rack used, rack room, sex, and birth time, as well as a number of other categories.





**Figure 20.** A Recursion scientist uses our in house dashboard to monitor digital readouts and live video of an ongoing animal experiment.

### Human genetics data layer.

At the macroscale, patient omics and observational Real World Evidence (RWE) informs organism-level phenotypes, which is critical for discovering the underlying genetic associations of a particular disease. As an independent data layer, human genetics has proven to be undeniably important for increasing the probability of clinical success. Yet the full value of these patient datasets is limited by the fact that these data are inherently noisy, incomplete, and difficult to collect at a scale that allows for recall of sufficiently rare variants and disease phenotypes. At Recursion, we have the capability to bridge our highly controllable, densely sampled perturbative map data (meso) together with observational patient data (macro) in a joint forward-reverse genetics approach. Using human genetics, we can connect the macroscale down to the mesoscale to inform phenotypic discovery and deliver stronger, more disease-relevant and patient-connected insights. While conversely, by integrating scaled meso data, we in turn increase the power and derive further value out of macro data above standard approaches.

#### REAL WORLD

Publicly available datasets including TCGA  
 Helix – non-oncology  
 Tempus - oncology  
 EHRs  
 Historical and Recursion trial data  
 Non-patient trial data

#### WORLD MODEL

Bootstrapping clinical genomics with phenomics to increase effective power of genetic association tests  
  
 Causal discovery models integrating reverse and forward genetics for target identification and program initiation  
  
 Causal inference models for patient biomarker identification and optimized selection strategies

In 2024, we expanded our real-world macro data layer by partnering with various clinico-genomics companies and acquiring other sources of RWE. In addition to retaining access to over 20PB of de-identified oncology patient data through our partnership with Tempus, we are now partnering with Helix and have scaled access to hundreds of thousands of de-identified non-oncology patient records consisting of longitudinal clinical records paired with Helix's Exome+® genomic data. We are working with real world data (RWD) providers and continue to augment the foundational macro layer with non-patient trial data such as fit-for-purpose natural history, and both historical and Recursion trial data.

With the integration of these real-world macro and meso data, we built critical components of the Recursion world model to increase the effective power of genetic association tests, inform on patient causality, and enable the precise selection of patient populations based on causal insights. In 2024, we demonstrated that we could extract genetic causal targets from small (24,000) patient data sets that had previously, depending on the target, required patient data sets of hundreds of thousands up to over

one million (3-67x increase in effective power). Recursion believes this to be a new and plausible capital-efficient approach to rare variant discovery.

We also developed a generalizable causal discovery workflow combining macro-meso data features and applied these models for target identification and program initiation purposes. This has led to over 60 genes identified through these causal models that are currently in testing on our validation platform. Beyond discovery, these causal AI models are deployed to identify potential population expansions on current development programs. We have also started testing causal inference models for predicting responsive patient populations to aid in biomarker identification and design optimized patient selection strategies.

Our diversification and expansion of our access to large-scale real-world data, has strengthened our foundation for building world models. This included the integration of electronic health records, claims data, non-patient clinical trial data, and historical trial data. These data sources are being leveraged to advance development through **intelligent trial design**—optimizing patient selection, trial protocols, and biomarker strategies based on predictive insights; **AI-powered clinical trial execution**—accelerating patient enrollment via data-driven site selection, automated outreach, and dynamic recruitment optimization; and **multi-modal RWE application at scale**—combining genomic, clinical, and claims data to inform decision-making across discovery, development, and validation.

Finally, we also accelerated patient enrollment with data-driven site selection and automated site outreach. Looking ahead, we will expand and develop these components, and the industrialized workflows that integrate these into the Recursion OS to drive industrialized clinical development and increase probability of success for our clinical programs.

## Meso Scale Data Layers

Mesoscale data at Recursion informs us about cellular biology and serves a unique role: data on cellular systems integrates over biological pathways, revealing information about the multiple effects that individual molecules and targets may mediate to enhance translatability (polypharmacology), while simultaneously offering orders of magnitudes greater sample scale and interventional capability than macro-scale systems. Recursion has built and applied two high-throughput mesoscale assays and data layers, phenomics and transcriptomics.

### Phenomics Data Layer

Phenomics measures the morphology of cultured cells grown in laboratory plates. Morphology is a holistic measure of cellular state that integrates changes from underlying layers of cell biology, including gene expression, protein production and modification, and cell signaling, into a single, powerful readout. Image-based -omics can be two to four orders of magnitude more data-dense per dollar than other -omics datasets that focus on these more proximal readouts, enabling us to generate far more data per dollar spent to inform our drug discovery efforts. Phenomics data on genetic and small molecule perturbations forms the backbone of Recursion's Maps of Biology.

#### REAL WORLD

Phenomics: morphology provides a holistic measure of cellular biology integrating changes in gene expression and protein function.

Recursion can run up to 2.2M phenomics experiments per week.

Majority of Recursion phenomics capacity is now dedicated to multi-timepoint brightfield imaging, enabling measurement of cellular dynamics, beyond single endpoints.

#### WORLD MODEL

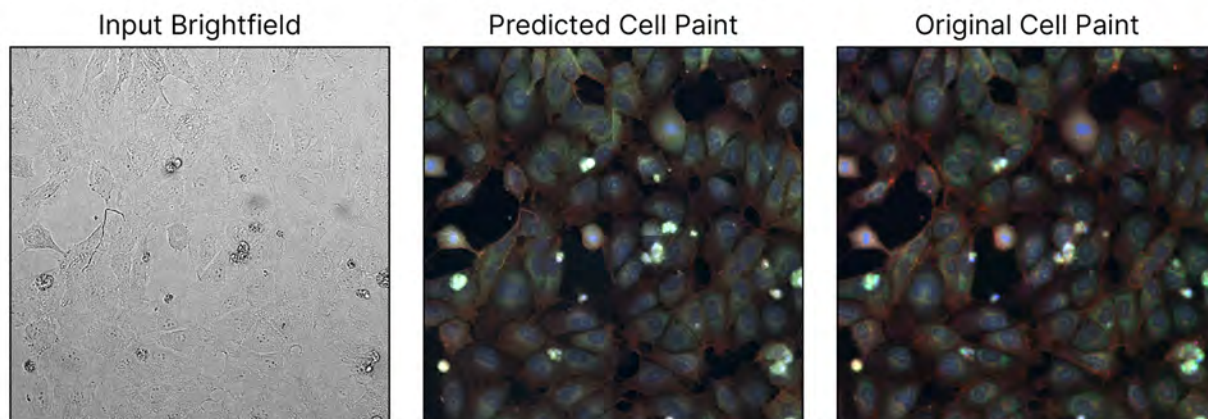
BioHive-2 enabled continued scaling of Phenom models, with Phenom-2 demonstrating a 25.7% increase in expressed gene knockouts detected.

Phenom models demonstrate potential path to direct relatability between historical fluorescent phenomics data and new brightfield data.

Our real-world experimental phenomics data has historically been captured using multi-channel fluorescence microscopy; through 2024, we transitioned the platform to acquire live-cell brightfield images, an imaging modality bringing the capability to measure dynamic cellular state across time, rather than at a single timepoint as is typical for fluorescence-based phenomics or sequencing. In 2024, Recursion's real-world phenomics experimental capabilities scaled to be able to generate up to 13.2 million cell paint images (110 terabytes) or up to 16.2 (135 terabytes) million multi-timepoint brightfield images across up to 2.2 million experiments per week.

Our state-of-the-art machine learning work in phenomics contributes deeply to the Recursion world model. In 2024, Recursion demonstrated the power of scaling laws in machine learning with the training and deployment of Phenom-2, a larger version of the Phenom-1 phenomics model from 2023, making use of the increased computational power of BioHive-2 to improve the detection rate of expressed gene knockouts by 25.7%. We further demonstrated the power of Phenom models on our data by training a Phenom-2-derived model to reconstruct fluorescent Cell Painting images from brightfield data alone, potentially enabling us to directly relate historical Cell Painting data to the brightfield data being collected today and in the future.

## Predicting Cell Paint from Brightfield



**Figure 21.** Predicting Cell Paint from Brightfield. Phenom-derived models are able to accurately impute fluorescent stains from brightfield-only images. Using paired brightfield and fluorescent phenomics (“Cell Paint”) data, Recursion scientists trained a Phenom-derived model to reconstruct fluorescent images from brightfield data.

### Transcriptomics and new –omics data layers

Transcriptomics is a high-dimensional measure of cellular biology distinct from phenomics that assesses gene expression by measuring RNA levels in the cell. Transcriptomics augments our mesoscale data acquisition in three key ways. First, it enables independent replication, at scale, of effects detected in phenomics to verify that they are not morphology-specific artifacts. Second, it offers a route to greater potential interpretability of high-dimensional biological effects by mapping perturbations onto identifiable genetic pathways. Finally, it potentially enables the acquisition of new kinds of biological information, including both effects specific to the transcriptome and new perturbations inaccessible on our phenomics platform.

#### REAL WORLD

Generated >1.6M individual transcriptomes since its launch in 2023, with just under 1M generated in 2024

Built world’s first genome-scale CRISPR knockout map in primary human cells

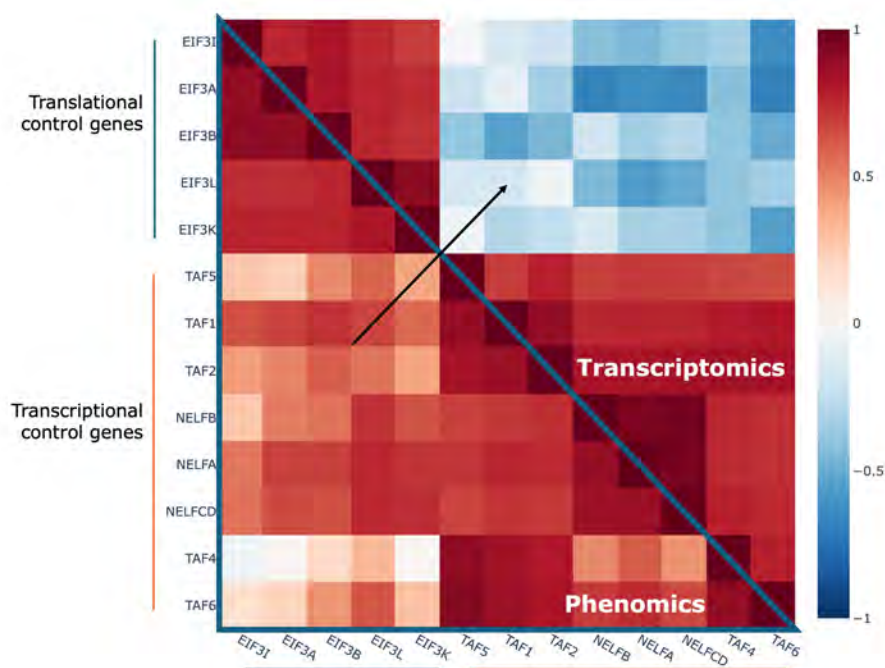
#### WORLD MODEL

Developed algorithms to orthogonally confirm phenomics results using arrayed transcriptomics replacing disease-specific confirmatory assays, with 90% ability to filter out compounds that would have failed such bespoke assays

Initiated work on scaled representation learning in transcriptomics

We acquire transcriptomics data in the real world using both an internally developed high-density bulk arrayed transcriptomics platform as well as a newly developed pooled single-cell transcriptomics capability. In 2024, we have expanded our arrayed transcriptomics platform capability to enable the sequencing up to 62,000 wells per week and in 2024, generated just under 1 million individual transcriptomes of data. This year, we augmented our platform with the capability to read out pooled perturbations by single-cell RNA sequencing and demonstrated this capability with what we believe to be the world’s first genome-scale CRISPR knockout map in primary human cells. We continue to explore investments in –omics technologies beyond transcriptomics, including but not limited to proteomics and metabolomics.

Transcriptomics represents the first extension beyond phenomics in the Recursion world model. In 2024, we applied Recursion algorithms operating on transcriptomic experiments confirming phenomics to replace time-consuming, disease-specific validation assays with a portfolio-wide multimodal analysis. This analysis demonstrated a 90% ability to predict compounds that failed later disease-relevant assays in internal tests and 60% ability to predict compounds that passed later disease-relevant assays in internal tests. The results of our whole-genome transcriptomic knockout map are now available for internal analysis in the Recursion Data Universe, and in 2025 we anticipate further development of scaled machine learning capabilities on transcriptomic data paralleling our historical development in phenomics.



**Figure 22.** Phenomics and transcriptomics can provide complementary views of biology. In this figure, relationships between knockouts of genes involved in control of RNA transcription and protein translation are visualized, with relationships from phenomics in the lower triangle and those from our internal genome-scale transcriptomic knockout map in the upper triangle. As a distal readout, phenomics sees similar effects on cellular biology from the loss of either transcription or translation. By contrast, transcriptomics identifies opposite directionality of effect between knockouts of these two classes of genes, potentially offering higher resolution in certain areas of biology.

## Micro Scale Data Layers

At the smallest end, microscale data informs on the key chemical and biophysical measurements needed to succeed in drug discovery. This scale covers the molecular-level events, such as the binding events between compounds and their target proteins, as well as the chemical reactions involved in synthesizing and metabolizing these compounds. Three data layers encompass this micro scale. (1) *Protein Target*, (2) *Chemical Data & Automated Synthesis*, and (3) *ADMET*, each encompassing scaled data generation and state-of-the-art AI models to accelerate our design initiatives.

### Protein Target Data Layer

Our protein target data layer measures the protein-ligand binding interactions that drive drug discovery. Engaging protein targets with new compounds is a key driver in the development of effective medicines. This data layer encompasses the development of new target-centric functional assays, the automated platform conducting these real-world experiments, as well as our suite of advanced physics-based simulations that yield accurate synthetic data. These insights are captured by our *state-of-the-art* predictive chemistry models, using this data to guide automated design decisions.

#### REAL WORLD

In-house support for over 250 unique assay types  
Over 50% fully unattended assay ready plate production

#### WORLD MODEL

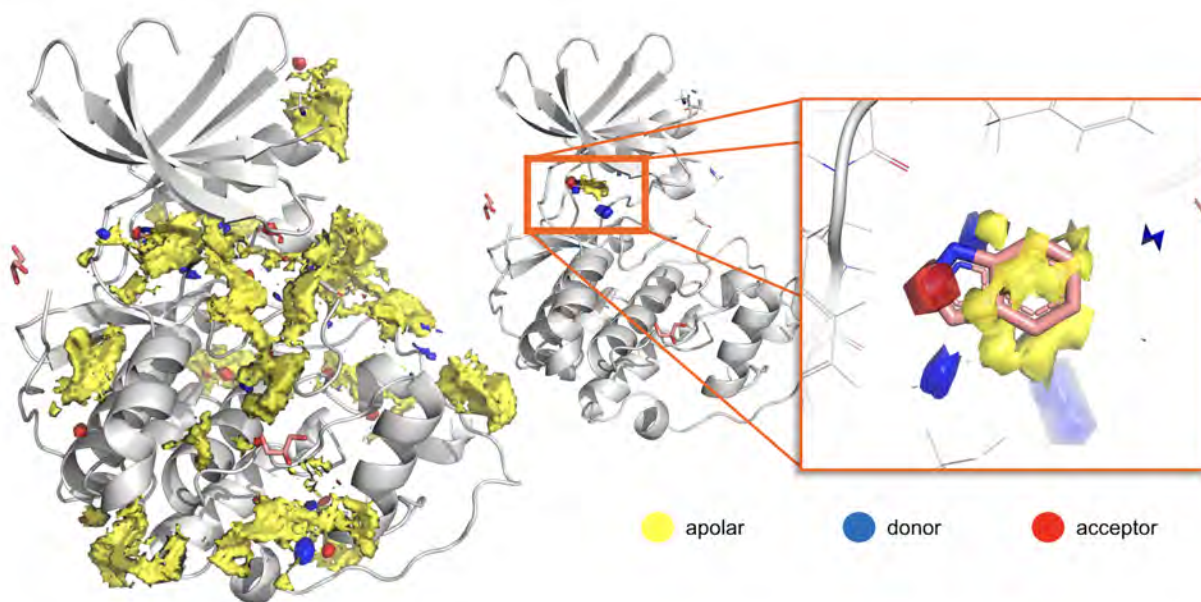
Co-folding & ABFE simulations  
MolGPS Foundation Model

In 2024, we scaled and automated our experimental bioassay platform, which drives the *testing* phase of our precision Design-Make-Test-Analyze (DMTA) active learning loop. The platform's key features include assay type diversity, speed of execution, and close integration with software tools to enable autonomous operation. The platform currently supports over 250 diverse biochemical and functional assay types, allowing us to drive diverse, high-quality target-enabled programs. All assay plates are prepared autonomously, without human intervention, with over 50% of assay plate preparations taking place overnight in unattended facilities.



Recursion enhances its automated bioassay platform with absolute and relative binding free energy simulations (ABFE/RBFE) of protein-ligand interactions and protein folding predictions, each serving a different purpose toward enhancing molecule design. ABFE and RBFE are accurate molecular dynamics (MD) simulations of protein-ligand binding interactions, which evaluate new chemical design on structurally enabled targets by computationally determining their affinities to the target. Our RBFE calculations have demonstrated an average accuracy of 1.3 kCal/mol. These evaluations prioritize which designed compounds are made and tested.

From there, protein folding and co-folding predictions are used to locate the ligand binding and mechanistic targets responsible for observed biology activities detected by our meso data layers (phenomics and transcriptomics). In 2024, we connected 1.4 million known active ligands mapped to specific pockets across a synthetic data layer of 3D human protein structures. These relationships are used to identify tentative off-target interactions, binding site (and their key active residues), and to initiate subsequent structure-based modeling, including ABFE and RBFE simulations. Bioactivity assays measured through the bioassay platform and sourced across the *Recursion Data Universe* are further modelled through a suite of state-of-the-art machine learning models. Notably, activity models are built with our MolGPS foundation model pretrained on thousands of chemical properties and biological activities. Together, each virtual model enhances the “Design” capability of the iterative Design Make Test Learning loop.



**Figure 23.** Interaction surfaces of a molecule as determined by fragment hotspot analysis. Fragment hotspot maps are used to identify druggable sites on protein surfaces, and to map target similarity across a synthetic data layer of 3D protein structures.

### Chemical Data Layer & Automated Synthesis

Our chemical data layer integrates precision design, state-of-the-art molecular property prediction, and fully automated chemical synthesis, with the goal of designing and producing high-quality, differentiated medicines for patients. The precision design element transforms the drug discovery and development process. It replaces the current conventional/conservative approach with an AI-first learning system that is well-suited to the complexities of drug discovery in each step of the process. Our proprietary AI excels at generative molecular design, molecular property prediction and multi-parameter optimization - powering our platform to multiplex design against addressing more complex, desired profiles than conventional approaches, with synthetic accessibility at its core.

#### REAL WORLD

Automated chemistry platform  
Reaction data generation  
Automated purification platform

#### WORLD MODEL

Generative design  
ADMET/potency prediction  
Retrosynthesis prediction  
Reaction outcome prediction

The synthesis-first, generative design approach addresses a significant challenge posed by early generative methods, which frequently yield undesirable molecules that are difficult to synthesize. Our approach represents a substantial advancement in generative design and can be considered a next-generation solution. As we design molecules with AI-driven algorithms, our

platform, informed by our performant property prediction models, guides the design process towards compounds that are not only biologically and physiologically optimized, but also amenable to efficient synthesis on a unique, fully automated platform, suggesting the most cost and time-effective way to make the molecule with sophisticated retrosynthesis that is vendor-logistics-aware.

We capture reaction data, alongside bioassay data, and leverage active learning to ensure that our molecular property and synthesis prediction models continue to learn in step with the evolution of our pipeline, continuously refining our ability to identify the most promising molecules and predict the feasibility and success of future synthetic routes. Recursion's AI synthesis planning capability shows a 25% improved tractability assessment of AI-generated compounds over competitors and integrates with the Recursion OS. Incorporation of our platform into our discovery processes has resulted in a 35% improvement in design cycle productivity, enabling our design platform to support a broad pipeline.



**Figure 24.** Recursion's automated chemistry wet lab, a modular system for chemical synthesis preparation, execution, analysis, work-up, and purification.

### ADMET Data Layer

A durable truth in drug discovery is the requirement that we have confidence in our prediction of how our drugs will behave in patients. We must enter clinical experimentation assured that we have a reasonable expectation that we will safely deliver benefit to patients. A key part of building that confidence is early testing of a candidate molecule's pharmacokinetic (PK) properties, which informs the likelihood that the drug will stay in a patient's body for the right amount of time to be effective. At Recursion we strive to generate critical decision-making data as early as possible. Focusing our testing resources on compounds with higher likelihood to advance accelerates our mission to radically improve lives.

#### REAL WORLD

High throughput experimentation on RADME-01

Experimentation at CRO's to add to our dataset and inform project decisions

Publicly available datasets

#### WORLD MODEL

Prediction of compound properties to inform probability of clinical success

Prediction of properties to inform the best compounds to advance

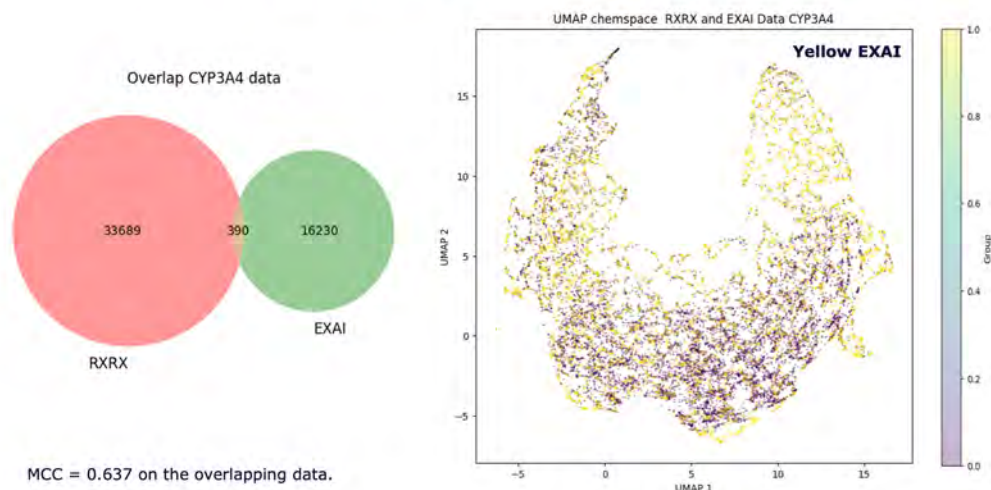
Prediction of properties to inform the best compounds to make

In 2024, we leveraged our high throughput ADME platform, RADME-01, to generate a bolus of data informing a compound's likelihood to be viable. The RADME-01 platform semi-autonomously runs a suite of ADME experiments including passive permeability, metabolic stability in liver microsomes, and non-specific protein binding. Our platform has been operational since late 2023 and can evaluate two 384-well plates in all available assays each week. In 2024, we tested 12,209 novel compounds through this system, supporting both Recursion's internal pipeline and partnered projects. Throughout the year the automation system evolved and refined, allowing for continually less human intervention. A sophisticated in-house built software system intelligently prioritizes compounds and designs experiments to deliver highest value data while avoiding pitfalls related to compound analysis at scale. Drug discovery project teams can use this data to prioritize higher quality compounds for subsequent evaluation, and we've also installed pre-set criteria for compound evaluation in our earlier (hit to lead) stage. In this semi-autonomous loop, data is generated and compounds are nominated for in vivo PK testing without human effort or bias. We are evaluating these criteria on a regular basis to ensure we are giving our projects the best chance at advancing high quality projects and compounds.

Another primary use of data generated on our RADME-01 platform is to train predictive models, capable of evaluating designs before synthesizing new molecules. In 2024, we developed an automated machine learning framework that retrains and deploys new RADME-01 assay endpoint models weekly upon availability of new data, as well as several curated ADME property

datasets. These models included a broad set of properties such as intrinsic clearance, non-specific binding, solubility, efflux, drug-drug interactions, and several human PK parameters. Our teams used these models for both internal pipeline and partnership projects both for prioritization of experimentation and prioritization of new molecule synthesis targets. Recently, automated models derived from the RADME model were combined with their counterparts in the Centaur Chemist platform, further enabling rapid design compounds across both internal and partnership projects. Our combined datasets revealed very little direct overlap and have expanded the chemical space our models are trained on.

## Expanding Training Dataset for CYP3A4



**Figure 25.** The Exscientia and Recursion ADME datasets had few overlapping compound matches but were sufficiently representative to train ADME models with equivalent or improved performances across all endpoints.

## Scientific agents and industrialized workflows

Agentic systems are artificial intelligence systems, typically large language model-based, that can pursue complex goals with limited human intervention. They make decisions in a context-dependent manner and can learn and adapt through interaction with the world around them. They are perfectly suited to workflow design leveraging the data layer and model inference-based modules of the Recursion OS, automating the design of workflows to meet a human or machine-stated objective.

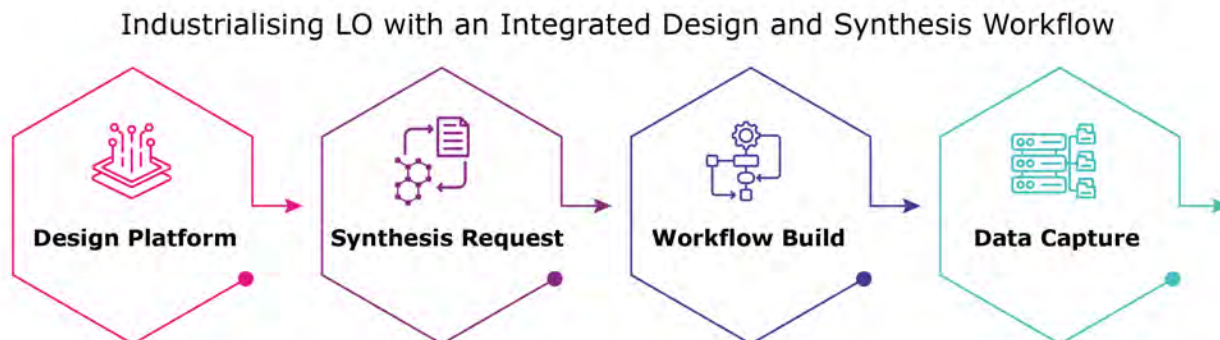
Our goal at Recursion is to industrialize drug discovery and development through standardization and automation. The early stages of our drug discovery process, filling the T-shaped funnel, benefits from standardization and exploitation of the program-agnostic data universe that Recursion has generated this past decade. Industrializing later stages of drug discovery, where the focus is on molecular design, make and test in a program-specific assay cascade, requires context-dependent automation and exploitation of program-specific data. Agentic systems, with their adaptability and flexibility, provide Recursion with the opportunity to industrialize the drug discovery and development process in its entirety.

The industrialization of drug discovery and development at Recursion is implemented via a series of Industrialized Workflows, each exploiting the Recursion OS to serve both the mission of decoding biology to radically save lives and the pipeline. The first of these workflows, Initiation Workflow, offers a standardized approach to program initiation, the filling of the T-shaped funnel. Its role is to generate and assess disease-gene hypotheses. It succeeds by querying the patient data and maps of biology that reside in the data universe and, with help from a suite of Recursion OS models, hypothesizes which genes are associated with which diseases. Large language model-based approaches are used to annotate these hypotheses with strategic insights collated from external, unstructured sources. Such insights inform the biological relevance, novelty, commercial opportunity, competitor landscape, and the opportunity to differentiate. LLMs are also responsible for assigning a score related to the strength of the hypothesized relationship between each disease-gene pair.

The industrialization of lead optimization requires a different approach. At this stage, a program's needs can be unique to that program. The assay cascade may be different and the chemical series undergoing optimization will be different. Recursion's AI precision design platform, Centaur Chemist, enables computational and medicinal chemists to build molecular design workflows that design molecules that are synthesizable on our automated chemical synthesis platform and meet a particular design cycle objective.



Our precision design approach represents a constant interplay of automated data generation from experimentation and intelligent learning systems, embodying virtuous cycles of improvement in chemistry optimization. Through our integrated platform, we can systematically encode the goals and strategy of each molecular design cycle, executing them through a sophisticated combination of scientific technology modules that form cohesive workflows. Compounds progress through synthesis and testing, generating valuable data that are automatically captured in our integrated platform, along with valuable annotations from our medicinal chemists, ready to inform and enhance our predictive modules. This closed-loop system helps translate design objectives into executable workflows, leveraging our 30+ scientific tech modules: from 2D and 3D synthesis-aware generative methods to property prediction models, reinforced with physics-based thinking, and active learning approaches for compound selection. As compounds are generated, synthesized, tested, and evaluated, the platform captures every decision point and experimental outcome, feeding this information back into our models to enhance future design choices. This recursive learning process ensures each iteration becomes more precise and informed than the last, driving the evolution of a more intelligent and efficient drug discovery engine that continuously learns and adapts.



**Figure 26.** Industrializing lead optimization with an integrated design and synthesis workflow.

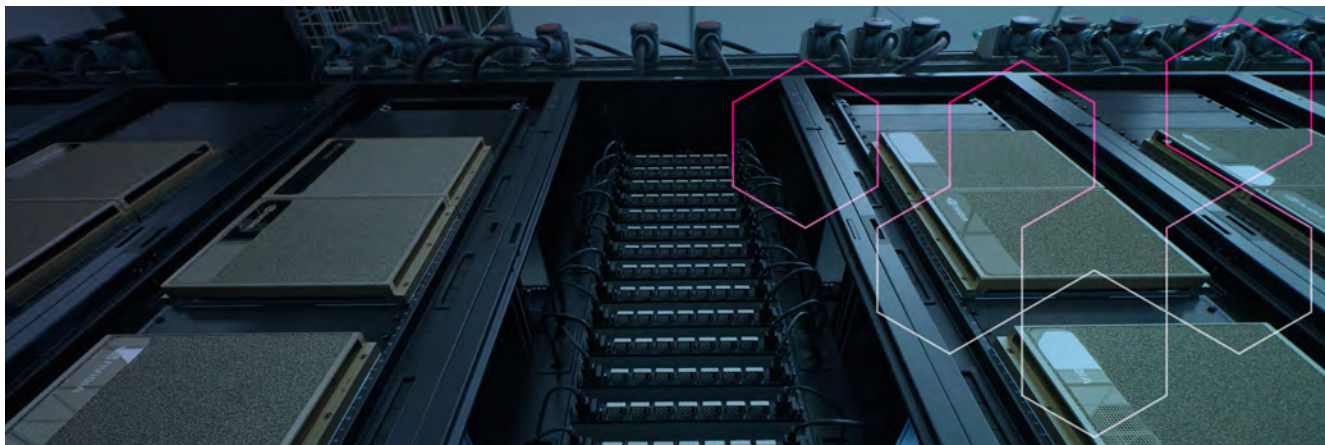
## Processing and Data Storage Infrastructure

We believe modern drug discovery and development is a data and compute problem – the need to understand pathways, targets, compounds, and mechanisms of actions requires obtaining, synthesizing, or predicting large volumes of data. To store this data in an efficient and low-risk way, Recursion makes use of a combination of cloud storage, and on-premises storage. To process this data efficiently, we bring it close to where the compute will run – either in our HPC datacenter (BioHive) or to our cloud (partnering with Google Cloud). To make this more seamless for our scientists, we have invested in a hybrid storage and compute platform, which enables replication of data and locality of compute to allow us to use these resources as efficiently as possible.

This year we expanded our partnership with Google Cloud to explore generative AI capabilities, including Gemini models, supporting the Recursion OS, driving improved search and access with BigQuery, and helping scale compute resources.

We currently have over tens of petabytes of unique data replicated across our sites for redundancy and resiliency. We use this data to train state of the art (SOTA) foundation models of biology and chemistry and continue to push the limits of what is possible as we invest to scale up beyond Phenom-2 on the biology side, and bring unique Quantum Mechanics (QM) and Molecular Dynamics (MD) data to bear in our chemistry models like MolGPS. We largely train these models using our own supercomputer which consists of two generations of DGX SuperPod, with 504 H100s, and 320 A100s, and over 65 TB of VRAM.





**Figure 27.** BioHive-2 is Recursion's new NVIDIA DGX SuperPOD AI supercomputer, powered by 63 DGX H100 systems with a total of 504 NVIDIA H100 Tensor Core GPUs interconnected by NVIDIA Quantum-2 InfiniBand networking. This NVIDIA-powered AI supercomputer results in over four times faster speeds than Recursion's original supercomputer, BioHive-1, in benchmark performance tests. Based on available data, BioHive-2 is the fastest supercomputer wholly owned and operated by any pharmaceutical company worldwide.

## Bringing it together – Combining data scales to drive value

The vision of the Recursion OS is to integrate data and insights across biological scales to build a comprehensive and predictive World Model that deciphers biology with unprecedented efficiency. Our ability to generate and leverage real-world data at scale—across macro, meso, and micro levels—has already begun to reshape how we approach drug discovery. By combining these layers through the Recursion OS, we are moving toward an industrialized, AI-driven system that not only accelerates therapeutic discovery, but we also believe will help us to increase the probability of success in clinical development.

Our first demonstrations of this approach have successfully integrated macroscale patient data with mesoscale phenomics, allowing us to extract genetic causal targets from datasets previously considered too small for statistical power. This methodology enables a capital-efficient approach to rare variant discovery, increasing our ability to identify novel drug targets that are deeply connected to human disease, and it is just the beginning.

At the mesoscale, we have advanced our phenomics and transcriptomics capabilities to provide high-throughput, high-dimensional insights into cellular biology. By connecting these layers with microscale molecular interactions, such as protein-ligand binding and ADMET properties, we enhance the interpretability and mechanistic understanding of our drug candidates. We believe that bridging across all three scales—macro, meso, and micro—will unlock a deeper understanding of human biology and significantly improve the efficiency of drug discovery and development.

One of the most transformative outcomes of our integrated approach will be the ability to construct a Virtual Cell—an AI-powered system that simulates biological responses at scale. Traditionally, drug discovery has been an experiment-driven process where models are built from data collected in the lab. At Recursion, we are reversing this paradigm: our World Model is now driving the generation of new hypotheses, with real-world experimentation serving to validate the most promising insights. By iteratively refining these AI-driven predictions with physical experiments, we are creating a feedback loop that accelerates learning and reduces reliance on trial-and-error experimentation.

As this approach matures, we envision a future where the Virtual Cell serves as a comprehensive digital twin for human biology, enabling us to model drug interactions, disease progressions, and therapeutic interventions *in silico* before ever entering the lab. This shift—from experiment-first to model-first—has the potential to revolutionize how drugs are discovered, reducing both time and cost while significantly improving success rates.

## Scaling Beyond What Was Previously Possible in 2024

In 2024, Recursion expanded its ability to industrialize drug discovery by enhancing the OS's automation, scalability, and machine learning capabilities. Key milestones included:

- The launch of BioHive-2, the most powerful supercomputer owned by any biopharma company, enabling the training of industry-leading foundation models like Phenom-2, MolPhenix, and MolGPS.
- The integration of Exscientia's automated chemistry platform, which has already generated over 500 custom molecules in under nine days per cycle.
- The successful completion of the world's first whole genome neuronal phenotype map (Neuromap) in partnership with Roche and Genentech, representing a significant leap forward in neuroscience drug discovery.

- The augmentation of our real-world data layer with hundreds of thousands of patient records through new partnerships with Helix and Tempus, dramatically improving our ability to connect patient-level insights with early-stage discovery.
- The rapid expansion of our transcriptomics capabilities, surpassing 1 million whole transcriptomes sequenced in a single year, reinforcing our ability to generate multimodal insights.
- The development of InVivoPrint V1 (IVP-1), an advanced deep learning model that enhances our ability to detect organ toxicities and prioritize drug candidates with greater precision.

## The Road Ahead

Recursion is at the forefront of a new era in drug discovery, where data, AI, and automation converge to redefine the boundaries of what is possible. The continued evolution of the Recursion OS will focus on:

- **Further expansion of multimodal AI models** that integrate patient-level insights with cellular and molecular data to refine drug target selection.
- **Greater automation in preclinical validation** through advances in high-throughput biology and AI-driven chemistry.
- **Industrialized clinical development** leveraging AI-powered trial design and patient selection to increase the probability of success.
- **Scaling our Virtual Cell approach** to predict and validate therapeutic interventions with unparalleled accuracy.

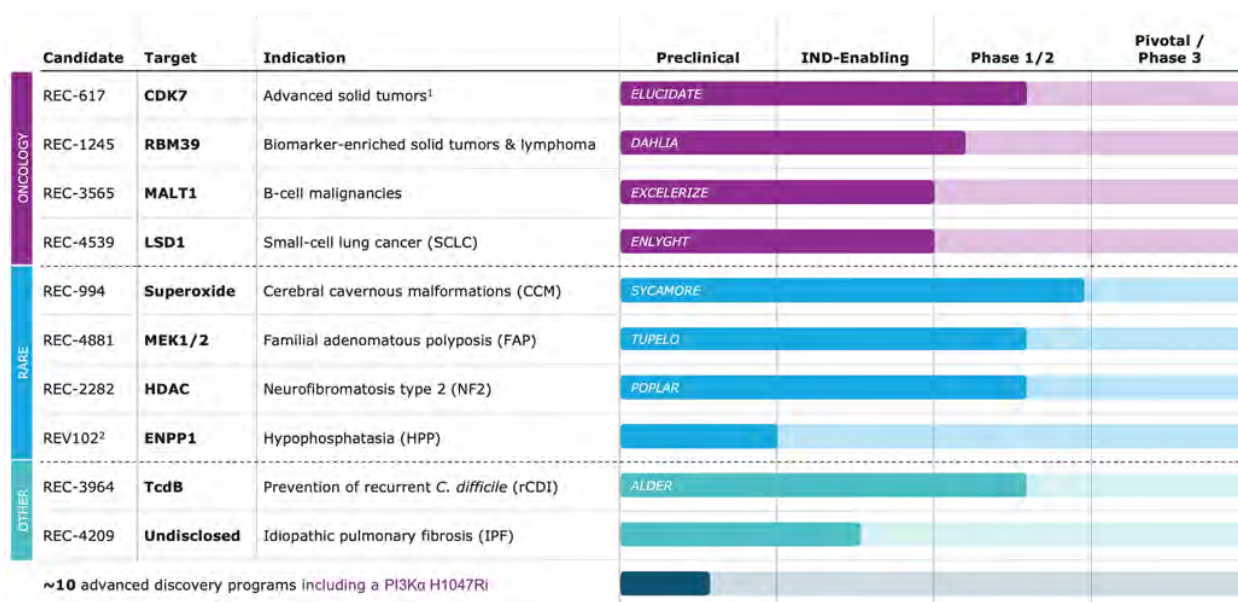
As we move forward, we remain committed to the mission that has guided Recursion from the beginning: to decode biology to radically improve lives. With our unique combination of scaled experimentation, AI-driven insights, and industry-leading automation, we are not just advancing drug discovery—we are fundamentally redefining its future.

## Our Pipeline

Programs in our internal pipeline are built on unique biological and chemical insights surfaced through the Recursion OS where:

- The etiology of the disease is well defined, but the subsequent impacts of the disease are generally obscure and/or the primary targets are typically considered undruggable.
- There is a high unmet medical need, no approved therapies, or significant limitations to existing treatments.

Following the combination with Exscientia, we have expanded our internal and partnered portfolio, adding multiple programs across oncology, immunology, rare diseases, neuroscience, and more. Beyond our 10 clinical and preclinical programs, we are advancing 10+ next-gen discovery programs for further development.



**Figure 28.** The power of our Recursion OS exemplified by our expansive therapeutic pipeline. <sup>1</sup>Includes non-small cell lung cancer (NSCLC), colorectal cancer, breast cancer, pancreatic cancer, ovarian cancer, head and neck cancer; <sup>2</sup>Joint venture with Rallybio.

## Clinical Programs in Oncology

### REC-617 – Advanced Solid Tumors

REC-617 is a potential best-in-class, potent and selective oral small molecule inhibitor of CDK7 with demonstrated activity in preclinical studies. CDK7 controls cell cycle progression and gene transcription, often overexpressed in advanced stage cancers reliant on transcriptional pathways. This program utilized our generative AI and active learning platform to optimize molecule design, including non-covalent binding and ADME/PK for rapid absorption. This rapid design cycle enabled us to synthesize 136 novel compounds and select REC-617 as our lead candidate in under 11 months.

A multicenter, open-label, Phase 1/2 (*ELUCIDATE*) monotherapy dose escalation (QD and BID) study is currently ongoing in advanced solid tumors. In December 2024, results from the initial 19 patients (18 response-evaluable at the time of cutoff) were presented at an AACR Special Conference in Cancer Research. REC-617 monotherapy demonstrated signs of preliminary efficacy. One heavily pre-treated ovarian cancer patient achieved a confirmed durable partial response (PR), which correlated with significant reductions in clinical tumor markers (CA125 and TK1). Four additional patients achieved durable stable disease (SD) as their best response. REC-617 was generally well-tolerated, with adverse events predominantly low grade, on-target, and reversible upon treatment cessation. The MTD was not reached and there were no treatment-related discontinuations.

Monotherapy dose escalation (QD and BID) remains ongoing, and we expect to initiate combination studies in the first half of 2025. We also expect to provide additional data updates from the Phase 1 in 2025.

### REC-1245 – Biomarker-enriched Solid Tumors and Lymphoma

REC-1245 is a first-in-class, novel, potent, and selective molecular glue degrader of RBM39, a critical RNA-binding protein involved in alternative splicing and DNA damage repair (DDR) pathways. Leveraging the Recursion OS, we discovered that genetic knockout of RBM39 can phenotypically mimic CDK12 loss – a validated DDR target – without impacting CDK13. To our knowledge, we were the first to report this novel biological insight. Utilizing our phenomics based platform for SAR, we synthesized 204 candidates and advanced this program from target ID to IND-enabling studies in 18 months (vs. industry average of 42 months).

Preclinical data confirmed strong anti-tumor activity, including tumor regressions in a BRCA-proficient ovarian cancer model, minimal off-target effects, and no CDK12 kinase inhibition. With over 100,000 addressable patients in the US and EU5 each year, REC-1245 has the potential to be a novel therapy in a biomarker-enriched advanced solid tumors and lymphoma patient population – either as a monotherapy and/or in combination regimens.

Following IND clearance in September 2024, we initiated a Phase 1/2 (*DAHLIA*) study in December 2024 to evaluate the safety, tolerability, PK/PD, and preliminary efficacy of REC-1245 in unresectable, locally advanced, or metastatic cancers. The trial is currently enrolling at three US sites and includes a biomarker-enriched population that may benefit most from targeted RBM39 degradation. We expect to share an update on the Phase 1 dose-escalation portion of the study in the first half of 2026.

### REC-3565 – Relapsed / Refractory B-cell Malignancies

We are advancing REC-3565, our reversible allosteric potential best-in-class MALT1 inhibitor, for the treatment of patients with relapsed or refractory B-cell malignancies. A variety of mutations seen in lymphomas induce constitutive MALT1 protease activation, leading to aberrant NF- $\kappa$ B signaling that drives survival and proliferation of B-cell tumors. Key preclinical data demonstrates sustained anti-tumor activity as a single-agent or in combination with BTK inhibitors.

We leveraged physics-based predictive modelling using our molecular dynamics toolkit and AI-powered hotspot analysis to deliver a candidate with lower predicted safety risk in the clinic. We synthesized 344 novel compounds and advanced this program from hit ID to lead candidate in 15 months.

The molecule's unique profile minimizes UGT1A1 inhibition risk, demonstrating superior target selectivity compared to oral competitors, both of which reported treatment-related hyperbilirubinemia in early Phase 1/2 studies. As a result, REC-3565's enhanced selectivity supports the potential for a more favorable therapeutic index not only as a monotherapy, but also in combinations with BTK and BCL2 inhibitors. A multicenter, open-label, dose escalation Phase 1 study (*EXCELERIZE*) cleared a CTA by the MHRA in December 2024. We expect to dose the first patient in the first half of 2025.

### REC-4539 – Small Cell Lung Cancer

REC-4539 is reversible CNS penetrant, orally bioavailable, and potential best-in-class inhibitor of LSD1. LSD1 is an epigenetic enzyme that removes methyl groups from histones to control gene expression. SCLC is particularly dependent on LSD1 to maintain a neuroendocrine phenotype that drives tumor cell survival in this aggressive lung cancer subtype. Preclinical studies demonstrate that REC-4539 shows anti-tumor activity in SCLC human xenografts with limited impact on platelets.

Our program used multi-parameter optimization to design a unique candidate combining reversibility with CNS penetration. We synthesized 414 novel candidates to arrive at our lead candidate in 22 months. Following IND clearance in January 2025, we

expect to initiate a multicenter, open-label Phase 1/2 trial (*ENLYGHT*) in the first half of 2025. We plan to target an SCLC patient population as well as additional biomarker-selected cancers following the dose escalation portion.

## Clinical Programs in Rare Diseases

### REC-994 – *Cerebral Cavernous Malformation*

We are developing REC-994, an orally bioavailable small molecule superoxide scavenger, as a first-in-disease opportunity for symptomatic cerebral cavernous malformations (CCM). CCMs are rare vascular anomalies marked by abnormal capillary-venous structures, recurrent lesions, and stroke-like symptoms. REC-994 was discovered using the earliest version of Recursion's comprehensive drug discovery platform. In an unbiased CCM2 loss of function phenotypic screen, REC-994 demonstrated concentration dependent rescue and was advanced into preclinical studies. In animal models of CCM, REC-994 reduced the burden of CCM lesions by ~50%. In addition, REC-994 also reduced the vascular permeability defects in CCM2-deficient mice, which is critical in CCM pathology. This data supported the clinical development of REC-994, the first industry-sponsored trial for CCM.

In late 2020, initial results from the clinical program were reported and a randomized Phase 2 trial of REC-994 (SYCAMORE) was initiated in March 2022 in patients with symptomatic CCM. In April 2024, the Phase 1 SAD/MAD study was published. Initial results in September 2024 showed REC-994 met its primary endpoint of safety with encouraging trends in preliminary efficacy. The drug was well-tolerated, with no treatment-related discontinuations or Grade 3-4 adverse events reported. We presented the Phase 2 study data as a late-breaking oral presentation at the International Stroke Conference, or ISC, annual meeting in February 2025. The data presented showed signs of safety and efficacy as follows:

- REC-994 met the primary endpoint of safety and tolerability in CCM patients with no treatment-related discontinuations, SAEs or Grade  $\geq 3$  adverse events related to study drug
- No new safety signals observed, with the incidence of adverse events comparable across arms
- No treatment-related adverse events that led to discontinuations
- 50% of patients on REC-994 400 mg (n=20) achieved a reduction in total lesion volume versus 28% of patients in placebo (n=18) and 24% of patients on REC-994 200 mg (n=17)
- Trends towards improvement and/or stabilization of symptoms for patients treated with REC-994 400 mg (n=19) compared to placebo, which observed trends towards functional decline, based on changes in the Modified Rankin Scale (mRS) score from baseline to 12 months

Similar trends of exploratory efficacy (lesion volume reduction and functional outcome improvement) were seen in the cohort of patients with brainstem lesions treated with REC-994 400 mg

Most (80%) patients who completed at least 12 months of treatment in the Phase 2 study elected to continue into the long-term extension (LTE) portion of the trial. As of December 31, 2024, the LTE portion is ongoing. As there are no therapeutic options for patients with symptomatic CCM, we plan to seek regulatory guidance from the FDA and additional health authorities on a path forward for this potential first-in-disease program. We expect to share updates on next steps in 2025.

### REC-4881 – *Familial Adenomatous Polyposis*

We are developing REC-4881, a highly potent and selective, potential best-in-class MEK1/2 inhibitor, for familial adenomatous polyposis (FAP). FAP is a genetic condition characterized by the development of adenomas throughout the GI tract. It is an orphan disease caused by inactivating mutations in APC, with most patients undergoing prophylactic colectomy due to nearly 100% likelihood of CRC by age 60.

During a collaboration with Takeda, we leveraged machine vision and automated analysis to quantify hundreds of cellular parameters linked to APC siRNA knockdown. We screened numerous compounds in this genetic background for 24 hours and identified REC-4881 as a potent molecule that rescued the phenotype in a concentration dependent manner. In preclinical studies, REC-4881 demonstrated over 1,000-fold selectivity in APC-mutant tumor cell lines and effectively inhibited spheroid growth and organization. In the APC<sup>min</sup> mouse model of FAP, REC-4881 showed up to a 70% reduction in total polyps, surpassing celecoxib's 30% reduction, highlighting its potential as a highly selective and efficacious therapy for FAP.

In April 2022, the IND was reactivated and in September 2022, the Phase 1b/2 trial (*TUPELO*) of REC-4881 was initiated. As of December 31, 2024, Part 1 of the study is complete, and Part 2 remains ongoing. We expect to share safety and preliminary efficacy data in the first half of 2025.

### REC-2282 – *Neurofibromatosis Type 2*

We are developing REC-2282, a CNS penetrant, potential best-in-class pan-HDAC inhibitor, for neurofibromatosis type 2 (NF2). NF2 is a rare genetic disease caused by loss of function mutations in the *NF2* gene which leads to deficiencies in the tumor suppressor protein merlin.



REC-2282 was identified as a potential therapeutic capable of rescuing HUVEC cells treated with *NF2* siRNA and subsequently in-licensed from Ohio State Innovation Foundation in December 2018. We initiated the POPLAR study, an adaptive, randomized, multicenter Phase 2/3 trial in June 2022, with the first patient dosed in October 2022. In November 2024, we announced that the trial was fully enrolled in the Phase 2 portion.

As of December 31, 2024, Phase 2 data is maturing, and we expect to share the results of the futility analysis (PFS6 rate) in the first half of 2025.

#### REC-3964 – Prevention of Recurrent *C. difficile* infection

We are developing REC-3964, a non-microbial, orally bioavailable, potential first-in-class *C. difficile* (*C. diff*) toxin B selective inhibitor for the prevention of recurrent *Clostridioides difficile* infection (*rCDI*). *C. diff* toxin B disrupts the tight junctions in colonic cells and increases vascular permeability, leading to a leaky gut. REC-3964 is Recursion's first new chemical entity to reach the clinic and binds and blocks the catalytic activity of the toxin's innate glucosyltransferase, while sparing the host. In a human disease relevant *C. diff.* hamster model, REC-3964 demonstrated a significant difference in the probability of survival versus bezlotoxumab alone.

Our program leveraged an ML-aided conditional phenotypic drug screen in human cells and identified novel mechanisms that mitigated the effect of *C. diff.* toxin B treatment. Through orthogonal validation screens, precursors to REC-3964 emerged as promising substrates for further advancement.

In June 2024, we presented Phase 1 data in healthy volunteers at the 6th Edition of World Congress on Infectious Diseases in Paris. In October 2024, we initiated a Phase 2 open-label, randomized, 3-arm study (ALDER) to evaluate the rate of recurrence in patients with a high-risk of CDI, who have achieved symptom resolution following treatment with oral vancomycin for 14 days. We expect to share initial results from the Phase 2 study in the first quarter of 2026.

*Details on preclinical programs (e.g., ENPP1 inhibitor, Target Epsilon) will be shared in the next section.*

## Deep Dive into Clinical and Select Preclinical Programs

### REC-617 for Advanced Solid Tumors – Phase 1/2

REC-617 is an orally bioavailable, cyclin-dependent kinase 7 (CDK7) inhibitor currently under development for the treatment of advanced solid tumors. Inhibiting CDK7 targets both cell cycle dysregulation and transcriptional "addiction", which are hallmarks of multiple aggressive cancers including, but not limited to, CDK4/6 resistant breast cancer, ovarian cancer, and other solid tumors. There are currently no CDK7 inhibitors approved by the FDA. ELUCIDATE, a Phase 1/2 open-label, multicenter, safety, PK, PD and preliminary efficacy study is currently underway. Interim Phase 1 safety, PK, PD, and efficacy data were shared in the fourth quarter of 2024. We expect to initiate combination studies in the first half of 2025.

#### Disease Overview

The importance of cell cycle inhibitors in oncology has been established with CDK4/6 inhibitors, which generated approximately \$10.5 billion in sales in 2023. Aberrant CDK7 overexpression is common in many cancer indications and associated with poor prognosis. CDK7 presents an opportunity to improve treatment outcomes over CDK4/6 inhibitors due to CDK7's dual role in cell cycle and transcription. Potential specific indications include non-small cell lung cancer (NSCLC), colorectal cancer, breast cancer, pancreatic cancer, ovarian cancer, head and neck cancer for which we estimate an addressable population of approximately 185,000 drug-treatable patients per year in the US and EU5.

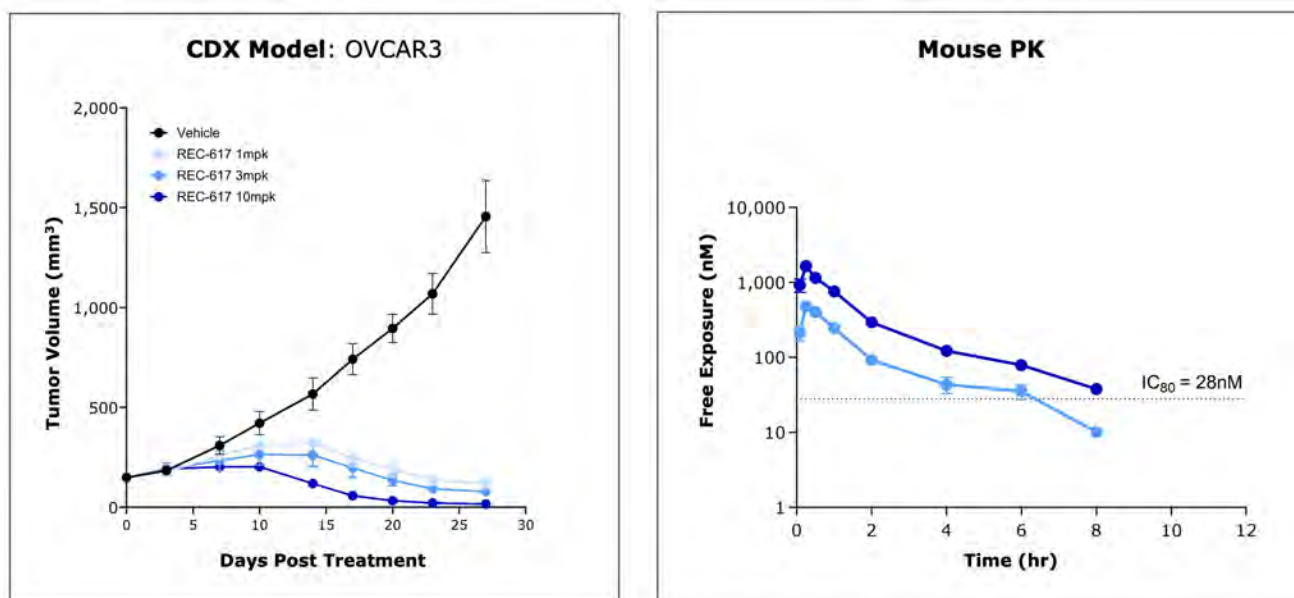
#### Insight from Recursion OS

CDK7 inhibitor development has faced significant challenges, primarily due to off-target effects and suboptimal pharmacokinetics. Previous attempts often employed covalent binding mechanisms or exhibited poor oral bioavailability, leading to undesirable side effects in the clinic. Current candidates in development for CDK7 feature covalent binding or extended half-lives potentially resulting in substantial on-target toxicity. In addition, the reversible inhibitors under investigation are transporter substrates, likely compromising their absorption and exacerbating gastrointestinal adverse events. These limitations underscore the critical need for novel CDK7 inhibitor designs that optimize both safety and efficacy profiles.

Leveraging our AI-driven multi-parameter optimization approach, we identified critical design limitations in existing CDK7 inhibitors. This insight led to an improved target product profile and a novel molecule design. REC-617 is an orally bioavailable, potent and selective CDK7 inhibitor with enhanced oral bioavailability. It has a non-covalent, reversible mechanism of action, and a predicted shorter human half-life compared to other drugs in development. These characteristics potentially offer an improved therapeutic index, less off-target effects, and more consistent absorption.

#### Preclinical

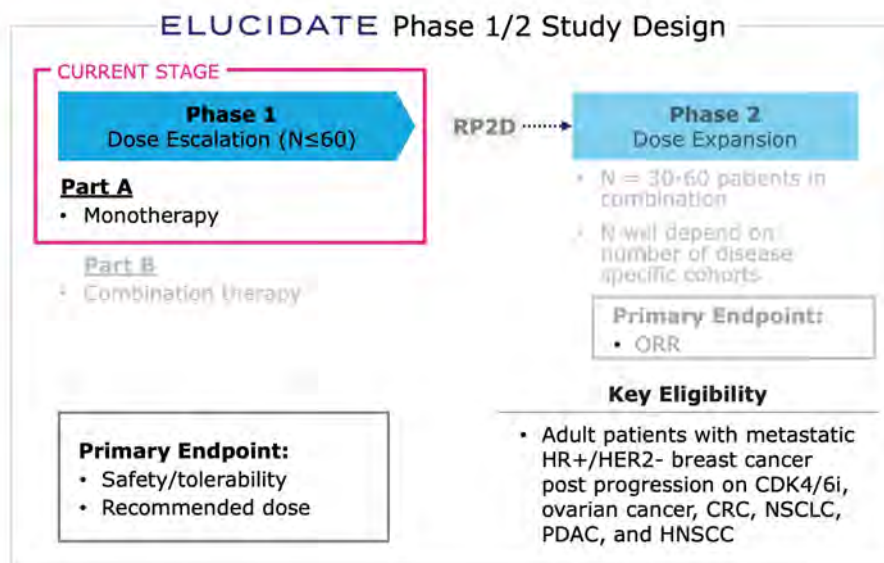
REC-617 has demonstrated strong anti-tumor activities in preclinical studies and in vivo experiments showed potent tumor regression across multiple solid tumor types. Notably, in the OVCAR3 ovarian cancer xenograft model as shown below, complete tumor regression was observed in all 8 mice treated with 10 mg/kg by Day 27. Importantly, no significant body weight loss was observed across treatment arms. Mouse PK studies revealed that maintaining 8-10 hours of CDK7 IC<sub>80</sub> coverage resulted in potent tumor regression with minimal side effects, while coverage beyond 10 hours led to significant body weight loss. This defined an optimal therapeutic window that guided target efficacious exposures in the clinic.



**Figure 29. REC-1245 anti-tumor activity and PK in preclinical tumor models.** (Left) REC-617 induces tumor regression in the OVCAR3 cell line derived xenograft mouse model. N=8, 28 days of treatment, REC-617 administered QD PO. (Right) REC-617 administration results in 8-10 hours of therapeutic coverage at IC<sub>50</sub>. PK studies conducted in CD1 mice, single-dose administration. >10 hr IC<sub>50</sub> results in significant body weight loss.<sup>14,15</sup>

## Clinical

In the third quarter of 2023, we initiated a Phase 1/2 open-label, multicenter study (*ELUCIDATE*) in patients with advanced solid tumors, with the design shown in the figure below. Currently, monotherapy dose escalation (QD and BID) is ongoing, with combination study initiation expected in the first half of 2025.

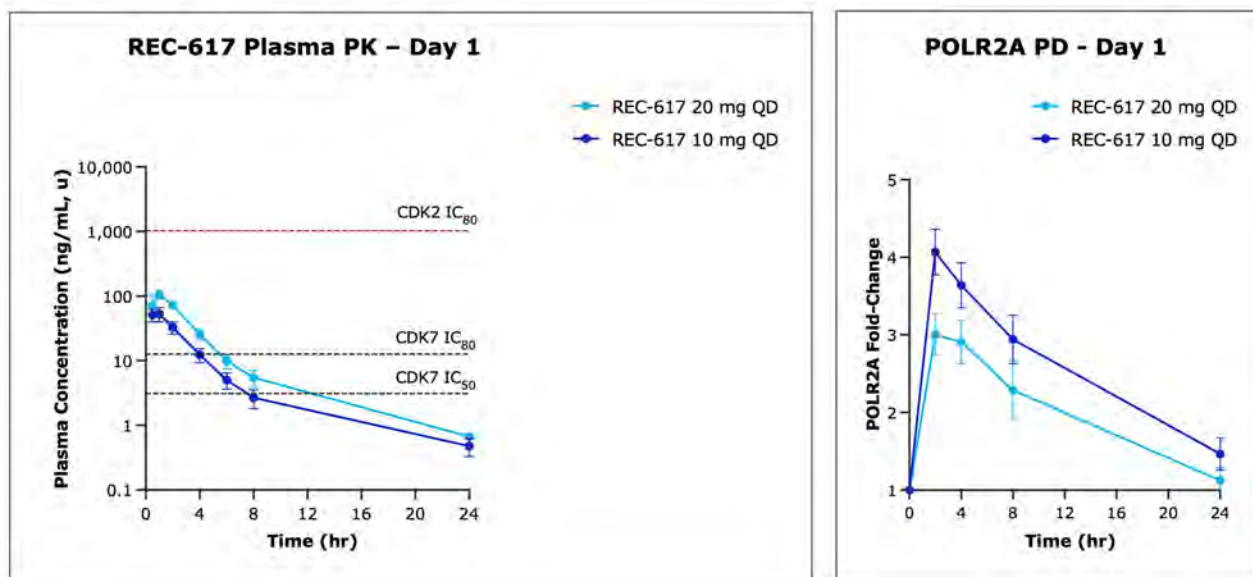


**Figure 30. ELUCIDATE study design.** Phase 1/2 trial design to assess the safety, PK, exploratory PD, and efficacy of REC-617 in patients with advanced solid tumors.

<sup>14</sup> Besnard, et al. (2022). AI-driven discovery and profiling of GTAEXS-617, a selective and highly potent inhibitor of CDK7 [abstract]. AACR; Cancer Res 2022;82(12\_Supplement): 3930.

<sup>15</sup> Hallett, et al. (2024). Overcoming traditional design limitations with AI-based discovery. AACR Special Conference in Cancer Research: Optimizing Therapeutic Efficacy and Tolerability through Cancer Chemistry; Plenary Session 1

In December 2024, we presented results from the initial 18 response evaluable patients at an AACR Special Conference in Cancer Research. REC-617 was well-tolerated with predominantly Grade 1-2 adverse events, no treatment-related discontinuations, and fewer GI side-effects than reported for other CDK7 inhibitors. Dose escalation (QD and BID) is ongoing, and the maximum tolerated dose (MTD) has not been reached. PK was dose linear and exceeded the CDK7  $IC_{80}$  with rapid absorption ( $T_{max}$  0.5–2h) and short  $t_{1/2}$  (5–6h). Robust target engagement was also observed with rapid increases in POLR2A (3–4x), which normalized within 24 hours. These data are shown in the figure below.



**Figure 31. REC-617 clinical plasma pharmacokinetics and pharmacodynamics.** (Left) REC-617 plasma concentration, in a dose-linear fashion, well above CDK7  $IC_{80}$  at peak and well below CDK2  $IC_{80}$ , indicating a broad therapeutic window for the study drug. (Right) POLR2A expression data (PD), which is associated with tumor regression, shows a rapid pharmacodynamic effect and short half-life.<sup>16,17</sup>

Encouraging antitumor activity included a confirmed partial response (PR), in a heavily pre-treated metastatic ovarian cancer patient, with a durable response that was maintained for more than 6 months of treatment. LDH levels were also normalized, and reductions were observed in CA125 (-44%) and TK1 (-68%). Four additional patients achieved the best response of stable disease (SD) lasting up to six months.

## Competitors

We are aware of five active CDK7 inhibitor programs in clinical development:

- **Samuraciclib (Carrick Therapeutics):** In Phase 2 as a monotherapy and in a range of combination studies
- **SY-5609 (Syros Pharmaceuticals):** Completed Phase 1 monotherapy and in Phase 1/1b in combination with atezolizumab
- **Q-901 (Qurient):** In Phase 1/2 in monotherapy and combination with PD-1 inhibitors in solid tumors
- **TY-2699a (TYK Medicines):** In Phase 1 trial in China only
- **EOC-237 (EOC Pharma):** In Phase 1 trial in China only

## REC-1245 for Solid Tumors and Lymphoma – Phase 1/2

REC-1245 is a novel, potent and selective molecular glue degrader of RNA-binding motif protein 39 (RBM39) currently under development for the treatment of biomarker-enriched solid tumors and lymphoma. There are currently no RBM39 degraders approved by the FDA. Following IND clearance in September 2024, we initiated a Phase 1/2 open-label, multicenter study (DAHLIA) to evaluate the safety, tolerability, PK, PD, RP2D, and preliminary efficacy of REC-1245. With the first patient dosed in December 2024, we expect to share an update on the program in the first half of 2026.

<sup>16</sup> Papadopoulos, et al. (2020). EORTC-NCI-AACR (ENA) Symposium

<sup>17</sup> Hallett, et al. (2024). Overcoming traditional design limitations with AI-based discovery. AACR Special Conference in Cancer Research: Optimizing Therapeutic Efficacy and Tolerability through Cancer Chemistry; Plenary Session 1

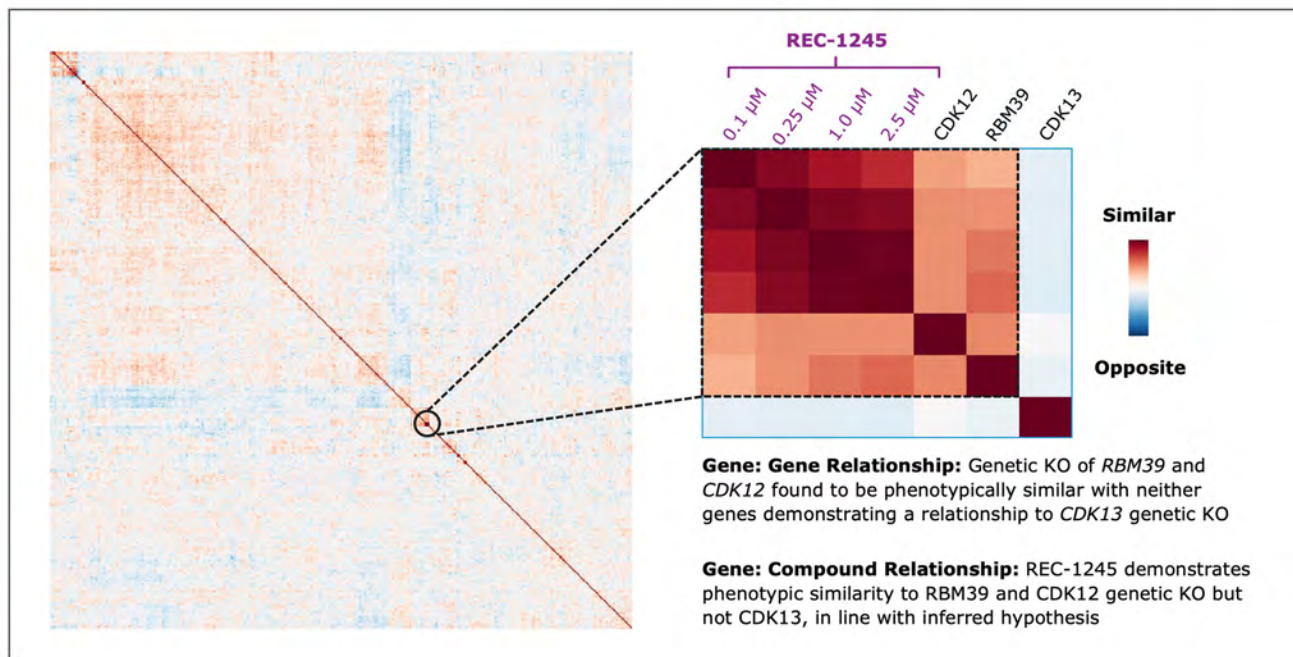


## Disease Overview

Alternative splicing and RNA-binding proteins (RBPs) have recently emerged as attractive therapeutic targets for cancer due to their critical roles in the regulation of post-transcriptional modifications, impacts on DNA damage repair pathways, and modulation of cell cycle functions. Recent studies have revealed that RBM39 is an unexpected target of aryl sulfonamides, which can function as molecular glue degraders by forming a ternary complex with RBM39 and the E3 ubiquitin ligase receptor DDB1 and CUL4 associated factor 15 (DCAF15). Additionally, clinical trials have shown that aryl sulfonamides were well tolerated with modest anti-tumor activity seen across a variety of cancers. These findings suggest that RBM39 degraders may show promise as targeted cancer therapies, but the lack of predictive biomarkers and an inadequate understanding of RBM39 biology has limited their therapeutic potential. With over 100,000 addressable patients, with biomarker-enriched solid tumors and other select histologies in the US and EU5 each year, REC-1245 has the potential to be used as a single agent or in combination with chemotherapy and/or immunotherapy.

## Insight from Recursion OS

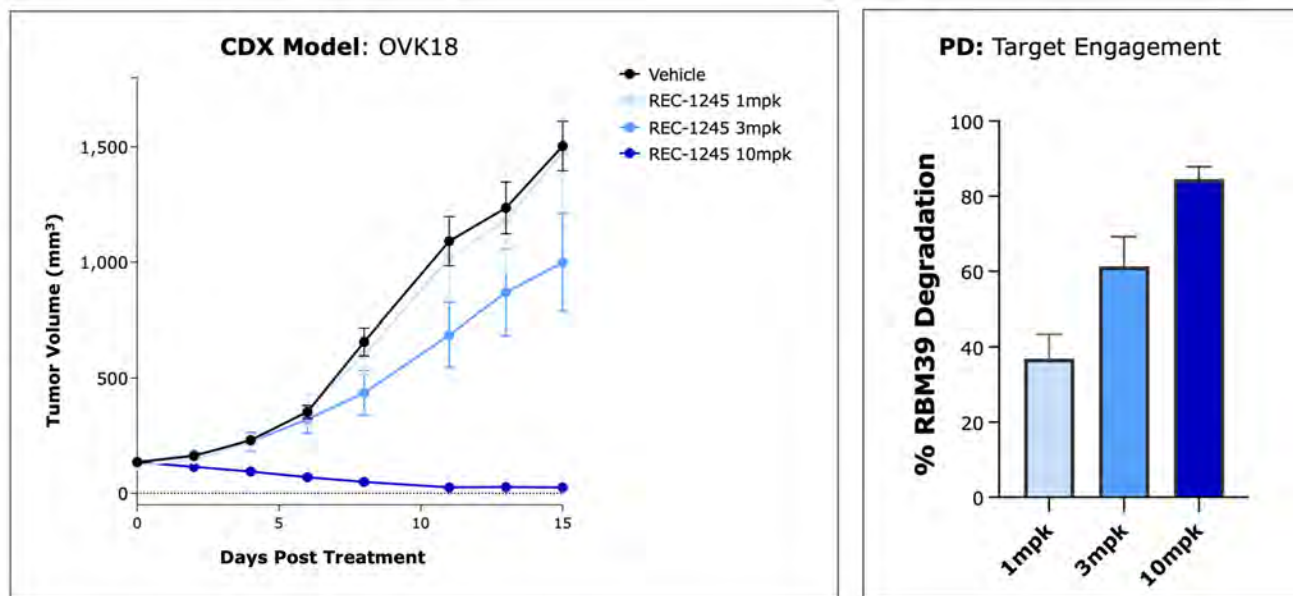
Reports suggest that genetic or pharmacologic depletion of CDK12 can reduce the expression of several genes involved in the homologous recombination repair pathway such as BRCA1 and BRCA2, inducing a BRCA-like phenotype and DDR response. Thus, CDK12 has received considerable interest as a therapeutic target and tumor biomarker for HR-proficient cancers. Despite reports of functional redundancy, we observed that the genetic knockout of CDK12 could be clearly distinguished phenotypically from that of CDK13. Using map-based inference to characterize and relate cellular phenotypes, we identified RBM39 as an alternative target that selectively mimics CDK12 loss, but not CDK13, providing a novel approach for targeting CDK12 biology while circumventing any toxicities that may arise due to CDK13. We subsequently discovered REC-1245 as an RBM39 molecular glue degrader that closely mimics the phenotypic loss of CDK12 and RBM39, but not CDK13. Functionally, REC-1245 treatment globally impacts the expression of many DDR genes but does so in a CDK12 independent manner.



**Figure 32. Inferred map relationships between CDK12, CDK13, RBM39 and REC-1245.** Map representation demonstrates a high degree of phenotypic similarity between CDK12, RBM39, and multiple concentrations of REC-1245. CDK13 shows little or no functional similarity to CDK12, RBM39, or any concentration of REC-1245.

## Preclinical

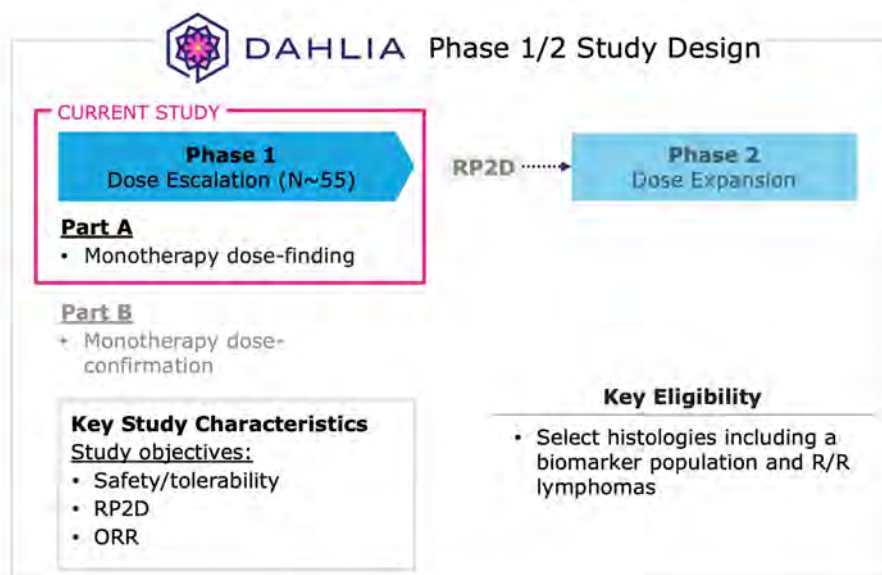
REC-1245 is a potent, potential first-in-class RBM39 molecular glue degrader with compelling preclinical activity. It showed no significant in vitro safety concerns (CEREP, hERG), no CDK12 kinase activity, and minimal ITGA2 liability – an off-target effect seen with prior RBM39 degraders. As shown in the figures below, REC-1245 demonstrated strong antitumor activities as a single-agent, including tumor regression in an ovarian cancer BRCA-proficient, p53 mutant, OVK18 *in vivo* cell line derived xenograft (CDX) model. In addition, dose-dependent anti-tumor activity correlated with increases in RBM39 degradation confirming target engagement and an exposure-response-efficacy relationship.



**Figure 33. REC-1245 single-agent activity and target engagement.** REC-1245 single-agent activity and target engagement. (Left) REC-1245 administered BID PO at doses noted for 15 days. N=8 mice per group. (Right) Percent RBM39 degradation (PD) evaluated at REC-1245 doses noted after 5 days BID oral administration of REC-1245. N=3 mice per group.<sup>18</sup>

## Clinical

In December 2024, we initiated a Phase 1/2 open-label, multicenter study to characterize the safety, tolerability, PK, PD, and preliminary anti-tumor activity of REC-1245 in participants with unresectable locally advanced or metastatic cancer. As of December 31, 2024, the trial is currently active and enrolling at 5 US sites. We expect to share an update on the Phase 1 dose escalation portion in the first half of 2026.



**Figure 34. DAHLIA study design.** Phase 1/2 trial design to assess the safety, tolerability, PK, PD, and preliminary anti-tumor activity of REC-1245 in participants with unresectable locally advanced or metastatic cancer, and who are refractory to, had a relapse on, or intolerant of, established standard of care treatment.

<sup>18</sup> Data on file.

## Competitors

We are aware of only one other RBM39 development program, which is known to be active:

- ST-01156 (SEED Therapeutics): In IND-enabling studies

## REC-3565 for B-Cell Malignancies – Phase 1

REC-3565 is an orally bioavailable, highly potent and selective, potential best-in-class MALT1 inhibitor currently under development for the treatment of B-cell malignancies, including chronic lymphocytic leukemia (CLL). MALT1 is a protease crucial for activation of the NF- $\kappa$ B pathway, which drives the proliferation of malignant B-cells in hematological cancers. There are currently no MALT1 inhibitors approved by the FDA. Following clearance of a CTA by the MHRA in December 2024, we plan to initiate EXCELERIZE, a Phase 1 open-label, multicenter, dose escalation study to evaluate the safety, tolerability, PK, PD, and preliminary anti-tumor activity of REC-3565. We expect the first patient to be dosed in the first half of 2025.

## Disease Overview

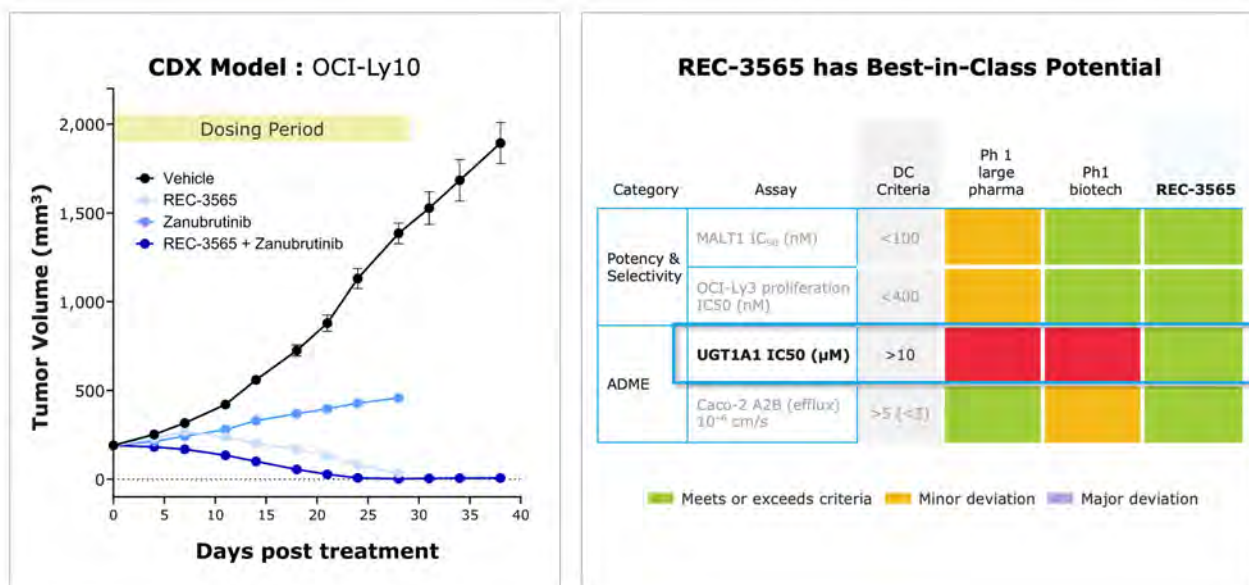
B-cell malignancies encompass a range of hematological cancers, including lymphomas such as diffuse large B-cell lymphoma (DLBCL), follicular lymphoma (FL), mantle cell lymphoma (MCL), and leukemias such as chronic lymphocytic leukemia (CLL) and small lymphocytic lymphoma (SLL). These diseases are characterized by the dysregulated growth or function of B-cells and are often driven by chronic B-cell receptor (BCR) signaling, which leads to unchecked NF- $\kappa$ B activation. MALT1 functions downstream of the BCR and the widely targeted Bruton's tyrosine kinase (BTK), mediating pro-tumorigenic signals in malignant B-cells. Current therapies (e.g., BTK inhibitors) have transformed the treatment landscape, yet resistance remains a significant challenge. By inhibiting MALT1, REC-3565 may help overcome resistance and improve therapeutic outcomes, either as a monotherapy or in combination with BTK and/or BCL2 inhibitors. Notably, the total addressable population for MALT1 inhibitors spans multiple hematologic indications, with approximately 41,000 relapsed and/or refractory (R/R) patients with CLL and B-cell lymphomas in the U.S. and EU5 annually.

## Insight from Recursion OS

BTK inhibitors and other therapies for B-cell malignancies can cause drug-induced liver injury (DILI), limiting combination treatment options. Current MALT1 inhibitor scaffolds significantly inhibit UGT1A1, leading to dose-limiting toxicities, potentially restricting their utility in combination. Leveraging our AI-driven, multi-parameter optimization approach, we focused on an allosteric mechanism to enhance potency, selectivity, and safety for REC-3565. Hotspot analyses and physics-based molecular dynamics guided our design strategy, helping us address the hydrophobic and highly mobile nature of the allosteric binding site. As a result, REC-3565 does not significantly inhibit UGT1A1, potentially mitigating liver toxicity risks and facilitating higher target engagement. This profile also supports combination strategies with agents known to affect liver function like BTK and BCL2 inhibitors, offering a path to potentially deeper and more durable responses.

## Preclinical

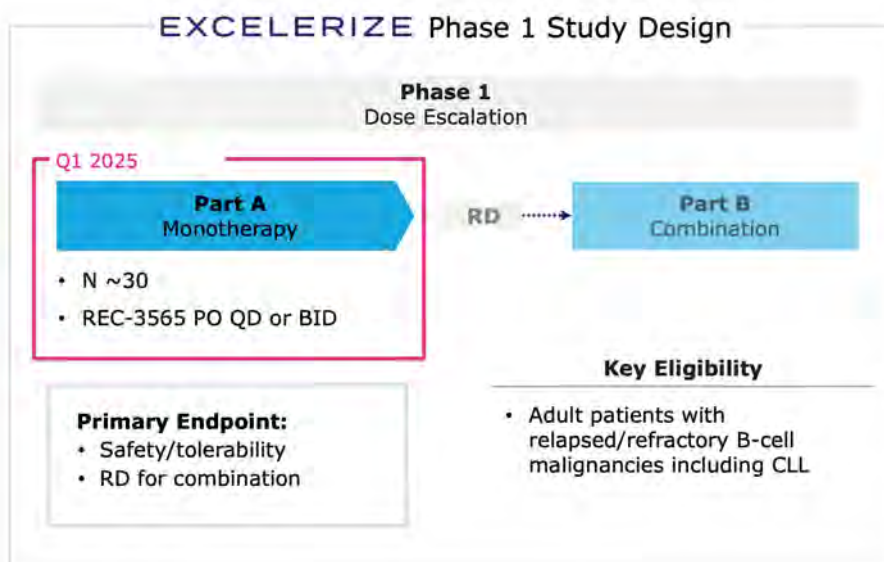
REC-3565 demonstrated significant antitumor activity across multiple B-cell lymphoma models. As a monotherapy, it drove tumor regressions in ABC-DLBCL xenografts, and in combination with zanubrutinib – a next-generation BTK inhibitor – it produced durable responses, with 70% of mice displaying no palpable tumors 10 days after the last dose. Additional in vitro analyses revealed minimal UGT1A1 inhibitory effects relative to other MALT1 inhibitor scaffolds in clinical development, suggesting an improved safety and combination therapy profile.



**Figure 35. Preclinical data highlighting REC-3565 as a potential best-in-class MALT1 inhibitor.** (Left) REC-3565 showed tumor growth regression as a single agent and when combined with zanubrutinib. N=10 per group mice per group, REC-3565 and zanubrutinib dosed BID. PD evaluated after 5 days BID oral administration of REC-1245 at doses noted. N=3 mice per group in PD portion. N=8 mice per group REC-3565 administered BID PO at doses noted. (Right) REC-3565 has best-in-class potential, especially given REC-3565 has >10 uM vs. <1 uM for other MALT1 inhibitors in clinical development. Development candidate criteria: MALT1 IC<sub>50</sub> nM: green <100 nM; yellow >100-<300 nM; red>300 nM; OCI-Ly3 IC<sub>50</sub> nM: green <400 nM; yellow >400-<1000 nM; red>1000 nM; UGT1A1 IC<sub>50</sub> uM: green >10 uM; yellow <10->1 uM; red<1 uM; Caco-2 A2B (efflux): green >5(<3); yellow >1-<5(>3-<10); red <1(>10).<sup>19,20</sup>

## Clinical

**EXCELERIZE** is a Phase 1 open-label, multicenter, dose escalation study designed to evaluate the safety, tolerability, PK, PD and preliminary anti-tumor activity of REC-3565 in patients with R/R B-cell malignancies. Part A will assess monotherapy dosing to identify a recommended dose for combination in Part B, which will evaluate combination regimens to inform future studies in B-cell cancers. Following CTA clearance by the MHRA in December 2024, we anticipate dosing the first patient in the first quarter of 2025.



**Figure 36. EXCELERIZE study design.** Phase 1/2 trial to evaluate safety, tolerability, PK, PD and preliminary anti-tumor activity of REC-3565 in patients with R/R B-cell malignancies.

<sup>19</sup> Payne, et al. (2024). Combining next-generation BTK and MALT1 inhibitors to enhance efficacy and therapeutic utility in B-cell malignancies [poster]. EORTC-NCI-AACR (ENA) Symposium: PB206.

<sup>20</sup> Data on file.



## Competitors

We are aware of five active MALT1 inhibitor programs currently in clinical development:

- **ABBV-525 (AbbVie/Lupin):** In Phase 1/2a trial in R/R B-cell malignancies
- **JNJ-6786633 (Johnson & Johnson):** Completed Phase 1/1b for NHL/CLL
- **MPT-0118 (Monopteros):** In Phase 1/1b in solid tumors with a planned Phase 1/2a in combination PD-L1
- **SGR-1505 (Schrödinger):** In Phase 1 in combination with BTK and BCL2 inhibitors for R/R B-cell lymphomas
- **CTX-177/ONO-7018 (Chordia/ONO):** In Phase 1 trial for patients with R/R NHL/CLL

## REC-4539 for Small-Cell Lung Cancer – Phase 1/2

REC-4539 is an orally bioavailable, highly potent and selective, CNS penetrant, and potential best-in-class LSD1 inhibitor under development for the treatment of small-cell lung cancer (SCLC). LSD1 is an epigenetic regulator that removes methyl groups from histones, thereby controlling the expression of tumor suppressors and oncogenes. By inhibiting LSD1, REC-4539 promotes the reactivation of tumor suppressor pathways and may slow tumor growth or enhance sensitivity to cytotoxic agents. There are currently no LSD1 inhibitors approved by the FDA. In January 2025, the FDA cleared an IND application for *ENLYGHT*, a Phase 1/2 open-label, multicenter study evaluating REC-4539 patients with advanced SCLC. We expect the first patient to be dosed in the first half of 2025.

## Disease Overview

Small-cell lung cancer (SCLC) is a poorly differentiated neuroendocrine tumor, representing roughly 15% of all lung cancer diagnoses. It is commonly categorized as limited stage (LS-SCLC) or extensive stage (ES-SCLC), with the majority of patients presenting with metastatic (extensive) or unresectable disease. SCLC is strongly linked to smoking, tends to grow rapidly, and frequently spreads early. Notably, over 50% of patients eventually develop brain metastases. Despite some improvements in frontline therapy such as chemotherapy plus immunotherapy, treatment options after progression remain limited. Median survival in ES-SCLC is poor, with a 5-year overall survival rate of approximately 3%. Across the US and EU5, more than 45,000 patients have a treatable Stage III/IV SCLC each year.

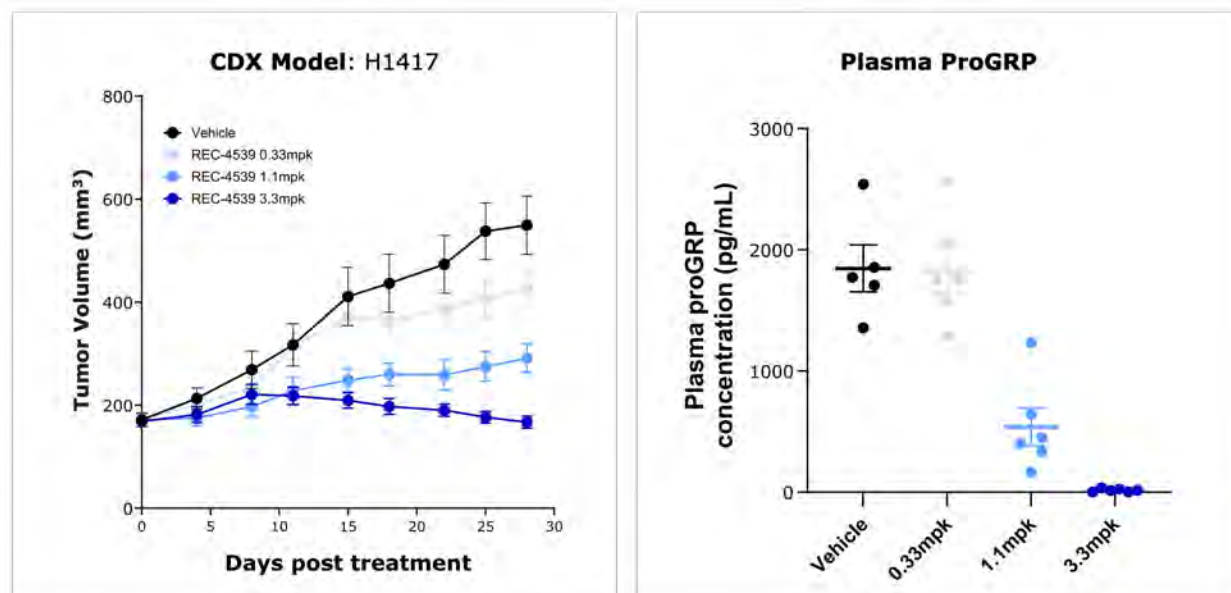
Within SCLC, LSD1 plays a key epigenetic role by demethylating histones that regulate critical tumor suppressor genes. Inhibiting LSD1 can reverse this epigenetic repression, upregulating pathways such as NOTCH, that promote differentiation of neuroendocrine tumor cells into a more quiescent state, potentially sensitizing them to cytotoxic therapies. However, effective LSD1 inhibition requires a reversible, brain-penetrant molecule with a short half-life to minimize risks such as thrombocytopenia. Many LSD1 inhibitors have failed to achieve these parameters, particularly brain penetration and controlled on-target effects, highlighting the unmet need that REC-4539 aims to address.

## Insight from Recursion OS

Developing a selective LSD1 inhibitor for SCLC requires a reversible mechanism, a short half-life to minimize on-target toxicity (e.g., thrombocytopenia), and the ability to penetrate the blood-brain barrier to address frequent metastases. Many existing LSD1 agents fail to meet these criteria, resulting in dose-limiting toxicity and poor CNS exposure. Using our AI-driven, multi-parameter optimization approach, we generated and screened diverse chemical scaffolds for potency, selectivity, ADME properties, and CNS penetration. Active learning identified counterintuitive yet informative compounds, enabling a rapid design breakthrough. As a result, we created REC-4539 – a potent, selective, reversible, brain-penetrant, and potential best-in-class LSD1 inhibitor with a short predicted half-life. We believe these key attributes provide competitive differentiation for REC-4539 versus prior LSD1-targeted molecules.

## Preclinical

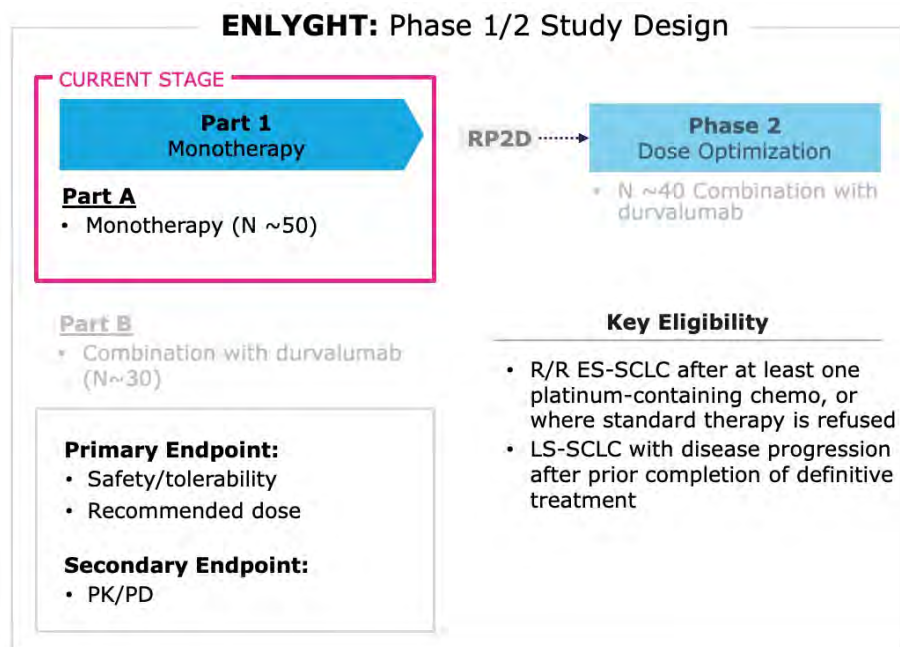
REC-4539 demonstrated potent anti-tumor activity across multiple preclinical models, including the NCI-H1417 human SCLC xenograft. In this model, dose-dependent tumor regression correlated with a corresponding decrease in the neuroendocrine tumor biomarker progastrin-releasing peptide (proGRP). Additionally, REC-4539 treatment was well-tolerated, with minimal impact on platelet counts.



**Figure 37. REC-4539 preclinical assessment in SCLC xenograft model.** (Left) REC-4539 induces dose dependent tumor regression in the NCI-H1417 SCLC cell line derived xenograft mouse model. BALB/c mice, REC-4539 dosed BID, 28 day study. (Right) REC-4539 induces dose dependent tumor reductions in plasma proGRP. BALB/c mice, REC-4539 dosed BID, 28 day study.<sup>21,22</sup>

## Clinical

*ENLYGHT* is a Phase 1/2, open-label, multicenter study designed to evaluate the safety, tolerability, and preliminary efficacy of REC-4539 in patients with SCLC. The FDA cleared an IND application in January 2025, and we expect the first patient to be dosed in the first half of 2025. Phase 1 will include both monotherapy dose escalation and REC-4539 combination with durvalumab, determining safety, tolerability, and a recommended dose. Phase 2 will focus on dose optimization for both monotherapy and combination arms, followed by expansion to further assess efficacy.



**Figure 38. ENLYGHT study design.** Phase 1/2 trial design to assess the safety, tolerability, and recommended dose of REC-4539 with dose escalation as monotherapy and in combination with durvalumab.

<sup>21</sup> Payne, et al. (2023). Characterizing Antitumor Responses to EXS74539, a Novel, Reversible LSD1 Inhibitor with Potential in Small-cell Lung Cancer [poster]. American Association for Cancer Research (AACR) Annual Meeting: 6290.

<sup>22</sup> Data on file.

## Competitors

We are aware of three LSD1 inhibitor programs in various stages of clinical development:

- Bomedemstat (Merck): In Phase 3 trial in essential thrombocythemia (ET), a Phase 2 study in myelofibrosis (MF) and polycythemia vera (PV), and a Phase 1 study in AML (in combination with venetoclax); previously terminated Phase 1/2 SCLC trial in combination with PD-L1 maintenance
- Iadademstat (Oryzon): In Phase 2 for relapsed/refractory (R/R) SCLC and extrapulmonary high-grade NETs (in combination with paclitaxel), as well as a Phase 1b/2 trial in first-line extensive-stage SCLC (ES-SCLC) in combination with a checkpoint inhibitor; further trials are ongoing in AML
- JBI-802 (Jubilant Life Sciences): In Phase 1/2 basket study, with expansion cohorts planned in SCLC, neuroendocrine prostate cancer (NEPC), and other NETs

## REC-994 for Cerebral Cavernous Malformation – Phase 2

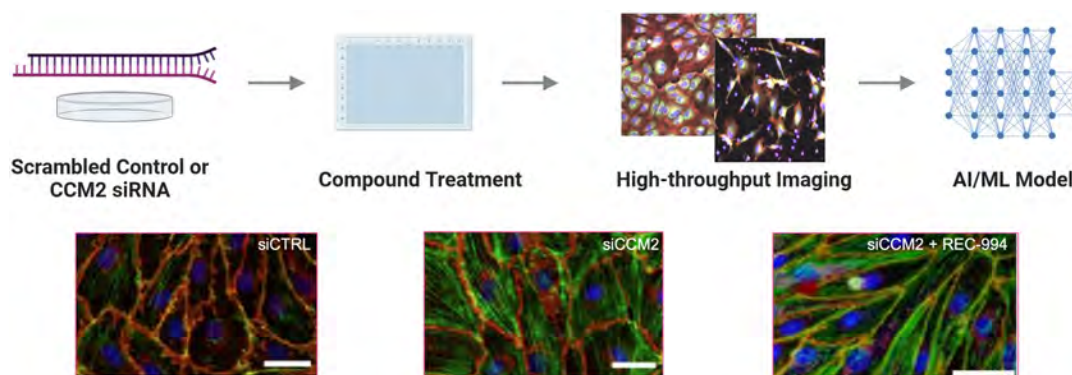
REC-994 is an orally bioavailable superoxide scavenger under development as a potential first-in-disease therapy for symptomatic cerebral cavernous malformation (CCM). CCMs are rare neurovascular lesions characterized by abnormal capillary-venous structures, recurrent bleeding, and stroke-like symptoms. REC-994 emerged from an early version of Recursion's phenotypic platform, showing robust rescue in CCM2-deficient endothelial cells. In animal models, it reduced lesion burden by approximately 50% and improved vascular permeability. Phase 1 studies established its safety and tolerability, supporting the ongoing Phase 2 SYCAMORE trial, which to date has shown encouraging safety and preliminary efficacy signals. With no approved therapies for symptomatic CCM, we plan to consult with the FDA and other regulatory authorities on a path forward for this potential first-in-disease program and plan to share additional updates in 2025. REC-994 has received Orphan Drug Designation (ODD) in the United States and Europe.

## Disease Overview

CCM is a neurovascular disorder affecting roughly 360,000 symptomatic individuals in the US and EU5, although actual prevalence may exceed one million due to underdiagnosis. CCM arises from mutations in any of three genes (*CCM1*, *CCM2*, or *CCM3*) that regulate endothelial function. These mutations result in enlarged capillary cavities with no intervening brain parenchyma, placing patients at high risk for seizures, progressive neurological deficits, and life-threatening hemorrhagic strokes. Up to 20% of cases are familial and inherited in an autosomal dominant pattern; sporadic disease makes up the remainder. Surgical resection and stereotactic radiosurgery are the primary interventions, yet many lesions – especially in the brainstem – are not amenable to resection. For approximately 25% of symptomatic cavernomas that occur in the brainstem, such invasive approaches carry substantial risks. Currently, there is no pharmacologic agent that reduces CCM lesion growth or bleeding propensity, highlighting a critical unmet need.

## Insight from Recursion OS

Using a *CCM2* loss-of-function screen in human endothelial cells, our early phenotypic platform rapidly identified drug candidates capable of reversing disease-relevant phenotypes. REC-994 emerged from this unbiased approach as a potent molecule that modulated CCM pathology in vitro. These discoveries laid the groundwork for preclinical validation and subsequent clinical development, exemplifying how our platform can accelerate therapeutic innovation.



**Figure 39:** Rescue of structural phenotypes associated with loss of CCM2. Immunofluorescence images of endothelial cells modified with siCTRL, siCCM2, or siCCM2 and treated with REC-994. Cells stained for DNA (blue), actin (green) and VE-cadherin (red). REC-994 demonstrated image-based phenotypic rescue, as analyzed by a machine learning classifier trained on images.<sup>23</sup>

<sup>23</sup> Gibson, et al. (2015). Strategy for identifying repurposed drugs for the treatment of cerebral cavernous malformation. *Circulation*. 131(3), 289-99.

REC-994 is a therapeutic designed to alleviate neurological symptoms associated with CCM and potentially reduce the accumulation of new lesions with pharmacokinetics supporting once-daily dosing in humans. The putative mechanism of action of REC-994 is through reduction of reactive oxygen species and decreased oxidative stress that leads to stabilization of endothelial barrier function. In addition, REC-994 exhibits anti-inflammatory properties which could be beneficial in reducing disease-associated pathology.

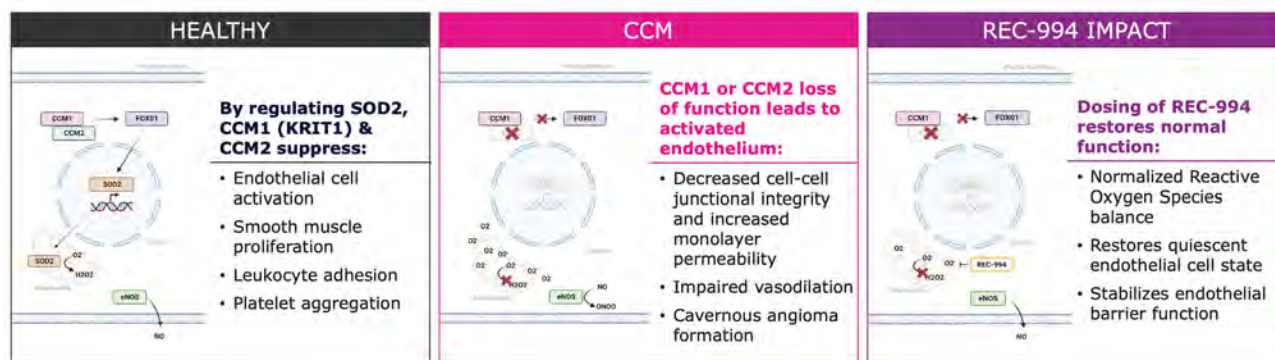


Figure 40. REC-994 mechanism of action and proposed potential therapeutic impact.<sup>24</sup>

## Preclinical

In CCM mouse models (including *Ccm1*- and *Ccm2*-deficient strains), chronic REC-994 administration significantly reduced lesion number and size while improving vascular permeability parameters. These data supported further clinical evaluation of REC-994 investigation.

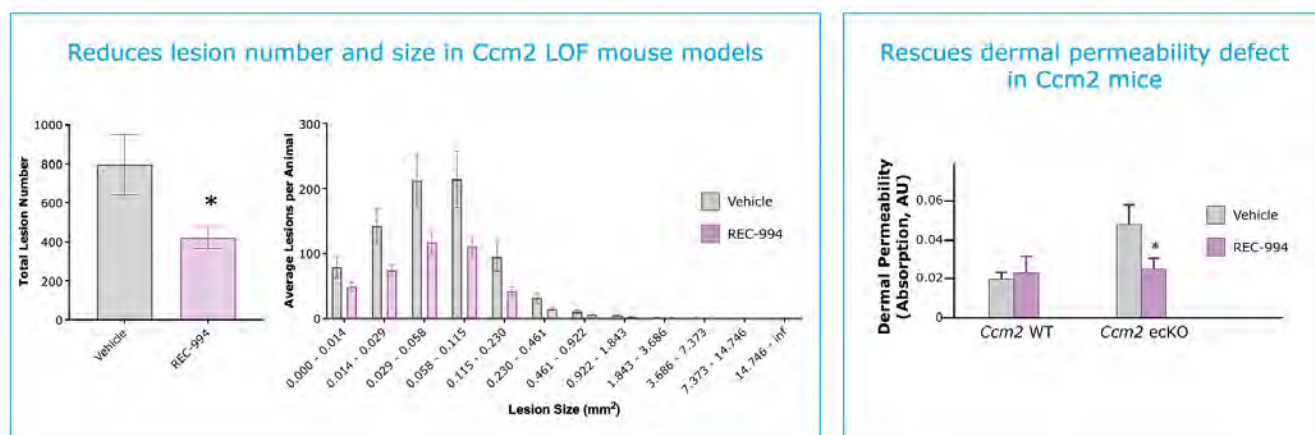


Figure 41. REC-994 reduces lesion severity and vascular permeability defects in CCM loss of function mouse models. (Left) Mice treated with REC-994 demonstrated a statistically significant decrease in the number of small-size lesions, with a trend towards a decrease in the number of mid-size lesions. (Right) REC-994 rescues the dermal permeability defects in *Ccm2* endothelial specific knockout mice.<sup>25,26</sup>

## Clinical

### Phase 1

Single- and multiple-ascending dose (SAD/MAD) studies in healthy volunteers established the safety, tolerability, and pharmacokinetics of REC-994. The compound was well tolerated with no treatment-related discontinuations or serious adverse events, supporting once-daily dosing for chronic use.

<sup>24</sup> Alfa R, et al. (2024). Clinical pharmacology and tolerability of REC-994, a redox-cycling nitroxide compound, in randomized phase 1 dose-finding studies. *Pharmacology Research Perspectives*. 12(3): e1200.

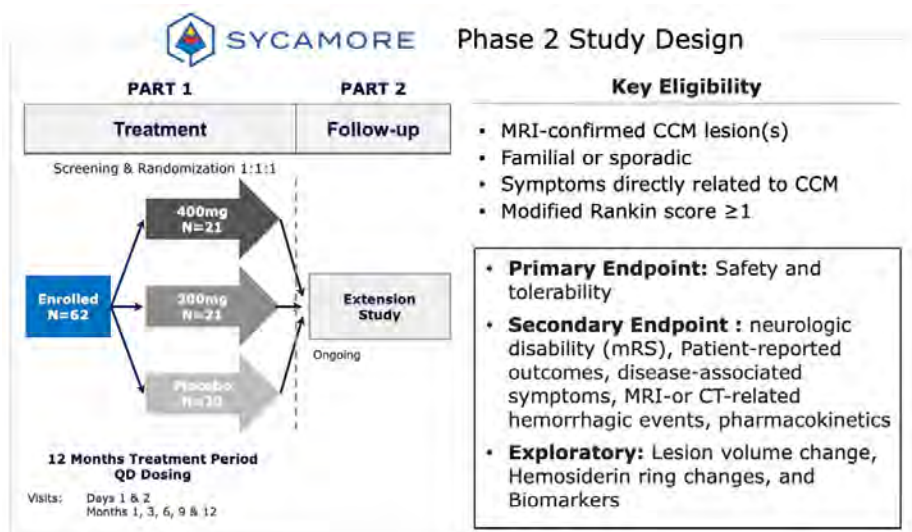
<sup>25</sup> Gibson, et al. (2015). Strategy for identifying repurposed drugs for the treatment of cerebral cavernous malformation. *Circulation*. 131(3), 289-99.

<sup>26</sup> Data on file.



## Phase 2 (SYCAMORE)

Initiated in March 2022, the SYCAMORE study is a two-part Phase 2 trial in patients with symptomatic CCM. Part 1 was a 12-month, randomized, double-blind, placebo-controlled comparison of 200 mg or 400 mg REC-994 vs. placebo daily and as of December 31, 2024, was completed. Part 2 is an optional long-term extension (LTE) for eligible participants and is currently ongoing. Approximately 80% of participants who completed 12 months of treatment opted to continue into the long-term extension portion of the study.



**Figure 42.** SYCAMORE Phase 2 study schema. Phase 2 trial design to assess the efficacy and safety of REC-994 in patients with symptomatic CCM. There was no patient enrichment by symptom, nor stratification. 13 US sites were enrolled in 18 months. Secondary and exploratory endpoints were not statistically powered.

Topline 12-month data from Part 1, shared in September 2024 and at the ISC annual meeting in February 2025, showed that REC-994 met its primary endpoints of safety and tolerability, in-line with Phase 1 results and with no new safety signals observed. Adverse events were similar between treatment and placebo groups. Common adverse events that occurred in  $\geq 10\%$  of patients included: dizziness, headache, back pain, constipation, COVID-19. There were no SAEs attributed to REC-994 or treatment-related adverse events leading to discontinuation. Data is highlighted in the table below.

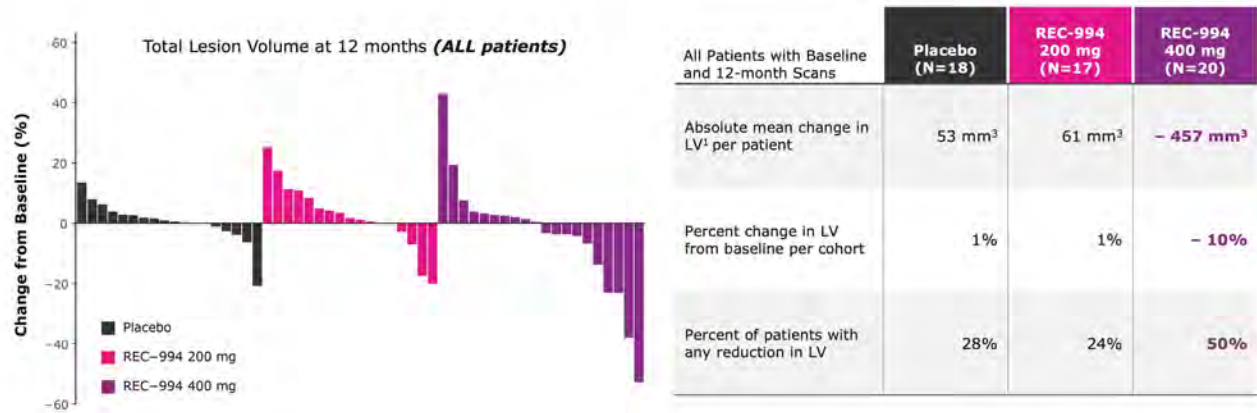
| Event, n (%)                                       | Placebo (N=20)   | REC-994 200 mg (N=21) | REC-994 400 mg (N=21) | Total (N=62)     |
|----------------------------------------------------|------------------|-----------------------|-----------------------|------------------|
| <b>Any Treatment Emergent Adverse Event (TEAE)</b> | <b>17 (85.0)</b> | <b>18 (85.7)</b>      | <b>15 (71.4)</b>      | <b>50 (80.6)</b> |
| TEAEs Grade $\geq 3$                               | 4 (20.0)         | 7 (33.3)              | 3 (14.3)              | 14 (22.6)        |
| <b>Any TEAE related to study drug<sup>1</sup></b>  | <b>2 (10.0)</b>  | <b>0</b>              | <b>5 (23.8)</b>       | <b>7 (11.3)</b>  |
| Grade $\geq 3$ TEAE                                | 0                | 0                     | 0                     | 0                |
| Discontinuation due to TEAE                        | 0                | 0                     | 0                     | 0                |
| Dose interruption due to TEAE                      | 0                | 0                     | 0                     | 0                |

**Figure 43: Summary of Treatment Emergent Adverse Events from 12-month data in Part 1 of Phase 2 Study.** In the REC-994 400 mg arm these consisted of dizziness, rash, anemia, nausea and peripheral edema. In the placebo arm these consisted of dizziness and erythema multiforme. Across both arms, TEAEs related to study drug were Grade 1 or 2. TEAE=treatment-emergent adverse event.<sup>27</sup>

<sup>27</sup> SYCAMORE data on file.

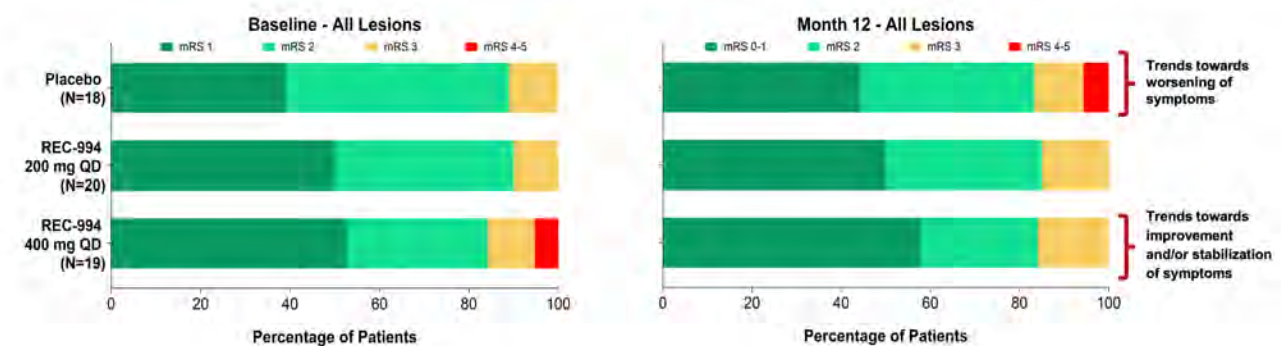
Secondary and exploratory endpoints were centered around MRI assessments. These evaluations were performed by a single, blinded, central neuroradiologist according to a study specified protocol. Up to 10 of the most relevant CCM lesions were captured and evaluated longitudinally. Key aspects measured were lesions size, location, and acuteness of hemorrhage, if present.

An exploratory efficacy endpoint assessed lesion volume size and the changes from baseline to month 12. Patients receiving REC-994 400 mg showed an absolute mean decrease in total lesion volume of  $-457\text{ mm}^3$  vs.  $61\text{ mm}^3$  increase and  $53\text{ mm}^3$  increase in the 200 mg and placebo arms, respectively. Notably, 50% of patients on 400 mg achieved a reduction in total lesion volume versus 28% observed in placebo. Patients treated with 200 mg REC-994 had similar changes in lesion volume compared to placebo.



**Figure 44.** Change in total lesion volume from baseline to 12 months across all patients. Analysis of change from baseline between treatment and placebo in lesion volume (LV) at month 12 for REC-994 200 mg ( $p=0.912$ ) and REC-994 400 mg ( $p=0.089$ ) assessed by mixed model for repeated measures (MMRM) analysis.<sup>28</sup>

Further exploratory analyses suggested functional improvement in patients who received REC-994 400 mg as evaluated by the Modified Rankin Scale (mRS) score from baseline to month 12. The mRS is widely recognized and approved by the FDA as a clinically meaningful endpoint for assessing functional outcomes in acute stroke trials. A single point change on the mRS is clinically relevant, with the agency previously utilizing the scale as an endpoint in Phase 3 studies. At baseline, patients who received 400 mg REC-994 had a greater proportion of mRS scores  $\geq 3$ , including an mRS score of 4-5, indicating that at the start of study these patients had worse clinical function compared to the placebo arm. Following 12 months of treatment, patients who received 400 mg REC-994 demonstrated trends toward improvement and/or stabilization of symptoms compared with the placebo arm, which observed trends towards functional decline.



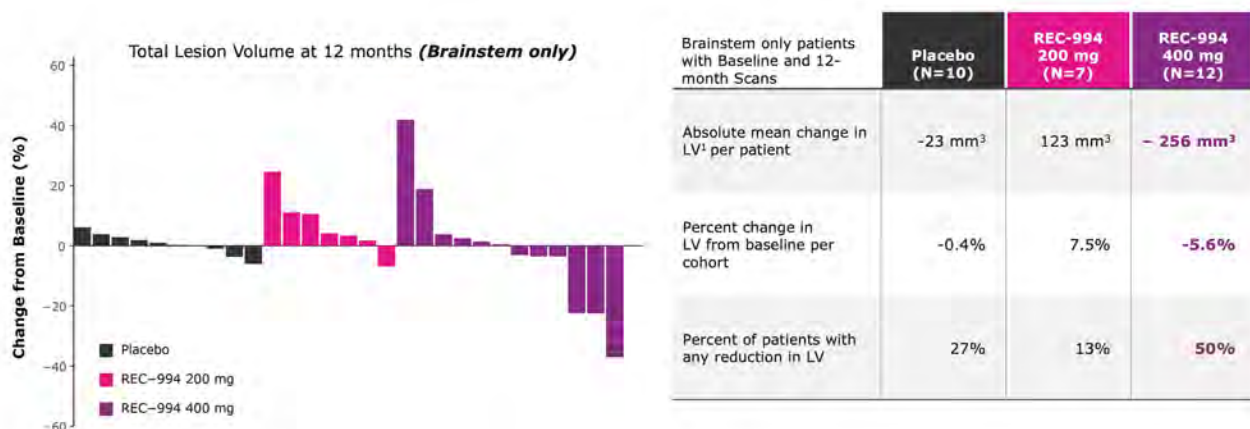
**Figure 45.** Summary of modified Rankin Scale Score at 12 Months for all lesions. All patients at baseline were required to have mRS  $>1$ . These observations are exploratory in nature and while not powered for statistical significance, we observed patterns that merit further investigation, and also observed a few patients transitioning down to mRS scores of 0. A single point change on the mRS is clinically relevant.<sup>29,30</sup>

<sup>28</sup> Burkhardt, et al. (2025). The SYCAMORE Study Results: First Randomized, Placebo-Controlled Phase 2 Trial in Symptomatic Cerebral Cavernous Malformation (CCM) Evaluating REC-994 [late-breaking abstract]. International Stroke Conference (ISC); LB6

<sup>29</sup> Burkhardt, et al. (2025). The SYCAMORE Study Results: First Randomized, Placebo-Controlled Phase 2 Trial in Symptomatic Cerebral Cavernous Malformation (CCM) Evaluating REC-994 [late-breaking abstract]. International Stroke Conference (ISC); LB6

<sup>30</sup> Broderick, et al. (2017). Evolution of the Modified Rankin Scale and Its Use in Future Stroke Trials. Stroke. 48(7):2007-2012.

Given the high unmet need in patients with brainstem lesions, where lesion volume can influence symptomatology, we evaluated lesion volume changes and mRS scores in this specific patient cohort. Patients on 400mg REC-994 had a  $-256\text{mm}^3$  reduction in absolute mean change in lesion volume. In contrast, placebo patients had a  $23\text{mm}^3$  decrease in absolute mean change from baseline to month 12. Notably, 50% of patients on 400 mg also showed a reduction in total lesion volume versus 27% in the placebo arm. When evaluating the mRS score for this subgroup, a similar trend in improvement or stabilization in the REC-994 400mg arm was observed while patients in the placebo arm appeared to trend worse.



**Figure 46.** Summary of Total Lesion Volume at 12 months for Brainstem Only. Analysis of change from baseline between treatment and placebo for lesion volume (LV) at month 12 for REC-994 200 mg ( $p=0.987$ ) and REC-994 400 mg ( $p=0.449$ ) assessed by mixed model for repeated measures (MMRM) analysis.<sup>31</sup>

Additional secondary and exploratory analyses are summarized below:

- Time-dependent reductions in hemosiderin ring size observed in the 400 mg arm as compared to 200 mg and placebo
- Seizure frequency appeared to be reduced in the 400 mg arm as compared to 200 mg and placebo arms; however, there was imbalance with respect to seizure history and frequency across the arms
- Incidence of new symptomatic hemorrhage events were comparable across arms and in line with natural history studies
- Other PROs including PROMIS29, CCM-HI, NIHSS, SMSS, CGI, and PGI did not demonstrate differences between the treatment arms of the study nor placebo

All efficacy analyses were exploratory in nature and not powered for statistical significance. While we observed patterns that merit further investigation, these data require prospective validation. Approximately 80% of participants completing 12 months of therapy opted to continue in a long-term extension (LTE), which remains ongoing. Given the absence of approved therapies for CCM, we plan to discuss next steps with regulatory authorities and anticipate providing an update in 2025.

## Competitors

To our knowledge, the REC-994 program is the first industry sponsored therapeutic program in clinical trials for CCM. If approved, REC-994 would be the first pharmacologic disease-modifying treatment for CCM, one of the largest areas of unmet need in the rare disease space.

We are aware of two other programs currently active in clinical development for CCM:

- **NRL-1049 (Neurelis)**: In Phase 1 SAD study
- **RLY-2608 (Relay Therapeutics)**: Expected to initiate FIH study Q1 2025

## REC-2282 for Neurofibromatosis Type 2 - Phase 2/3

REC-2282 is a small molecule potential best-in-class HDAC inhibitor currently under development for the treatment of *NF2*-mutant meningiomas. In prior clinical trials, the molecule was well tolerated, including in patients who were dosed for multiple years. In contrast to approved HDAC inhibitors, REC-2282 is CNS-penetrant and orally bioavailable. An adaptive, Phase 2/3, randomized, multicenter study is ongoing with Phase 2 data continuing to mature. As of December 31, 2024, enrollment in Phase 2 is complete. Orphan Drug Designation in the US and EU as well as Fast Track Designation in the US were granted to REC-2282 for *NF2*. Results from the futility analysis (PFS6 rate) of the Phase 2 portion of the study expected in the first half of 2025.

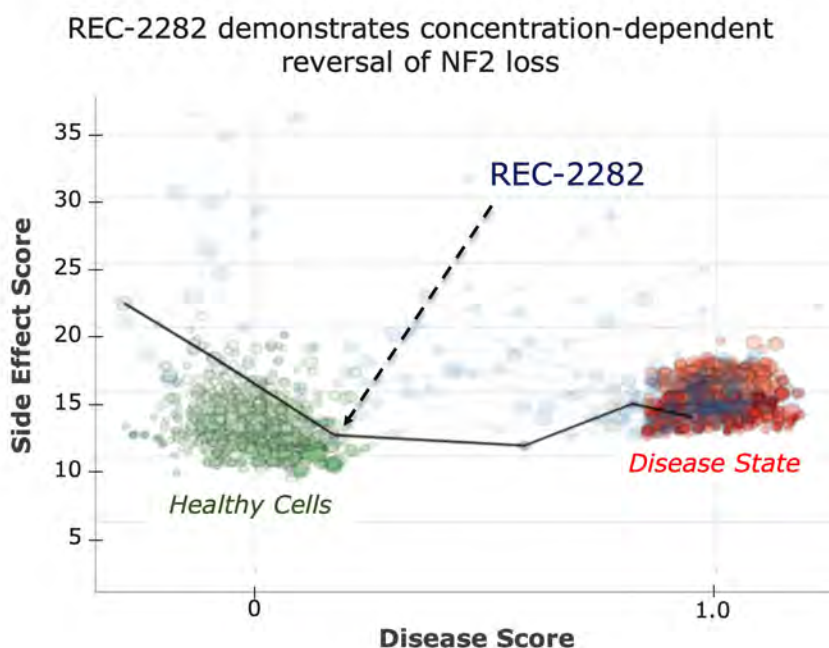
<sup>31</sup> SYCAMORE data on file.

## Disease Overview

Neurofibromatosis type 2 (NF2) is a rare, inherited tumor syndrome characterized by multiple nervous system tumors, primarily bilateral vestibular schwannomas and meningiomas. This autosomal dominant condition typically manifests in late teens or early 20s, with initial symptoms including unilateral hearing loss and focal neurological deficits. As the disease progresses, patients may experience bilateral hearing loss, facial paralysis, balance issues, and visual problems. Approximately 50% of NF2 patients develop meningiomas, often multiple, with a lifetime risk reaching 75%. Treatment is challenging due to tumor locations that often preclude complete resection, leading to significant morbidity and early mortality. With an estimated 33,000 NF2-driven meningioma patients annually in the US and EU5, there is an urgent need for new treatment approaches to reduce tumor burden and improve patient outcomes. There is currently no cure or approved treatment for NF2-driven meningioma.

## Insight from Recursion OS

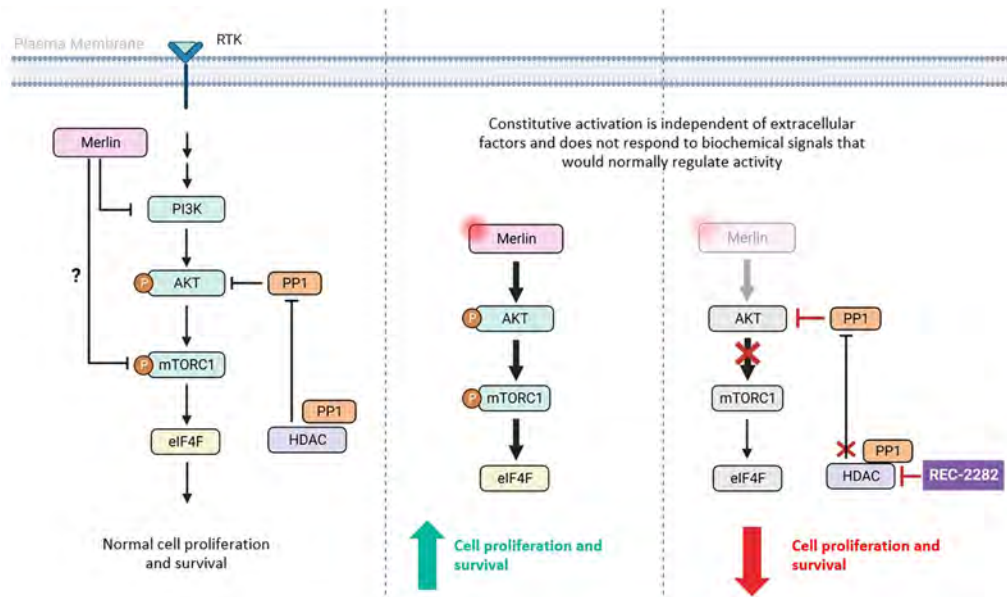
We selected REC-2282 as a candidate for our NF2 program using our brute-force phenotypic screening approach in NF2-deficient HUVEC cells. REC-2282 was uniquely identified as reversing the cellular and structural defects back to a wildtype like morphological state. The compound demonstrated concentration dependent rescue, showing no significant activity on other tumor suppressors or oncogene knockdown models. These data validated REC-2282's selective activity, supporting advancement into preclinical studies for NF2 mutant tumors.



**Figure 47.** Discovery of REC-2282 in Recursion OS. REC-2282 rescued the high-dimensional disease phenotype as evidenced by a concentration dependent rescue from the disease state to the healthy state.

REC-2282 is an oral, CNS-penetrant pan-HDAC inhibitor with PI3K/AKT/mTOR pathway modulatory activity. With high oral bioavailability, CNS exposure, and no reported cardiovascular liabilities to date, REC-2282 is differentiated over existing HDAC inhibitors for treating NF2 and NF2-mutant CNS tumors. NF2 mutations disrupt merlin, a tumor suppressor that normally inhibits PI3K/AKT/mTOR signaling. REC-2282 targets this pathology by disrupting the PP1-HDAC interaction, suppressing PI3K/AKT signaling to induce cancer cell growth arrest and apoptosis. This mechanism addresses both HDAC-mediated epigenetic dysregulation and NF2-driven pathway hyperactivation.

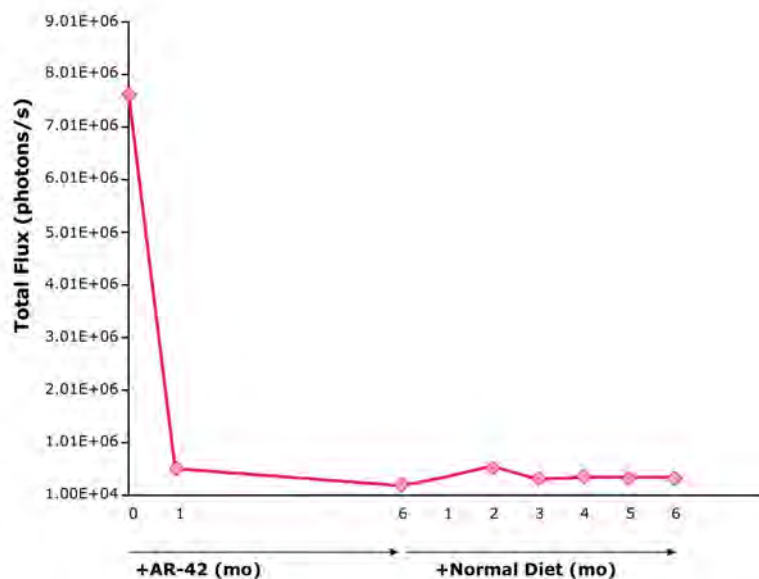




**Figure 48.** REC-2282 acts on an important pathway in tumor development to inhibit the growth of tumor cells. A potential mechanism of action of REC-2282 in NF2.<sup>32</sup>

### Preclinical

REC-2282 demonstrated potent anti-tumor activity in NF2-relevant models, inhibiting proliferation of vestibular schwannoma (VS) and meningioma cells via AKT inactivation (cell cycle arrest/apoptosis). It suppressed tumor growth in NF2-deficient mouse VS allografts, human VS xenografts (25 mg/kg/day for 45 days), and orthotopic NF2-deficient meningioma models (Ben-Men-1 cells).



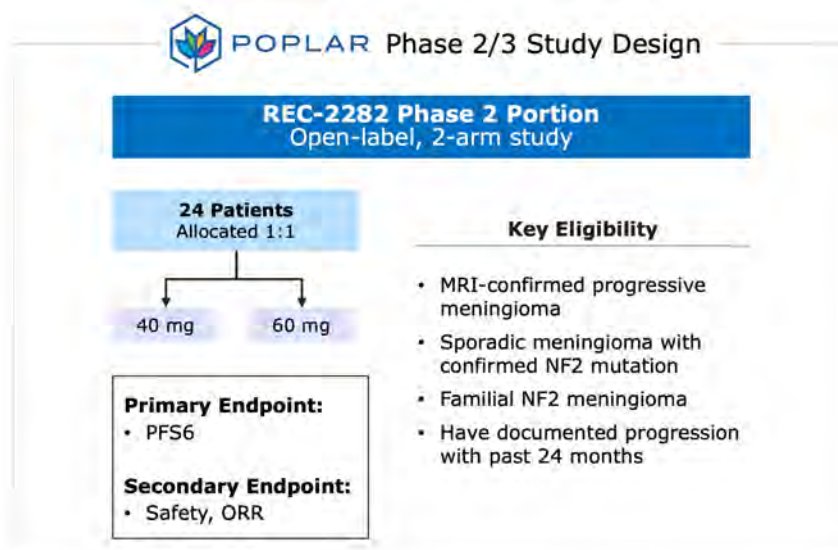
**Figure 49.** REC-2282 prevents growth & regrowth of tumors in the NF2-deficient meningioma mouse model. REC-2282 suppressed the growth of Ben-Men-1-LucB tumor xenografts as measured by tumor bioluminescence.<sup>33</sup>

<sup>32</sup> Adapted from Petrilli and Fernández-Valle. (2016). Role of Merlin/NF2 inactivation in tumor biology. *Oncogene*, 35(5), 537-48.

<sup>33</sup> Burns SS, et al. (2013). Histone Deacetylase Inhibitor AR-42 Differentially Affects Cell-cycle Transit in Meningeal and Meningioma Cells, Potently Inhibiting NF2-Deficient Meningioma Growth. *Cancer Res*; 73(2), 792-803.

## Clinical

Four investigator-sponsored trials (ISTs) of REC-2282 established a 60 mg TIW MTD for solid tumors with manageable cytopenia. In an early Phase 1 pharmacodynamic IST, REC-2282 suppressed aberrant activation of ERK/AKT/S6 pathways in resected human, results which may be potentially difficult to achieve with single pathway inhibitors of ALK or MEK. An adaptive, Phase 2/3, randomized, multicenter study (POPLAR) to evaluate the efficacy and safety of REC-2282 in patients with progressive NF2-mutated meningiomas with underlying NF2 disease and sporadic meningiomas with documented NF2 mutations is currently ongoing. As of December 31, 2024, the Phase 2 portion is fully accrued with 25 adult participants enrolled. Once all 25 subjects complete six months of treatment, a futility analysis will be conducted to determine a go/no-go for the Phase 3 portion of the study. We expect to share this data in the first half of 2025.



**Figure 50.** POPLAR Phase 2/3 study schema. Phase 2/3 study design to assess the safety, tolerability, and preliminary efficacy of REC-2282 in patients with progressive NF2-mutated meningiomas.

## Competitors

We are aware of 4 programs currently in clinical development targeting NF2-driven meningiomas

- **Selumetinib (AstraZeneca):** Completed Phase 2 single-center study
- **VT3989 (Vivace Therapeutics):** In Phase 1/2 study
- **Brigatinib and Neratinib (Takeda in collaboration with CTF and DFCI):** Completed Phase 2 IST
- **GSK225609 (Alliance for Clinical Trials in Oncology):** Completed Phase 2 IST for meningiomas

## REC-4881 for Familial Adenomatous Polyposis (FAP) - Phase 1b/2

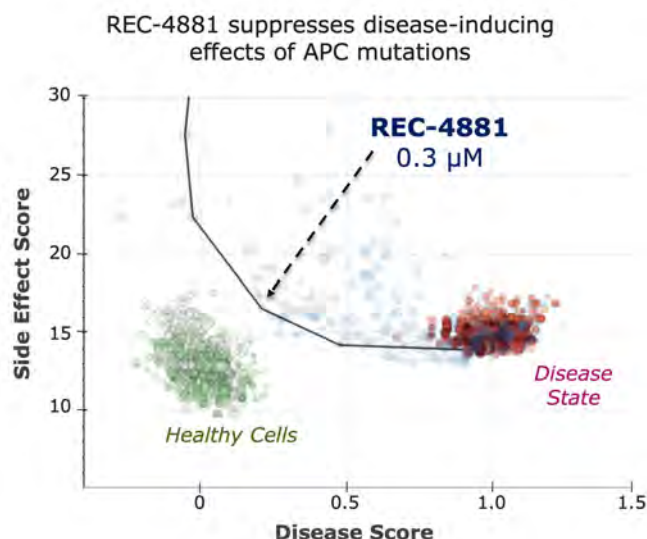
REC-4881 is an orally bioavailable, non-ATP-competitive, allosteric small molecule inhibitor of MEK1 and MEK2 currently under development for familial adenomatous polyposis (FAP). REC-4881 was well tolerated in prior clinical studies, demonstrating dose-dependent increases in exposure and pharmacological activity. We are currently enrolling patients in TUPELO, a Phase 1b/2, open-label, multicenter study to evaluate the effect of REC-4881 on polyp burden reduction. Orphan Drug Designation in the US and EU as well as Fast Track Designation in the US were granted to REC-4881 for FAP. We expect to share Phase 2 safety and preliminary efficacy data in the first half of 2025.

## Disease Overview

FAP is a rare, inherited tumor predisposition syndrome affecting approximately 50,000 patients in the US and EU5, resulting from heterogeneous mutations in the APC gene, a key negative regulator of the Wnt signaling pathway. FAP is characterized by the progressive development of hundreds to thousands of adenomas in the colon and rectum, with an almost 100% lifetime risk of colorectal cancer by early adulthood if untreated. While prophylactic colectomy during adolescence is the standard of care, many patients continue to develop adenomatous lesions in the rectum/pouch and duodenum sustain cancer risk, necessitating further endoscopic or surgical interventions. In advanced cases, larger adenomas and carcinoma may require localized surgeries, such as radical Whipple procedures, which carry significant morbidity and mortality. Despite this substantial disease burden, no approved therapies currently exist for FAP.

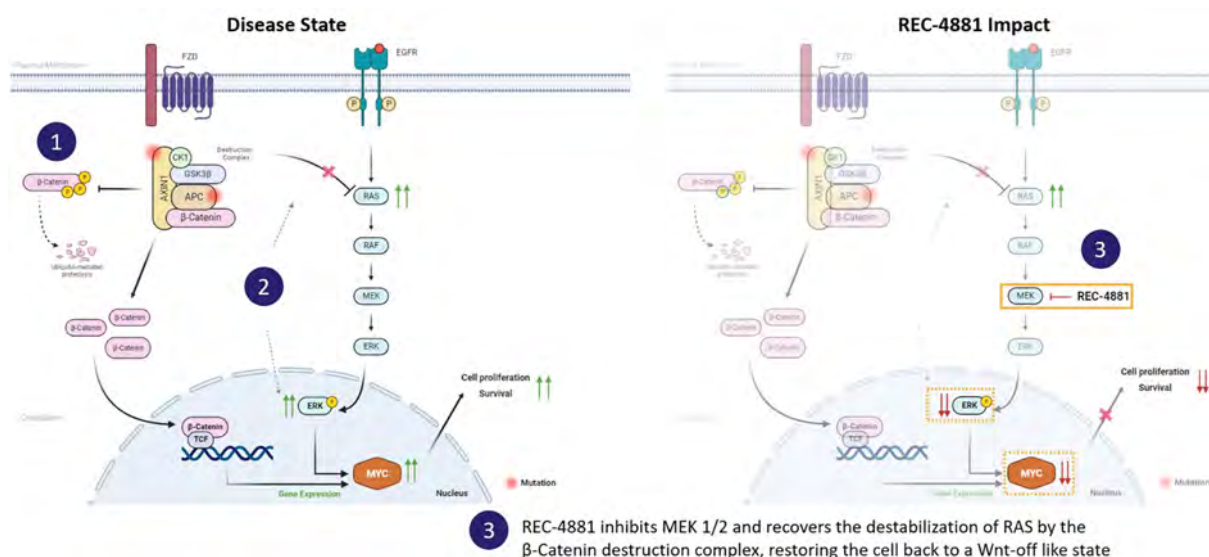
## Insights from Recursion OS

REC-4881 was identified as a potential first-in-disease therapy for FAP using a high-content phenotypic screening approach targeting APC-deficient human cells. In this screen, REC-4881 emerged as a potent allosteric MEK1/2 inhibitor that rescued an APC siRNA genetic knockdown-associated morphological phenotype. Compared to other MEK inhibitors, REC-4881 demonstrated a highly selective and concentration-dependent response, suggesting best-in-class potential. As a result, REC-4881 was in-licensed from Takeda and subsequently advanced into preclinical studies.



**Figure 51.** Discovery of REC-4881 in Recursion OS. Compared to thousands of other molecules tested, REC-4881 rescued phenotypic defects associated with APC siRNA genetic knockdown.

REC-4881 is an orally bioavailable, non-ATP-competitive allosteric inhibitor of MEK1 ( $IC_{50}$ : 2-3 nM) and MEK2 ( $IC_{50}$ : 3-5 nM) being developed as a potential first-in-disease therapy for FAP. Loss of APC disrupts  $\beta$ -catenin regulation, leading to uncontrolled Wnt signaling, RAS stabilization, and ERK pathway activation, which drives MYC-dependent proliferation. REC-4881 inhibits MEK1/2, and blocks ERK phosphorylation downstream. This reduces MYC expression levels in the cell and potentially restores Wnt pathway control. Given ERK signaling activity in both adenoma epithelium and tumor stroma, as well as frequent MAPK-activating mutations in FAP, MEK inhibition offers a targeted strategy to suppress disease progression.

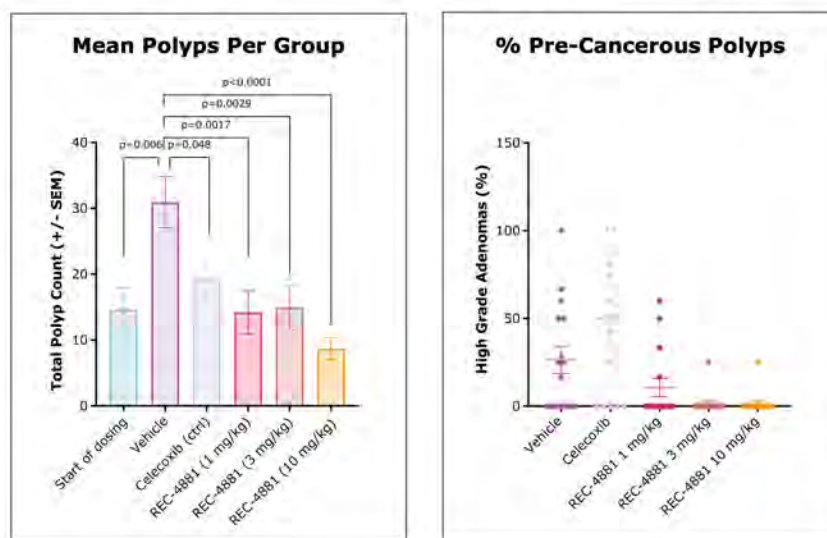


**Figure 52.** REC-4881 inhibits APC-mutation induced MAPK signaling to block cell proliferation in the context of FAP. A potential mechanism of action of REC-4881 in cells with loss of function mutations in APC.<sup>34</sup>

<sup>34</sup> Jeon, WJ, et al. (2018). Interaction between Wnt/ $\beta$ -catenin and RAS-ERK pathways and an anti-cancer strategy via degradations of  $\beta$ -catenin and RAS by targeting the Wnt/ $\beta$ -catenin pathway. *NPJ Precision Oncology*, 2(5).

## Preclinical

REC-4881's activity was validated in tumor cell lines and spheroid models derived from APC-mutant human epithelial tumor cells. In these systems, REC-4881 inhibited spheroid growth and disrupted cellular organization, demonstrating over 1,000-fold selectivity in APC-mutant cells. In a disease-relevant FAP model,  $Apc^{Min/+}$  mice were treated with multiple oral doses of REC-4881 or celecoxib over eight weeks. While celecoxib reduced polyp formation by approximately 30% compared to vehicle, REC-4881 treatment led to a reduction of 50% (1-3 mg/kg), and 70% (10 mg/kg). Mice that were treated with 10 mg/kg REC-4881, the highest dose tested, exhibited an approximately 70% reduction in total polyps. Histological analysis of gastrointestinal tissues further revealed that, unlike celecoxib, which primarily affected benign polyps, REC-4881 significantly reduced both benign polyps and high-grade adenomas. These findings suggest that REC-4881 not only limits early polyp formation but may also inhibit progression to advanced adenomas, highlighting its potential to address both pre- and post-colectomy FAP populations.



**Figure 53. REC-4881 reduces GI polyp count and pre-cancerous, high-grade adenomas in the  $Apc^{Min/+}$  mouse model of FAP.** GI polyp count (left) and the percentage of high-grade adenomas (right) after oral administration of indicated dose of REC-4881, celecoxib, or vehicle control for 8 weeks. Polyp count at the start of dosing reflects animals sacrificed at the start of study (15 weeks of age).  $P < 0.001$  for all REC-4881 treatment groups vs. vehicle control. Quantification of high-grade adenomas versus total polyps was based on blinded histological review by a pathologist. While celecoxib reduces benign polyps, most remaining lesions are high-grade adenomas. By contrast, REC-4881 reduces both polyps and high-grade adenomas.<sup>35</sup>

## Clinical

REC-4881 has been evaluated in multiple clinical studies, demonstrating a well-tolerated safety profile and pharmacological activity.

### Phase 1 Oncology Studies

In a prior dose-escalation study (C20001) conducted by Millennium Pharmaceuticals in 51 participants with non-hematologic malignancies, REC-4881 (formerly TAK-733) was administered at doses ranging from 0.2 mg to 22 mg once daily. The maximum tolerated dose (MTD) was determined to be 16 mg. The most common adverse events (AEs) were rash (67%), and treatment-related serious adverse events (SAEs) were infrequent. No unexpected safety concerns emerged, and pharmacokinetic analyses showed a less-than-dose proportional increase in exposure.

### REC-4881-101 (Healthy Volunteers)

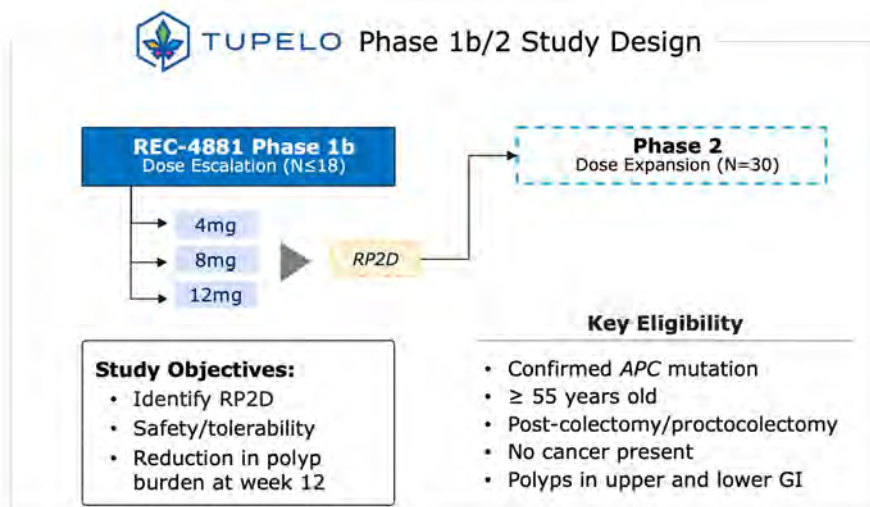
We conducted a Phase 1 study to evaluate the safety and pharmacokinetics of REC-4881 in 25 healthy participants receiving single doses of 4 mg, 8 mg, and 12 mg. REC-4881 was well tolerated, with no SAEs or dose-related safety concerns. The most common treatment-emergent adverse events (TEAEs) were mild and self-limiting, including transient blurred vision and vitreous floaters. No QTcF abnormalities were observed.

<sup>35</sup> Data on file.



### TUPELO (Phase 1b/2 in FAP)

We are currently enrolling patients in TUPELO, a Phase 1b/2 open-label, multicenter study evaluating the efficacy, safety, pharmacokinetics, and pharmacodynamics of REC-4881 in FAP. Part 1 assessed safety, tolerability, and pharmacokinetics in FAP patients receiving 4 mg once daily for 14 days. REC-4881 was generally well-tolerated, with a safety profile consistent with other MEK inhibitors. Preliminary pharmacodynamic data suggests the 4 mg dose is pharmacologically active in FAP. Part 2 will evaluate efficacy, safety, and pharmacokinetics in post-colectomy FAP patients with confirmed germline APC mutations. Participants will receive once-daily REC-4881 for three months. Safety and preliminary efficacy data from Part 2 are expected in the first half of 2025.



**Figure 54.** Phase 1b/2 study schema for REC-4881. Phase 1b/2 clinical study to assess the efficacy, safety, and pharmacokinetics of REC-4881 in patients with classical Familial Adenomatous Polyposis (FAP)

### Competitors

We are aware of seven other currently active programs in clinical development for FAP:

- **ALFA (SLA Pharma/KD Pharma):** In Phase 3 trial in patients with confirmed APC mutations post-colectomy
- **Flynpovi (Panbela Therapeutics):** In Phase 3 combination therapy targeting lower GI disease in FAP
- **eRapa (Biodexa Pharmaceuticals):** Planned Phase 3 for FAP
- **TPST-1495 (Tempest Therapeutics):** Planned Phase 2 trial in FAP
- **Lapatinib (Johnson & Johnson):** Completed Phase 1 trial in FAP
- **ST-316 (Sapience Therapeutics):** In Phase 1/2 with dose expansion study ongoing in colorectal cancer
- **ZKN-013 (Almirall/Elox Pharmaceuticals):** In Phase 1 trial that includes an FAP cohort

### REC-3964 for Prevention of Recurrent *Clostridioides Difficile* Infection - Phase 2

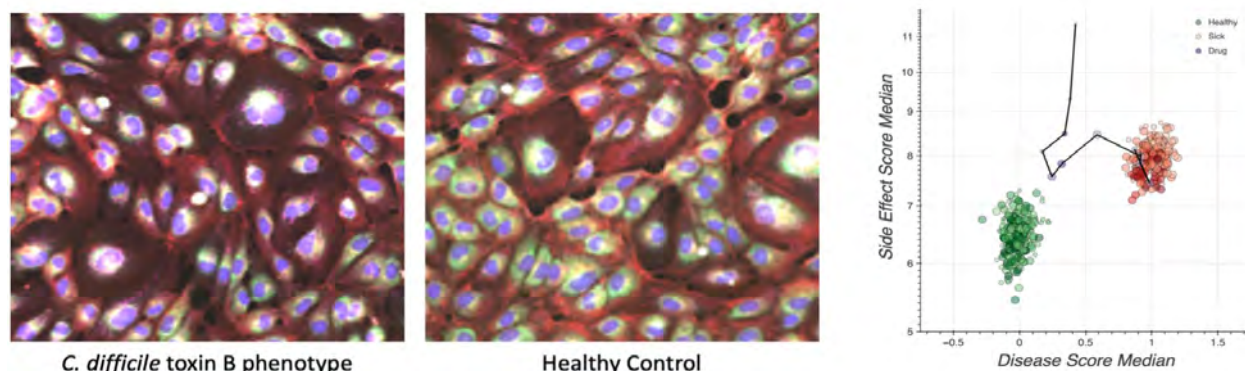
REC-3964 is an orally bioavailable, non-antimicrobial, small molecule designed to prevent recurrence of *Clostridioides difficile* (*C.diff*) infection (rCDI) and serve as a secondary prophylactic therapy in high-risk patients. Unlike antibiotics, which can further disrupt gut microbiota and contribute to relapse, REC-3964 selectively targets *C. difficile* toxin B without affecting the host. Identified using Recursion's AI-driven phenotypic screening platform, REC-3964 demonstrated potent toxin inhibition and barrier restoration in preclinical studies. A Phase 1 study established its safety, tolerability, and pharmacokinetics, supporting the initiation of the ALDER Phase 2 trial in Q3 2024. This trial is evaluating REC-3964's ability to reduce recurrence rates in patients recovering from a recent *C. diff* infection. We expect to share preliminary data in the first quarter of 2026.

### Disease Overview

*C. diff* is a significant cause of antibiotic-associated diarrhea, leading to severe colitis and potentially fatal outcomes. Annually, over 730,000 cases are reported in the U.S. and EU5, with approximately 29,000 deaths in the U.S. alone. Standard antibiotic treatments can disrupt the gut microbiome, resulting in recurrence rates of 20 to 30% after initial infection, increasing to 40% after the first recurrence and 45–65% after multiple recurrences. This escalating pattern underscores the urgent need for novel therapeutic approaches that address rCDI.

## Insight Recursion OS

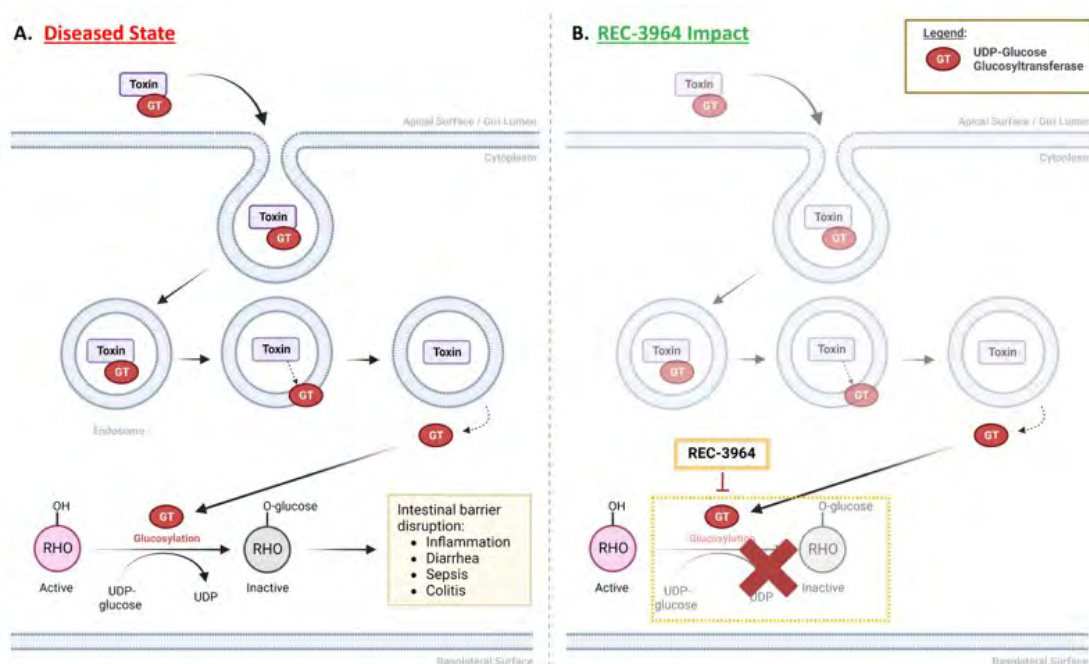
Leveraging the Recursion OS, we identified REC-3964 as a new chemical entity that selectively inhibits the glucosyltransferase activity of *C. difficile* toxin B. This non-antibiotic approach was discovered through a high-content phenotypic screen, where REC-3964 demonstrated potent reversal of toxin-induced cellular damage in HUVEC. We drove SAR and optimization of REC-3964 directly on the platform and subsequently advanced the molecule into preclinical studies.



**Figure 55.** REC-3964 rescued the phenotype of human epithelial cells treated with *C. difficile* toxin. REC-3964 was identified as demonstrating concentration-responsive rescue in HUVEC cells treated with *C. difficile* toxin B on Recursion's phenomics platform.

## Preclinical

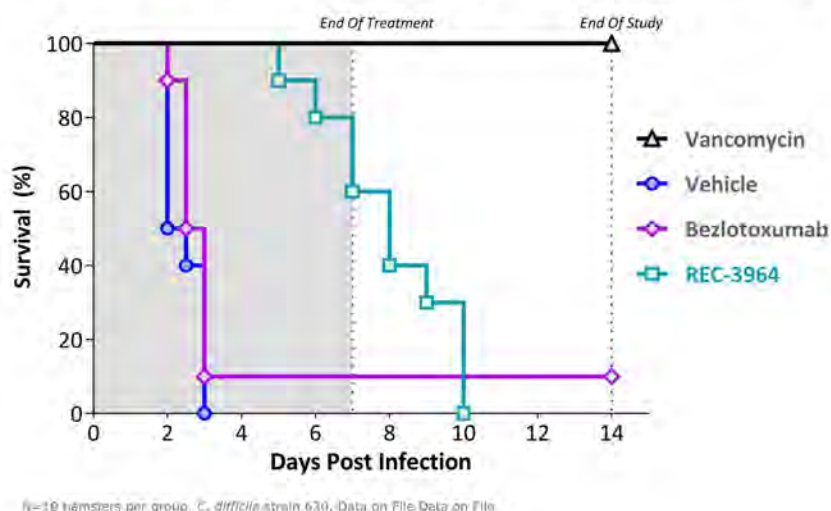
REC-3964 was validated in orthogonal functional assays including the electrical cell-substrate impedance sensing (ECIS) assay where it demonstrated concentration-dependent activity in blocking toxin-mediated barrier disruption. In a hamster model of *C. diff*, REC-3964 treatment significantly prolonged survival compared to bezlotoxumab and control groups, indicating its potential to reduce both initial infection severity and recurrence rates.



**Figure 56.** REC-3964 selectively inhibits the toxin's innate UDP-glucose glucosyltransferase. (Left) Autocatalytic event releases *C. difficile* toxin's glucosyltransferase enzymatic domain into the infected cell, which locks Rho family GTPases in the inactive state. Inactivation of Rho GTPases alters cytoskeletal dynamics, induces apoptosis and impairs barrier function which drives the pathological effects of *C. difficile* infection. (Right) REC-3964 binds and blocks catalytic activity of the toxin's innate glucosyltransferase with no effect on the host protein.<sup>36</sup>

<sup>36</sup> Awad, MM. et al. (2014). *Clostridium difficile* virulence factors: Insights into an anaerobic spore-forming pathogen. *Gut Microbes*. 5(5), 579-593.

## REC-3964 significantly extended survival vs. bezlotoxumab alone at the end of treatment ( $p < 0.001$ , log rank test)



**Figure 57. REC-3964 in vivo efficacy in a CDI hamster model.** REC-3964 was administered at 200 mg/kg by oral gavage twice daily for 7 consecutive days along with groups for vehicle and vancomycin (50 mg/kg, QD). Bezlotoxumab was administered at 10 mg/kg BID 2 days prior to inoculation with *C. difficile* (strain 630). N=10 hamsters per group. Clinical observations were conducted from Day 0 to Day 7, with surviving animals monitored until Day 14. REC-3964 demonstrated a significant difference in the probability of survival vs. bezlotoxumab at the end of treatment ( $p < 0.001$ , log-rank test).<sup>37</sup>

### Clinical

REC-3964 has been evaluated in a Phase 1 study in healthy volunteers and is currently being investigated in the ALDER Phase 2 trial for rCDI.

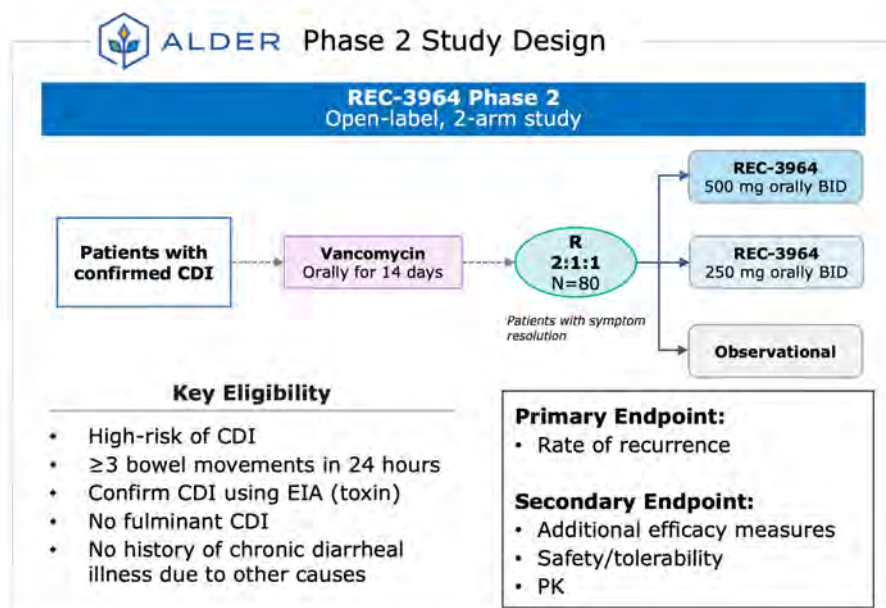
#### Phase 1 (Healthy Volunteers)

A Phase 1 study assessed the safety, tolerability, and pharmacokinetics of REC-3964 in 90 healthy participants, including a cohort of elderly subjects (>65 years). REC-3964 was well tolerated at single doses up to 1,200 mg and multiple doses up to 900 mg, with no serious adverse events (SAEs), discontinuations, or deaths. The most common treatment-emergent adverse events (TEAEs) were mild and included fatigue, headache, and abdominal distension, with similar rates between REC-3964 and placebo groups. Pharmacokinetics demonstrated dose-proportional exposure with a 7 to 10 hour half-life, supporting twice-daily (BID) dosing. No clinically significant effects on ECG parameters, vital signs, or laboratory markers were observed. Results were presented at the 6th Edition of the World Congress on Infectious Diseases in June 2024.

#### Phase 2 (ALDER – Ongoing, Initiated Q3 2024)

The ALDER study is a Phase 2 open-label, multicenter trial evaluating REC-3964 as secondary prophylaxis therapy in patients recovering from an initial *C. diff* infection. Participants will be randomized 2:1:1 to receive 500 mg or 250 mg BID for 28 days, compared to an observational cohort. The primary endpoints are safety, tolerability, and recurrence rates of rCDI. A Phase 2 data update is expected in the first quarter of 2026. To our knowledge, REC-3964 is the first orally bioavailable, non-antibiotic, *C. diff* toxin inhibitor that selectively targets bacterial toxin, while sparing the host.

<sup>37</sup> Stiles, et al. (2024). REC-3964, a First-in-Class Molecule for the Prevention of Recurrent *Clostridioides difficile* Infection [poster]. World Congress on Infectious Diseases. 6th edition.



**Figure 58. Planned Phase 2 study schema of REC-3964 for prevention of rCDI.** Phase 2 open-label, multicenter clinical study to assess the safety, tolerability, PK, and efficacy of REC-3964 at two dose levels. Enrollment criteria include (1) High risk for rCDI; (2) *C. difficile* associated diarrhea with confirmation of toxin positivity (3) No fulminant CDI; (4) No history of chronic diarrheal illness due to other causes. The primary endpoints are safety, tolerability, and efficacy as determined by the rate of reduction of rCDI after initial clinical cure with vancomycin.

### Competitors

There are a number of approved drugs for the treatment and prevention of *C. difficile* infection.

- **Vancomycin, Fidaxomicin (Merck), and Metronidazole:** Most commonly prescribed antibiotics; however, the efficacy of antibiotic therapy decreases with each recurrence
- **Bezlotoxumab (Merck):** Approved for reducing CDI recurrence in patients receiving antibiotics who are at high-risk for CDI recurrence
- **RBX2660 (Ferring) and SER-109 (Seres Therapeutics):** Approved stool derived microbiome products used for recurrent CDI prevention, following antibiotic treatment

We are aware of seven currently active programs in clinical development for the prevention of recurrent *C. difficile* infection:

- **VE303 (Vedanta Biosciences):** In Phase 3 study for 14-day course in patients with  $\geq 1$  prior occurrence of CDI, including a high-risk for recurrence population along with an open-label extension if recurrence of CDI occurs during study
- **NTCD-M3 (Sebelo Pharmaceuticals/Destiny Pharma):** In Phase 3 planning stages for naturally occurring non-toxicogenic strain of *C. difficile*
- **LMN-201 (Lumen Bioscience):** In Phase 2 study in patients newly diagnosed with CDI planning to receive antibiotic treatment
- **CRS3123 (Crestone):** In Phase 2 study assessing two different doses compared to vancomycin
- **IMM-529 (Immuron):** In Phase 2 study for primary and recurrent CDI
- **OraCAb (MicroPharm):** In Phase 2 planning stages to assess oral immunotherapeutic for primary and recurrent CDI
- **AZD5148 (AstraZeneca):** In Phase 1 study assessing the anti-toxin B neutralizing mAb injectable for the reduction of CDI recurrence

### Selected Preclinical Programs:

- REV102 a potential first-in-class and best-in-class ENPP1 inhibitor for Hypophosphatasia (HPP)
- REC-4209, a potential first-in-class NCE for the treatment of Idiopathic Pulmonary Fibrosis (IPF)



## REV102 for Hypophosphatasia – IND Enabling

In 2019, Recursion (formerly Exscientia) and Rallybio established a co-development and co-ownership joint venture to apply AI-driven drug discovery to rare diseases. Using Recursion's generative AI platform, Gambit, we identified ectonucleotide pyrophosphatase/phosphodiesterase 1 (ENPP1) as a target for the treatment of Hypophosphatasia (HPP). ENPP1 catalyzes the production of inorganic pyrophosphate (PPi), exacerbating the mineralization imbalance in HPP patients. Inhibiting ENPP1 offers a novel therapeutic approach to restoring PPi balance, promoting proper bone formation. This led to the discovery and development of REV102, a selective, orally bioavailable ENPP1 inhibitor optimized for chronic dosing with high potency and a favorable safety profile. As of December 31, 2024, REV102 has advanced to development candidate status, with IND-enabling studies expected in 2025. If successful, REV102 could provide the first oral treatment for juvenile-onset and adult HPP, addressing the limitations of enzyme replacement therapy (ERT) and expanding treatment options for patients with unmet needs.

### Disease Overview

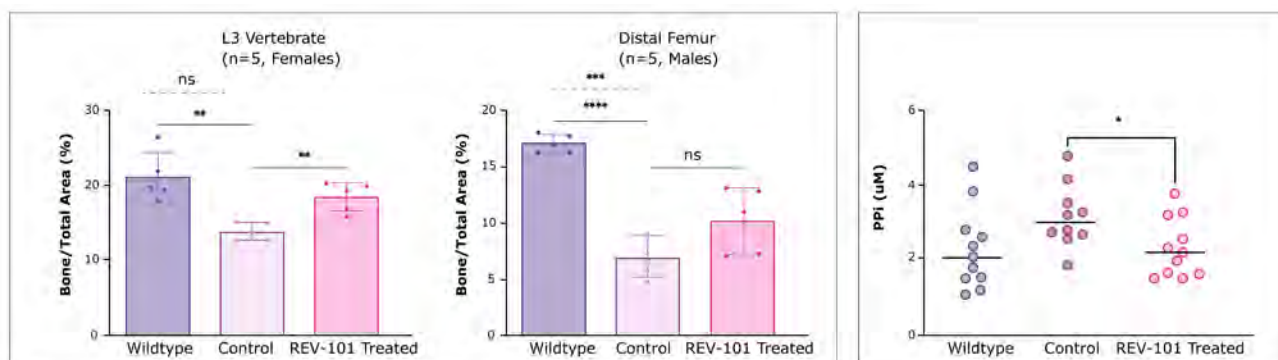
HPP is a rare genetic disorder caused by ALPL mutations, leading to deficient tissue-nonspecific alkaline phosphatase (TNAP) activity and PPi, a potent inhibitor of bone mineralization. PPi accumulation disrupts hydroxyapatite formation, resulting in skeletal deformities, fractures, and premature tooth loss. HPP severity varies from severe early-onset cases, presenting in infancy with life-threatening complications, to juvenile-onset and adult forms, which cause progressive fractures, pain, and mobility issues. Current treatment is limited to enzyme replacement therapy (ERT), and is associated with frequent injections, immunogenicity, and costs exceeding \$1 million per year. By selectively inhibiting ENPP1, REV102 aims to restore physiological mineralization by normalizing PPi levels, offering a non-immunogenic, oral alternative to ERT. With an estimated 7,800 diagnosed HPP patients at birth in the US and EU5, REV102 has the potential to expand treatment access to underserved patients.

### Insight from Recursion OS

Using our GenAI platform, we designed REV102, a potential first-in-class and best-in-class orally bioavailable and highly selective ENPP1 inhibitor for HPP. Our proprietary generative AU design algorithm, Gambit, guided precision optimization, incorporating rigorous 3D and 2D constraints to ensure high potency and suitability for lifelong chronic dosing. This AI-driven approach allowed the discovery of a structurally distinct compound with strong target engagement, designed to restore PPi homeostasis and improve bone mineralization in juvenile-onset and adult HPP patients.

### Preclinical

In preclinical studies, our first-generation tool compound, REV101, demonstrated improved bone mineralization in HPP mouse models. Bone morphometry analysis showed that L3 vertebrae in treated HPP mice reached mineralization levels comparable to wildtype mice, while trabecular regions of the distal femur exhibited slight improvement. Notably, REV101 significantly reduced plasma PPi levels by approximately 30%, restoring them to wildtype levels after 100 days of dosing. These findings validate ENPP1 inhibition as a viable therapeutic approach for HPP and informed the design and optimization of REV102 for clinical development.



**Figure 59.** (Left) ENPP1 inhibition results in improved mineralization in mouse models of HPP.  $Alpl^{-/Prx1}$  mouse model. 2D Bone morphometric analysis of trabecular bones was performed on Von Kossa-stained sections using the Kawamoto's film method. (Right) ENPP1 inhibition reduces PPi levels to those of wild-type mice.  $Alpl^{-/Prx1}$  in an adult-onset HPP mouse model. Plasma levels of PPi following 100 days of dosing.<sup>38</sup>

<sup>38</sup> Narisawa, et al. (2024). ENPP1 Inhibition as a Therapeutic Approach for Later-onset Hypophosphatasia [late breaking poster]. American Society for Bone and Mineral Research (ASBMR) Annual Meeting.

## REC-4209 for Idiopathic Pulmonary Fibrosis (IPF) – IND Enabling

Recursion identified REC-4209, a potential first-in-class, orally bioavailable immuno-mesenchymal modulator for idiopathic pulmonary fibrosis (IPF) using phenotypic screening of human PBMC-derived fibrocytes. This approach uncovered Target Epsilon, a novel regulator of fibrotic diseases. REC-4209 selectively modulates fibrocytes, fibrotic macrophages, and adaptive immune cells, offering a potential disease-modifying approach distinct from current therapies. REC-4209 is currently undergoing IND-enabling studies in preparation for clinical development.

### Disease Overview

IPF is a chronic, progressive interstitial lung disease characterized by fibrotic remodeling of lung tissue, leading to irreversible respiratory decline. The disease affects approximately 3 million patients globally, with incidence rising significantly in individuals over 50 years old. Fibroblast accumulation, myofibroblast activation, and excessive extracellular matrix deposition contribute to progressive lung volume loss and impaired gas exchange. Repeated epithelial injury, coupled with immune dysregulation and fibroblast dysfunction, drives self-perpetuating fibrosis in IPF. Current antifibrotic therapies, nintedanib and pirfenidone, only slow disease progression, leaving an urgent unmet need for disease-modifying treatments that restore tissue integrity.

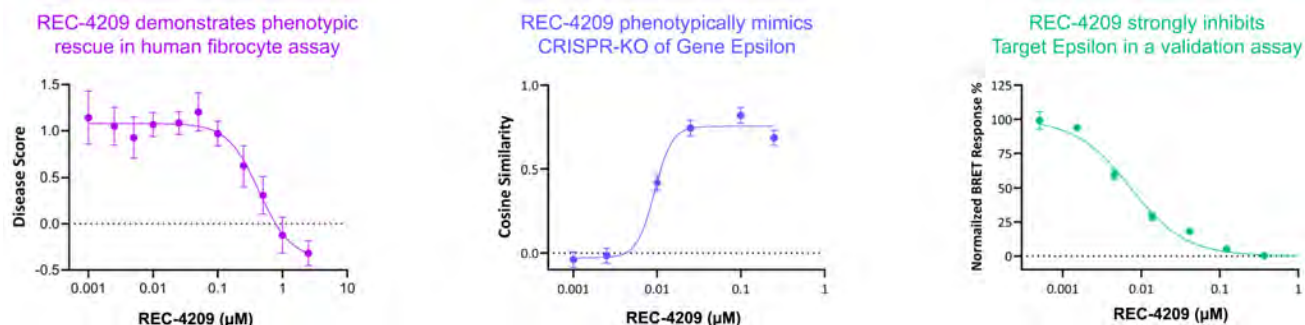
## Reversal of Fibrocyte Differentiation Assay



**Figure 60.** Phenotypic screening assay. Differentiation of human PBMCs into fibrocytes can be reversed by Pentraxin-2, a tissue repair protein, to mimic a healthy state. Small molecules are identified which rescue disease state to healthy state.

### Insight from Recursion OS

We developed a PBMC-derived fibrocyte phenotypic screen to model fibrotic disease and identify novel therapeutic targets in an unbiased manner. This approach identified multiple small molecules capable of mimicking the effects of pentraxin-2 (PTX-2), an endogenous anti-fibrotic protein involved in monocyte differentiation and macrophage polarization. Combining our inferential search capabilities within the Recursion OS, we uncovered Target Epsilon, a novel regulator of immuno-mesenchymal cell function. Biochemical validation confirmed small molecule binding to Target Epsilon, leading to the identification and optimization of REC-4209, a potent and selective compound designed to reverse fibrosis by restoring immune-mesenchymal homeostasis.

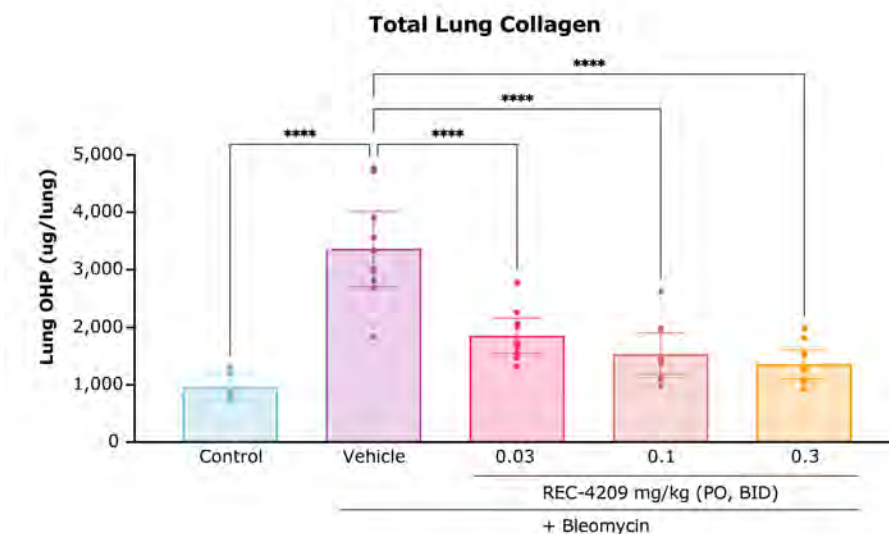


**Figure 61.** Target and compound identification and validation related to Target Epsilon. (1) Disease Score of 1.0 reflects “disease state” while disease score of 0.0 reflects “healthy state”; (2) cosine similarity between REC-1169575 and genetic knockout of Epsilon is the cosine of the angle between the two vectors in high-dimensional space. Values near 1.0 suggest the angle between perturbations is near 0° and is interpreted as directionally phenosimilar; and (3) Target Epsilon NanoBRET assay.<sup>39</sup>

<sup>39</sup> Data on file.

## Preclinical

REC-4209 demonstrated potent activity in phenotypic reversal assays, with an  $EC_{50}$  of 0.40  $\mu$ M in fibrocyte rescue and an  $IC_{50}$  of 12 nM to Target Epsilon. In digital tolerability studies, REC-4209 was well tolerated in C57BL/6 mice at doses up to 300 mg/kg/day (PO, 6 days), with no significant effects on body weight, breathing rate, motion, or body temperature. In a rodent fibrosis model, REC-4209 significantly reduced collagen deposition, a key histological marker of fibrosis. These findings support REC-4209's potential to halt fibrotic progression, positioning it as a novel disease-modifying therapy for IPF.



**Figure 62.** REC-4209 reduces collagen in a mouse model of fibrosis. REC-4209 at low doses reduces total lung collagen by 45% to 60% versus vehicle treated mice. Groups (n=10 per group; n=6 in control) compared to vehicle. \*\*\*\*p<0.0001; one-way ANOVA with Tukey's multiple comparison test. Data reflects mean  $\pm$  95% CI.<sup>40</sup>

## Therapeutics Partnerships: Driving Innovation Across Multiple Diseases

At the core of Recursion's mission is the pursuit of breakthrough therapeutics for patients. Recursion collaborates with leading pharma partners to explore a wide range of disease areas—including fibrosis, neuroscience, oncology, immunology, and inflammation. Together, these partnerships aim to identify novel targets and therapeutic candidates spanning small molecules, large molecules, gene therapies, and cell therapies.

Each partnership is designed to advance therapeutic development, with multiple pathways to success:

- **Novel Therapeutics:** By leveraging Recursion's comprehensive maps of biology capabilities, large compound libraries are rapidly screened, uncovering differentiated therapeutics without preconceived target hypotheses. This approach allows Recursion to identify unique solutions that address significant medical needs. With our newly added precision chemistry capabilities, we can support our partners towards potential first-in-class and best-in-class therapies.
- **Novel Targets:** Recursion's platform's ability to profile diverse biological perturbations—including genetic factors—enables the discovery of novel druggable targets. Recursion then collaborates with partners to transform these insights into promising therapeutic candidates.

Recursion's strategic business combination with Exscientia has significantly expanded its partnership value, bringing leaders like Sanofi and Merck KGaA into the fold. **To date, Recursion has secured \$450 million in upfront milestone payments, with the potential to unlock over \$20 billion in additional milestones before royalties.** These high-impact collaborations not only generate near-term financial value but also leverage Recursion's combined capabilities in biology, precision chemistry, and automated synthesis to accelerate the development of transformative therapies.

By collaborating with top-tier biopharmaceutical companies, Recursion gains access to invaluable knowledge from some of the most experienced teams in the industry. Together, with Recursion's AI-driven platforms, proprietary data, and deep scientific expertise we continuously drive innovation, expand patient impact, and revolutionize the treatment of complex diseases. Below are some of the latest milestones reflecting this exciting momentum.

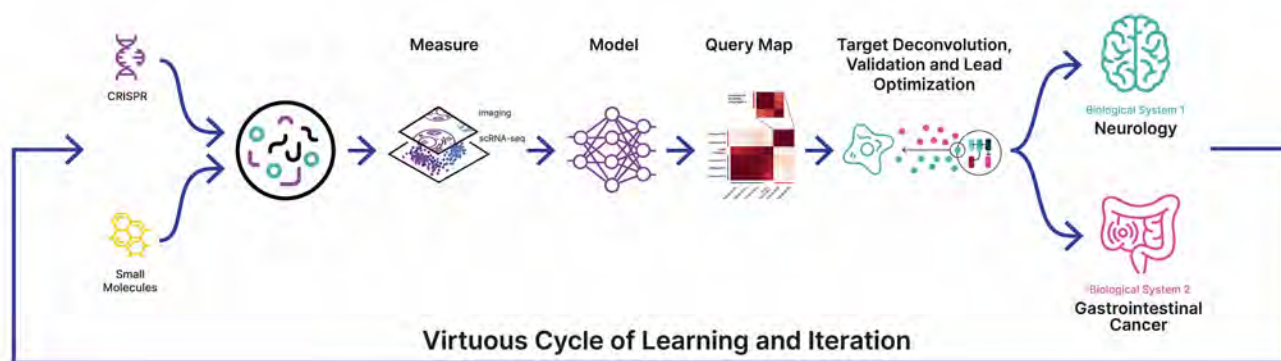
<sup>40</sup> Data on file.

## Key Highlights

### Roche and Genentech

In December 2021, we entered into a multi-year, strategic collaboration with Roche and Genentech in key areas of neuroscience and an oncology indication. Through the partnership, we are working with both Roche and Genentech's R&D units to leverage our Recursion OS and Maps of Biology, along with extensive single-cell perturbation screening data from Roche and Genentech, to rapidly identify novel biological relationships to initiate and advance therapeutic programs. Together we may initiate up to 40 programs over a decade or longer.

- **Gastrointestinal-Oncology Advancements:** In partnership with Roche and Genentech, we generated multiple whole-genome phenomaps with chemical perturbations across various disease-relevant cell types, enabling deeper insights into how different cellular contexts respond to gene knockouts and chemicals.
- **Neuro-specific CRISPR KO Phenomap:** In partnership with Roche and Genentech, we've developed the first whole-genome CRISPR knockout map in neural iPSC cells, providing valuable data to identify potential new targets in neuroscience, an area with limited new discoveries.
- **Milestones and Collaboration:** The neuroscience phenomap work led to the exercise of a \$30M option from Roche and Genentech in August 2024, and we're moving forward with target validation projects.



**Figure 63.** Under our collaboration with Roche & Genentech, we are creating multimodal maps of cellular biology to elucidate novel targets and starting points.

### Sanofi

In January 2022, we entered into a strategic research collaboration with Sanofi to develop an AI-driven pipeline of precision-engineered, small molecule medicines. Through this collaboration, we are using our end-to-end integrated platform to discover and advance up to 15 novel targets in the oncology and immunology therapeutic areas. As part of this agreement, we received an upfront cash payment of \$100 million, with the potential to receive up to \$5.2 billion in total aggregate milestone payments plus tiered royalties.

- **Immunology & Oncology Achievements:** in 2024, we reached milestones in two programs, generating \$15M in aggregate payments from Sanofi in 2024.

### Bayer

In November 2023, we announced an updated collaboration with our established partner, Bayer, for a select set of precision oncology programs. The collaboration will leverage our state-of-the-art capabilities to initiate and advance the identification of novel therapeutic targets for challenging oncology indications with high unmet need. Under the terms of the agreement, we may initiate up to seven oncology programs and Recursion is eligible to receive potential, success-based, future payments of up to \$1.5 billion plus royalties on net sales.

- **Oncology Achievements:** Completed 25 multimodal oncology data packages utilizing the Recursion OS platform, with programs rapidly progressing to Lead Series nomination.
- **LOWE:** Additionally, Bayer has adopted our LOWE LLM-orchestrated workflow software to enhance their research capabilities.



## Merck KGaA (Darmstadt, Germany)

In September 2023, we entered into a collaboration with Merck KGaA, Darmstadt, Germany. This multi-year collaboration utilizes our AI-driven precision drug design and discovery capabilities while leveraging Merck KGaA, Darmstadt, Germany's disease expertise in oncology and immunology, clinical development capabilities, and global footprint.

- Recursion is continuing to focus on leveraging our discovery engine to identify first-in-class and best-in-class targets across oncology and immunology, driving innovation in these key therapeutic areas.

## Case Study: Delivering the World's First Neuromap

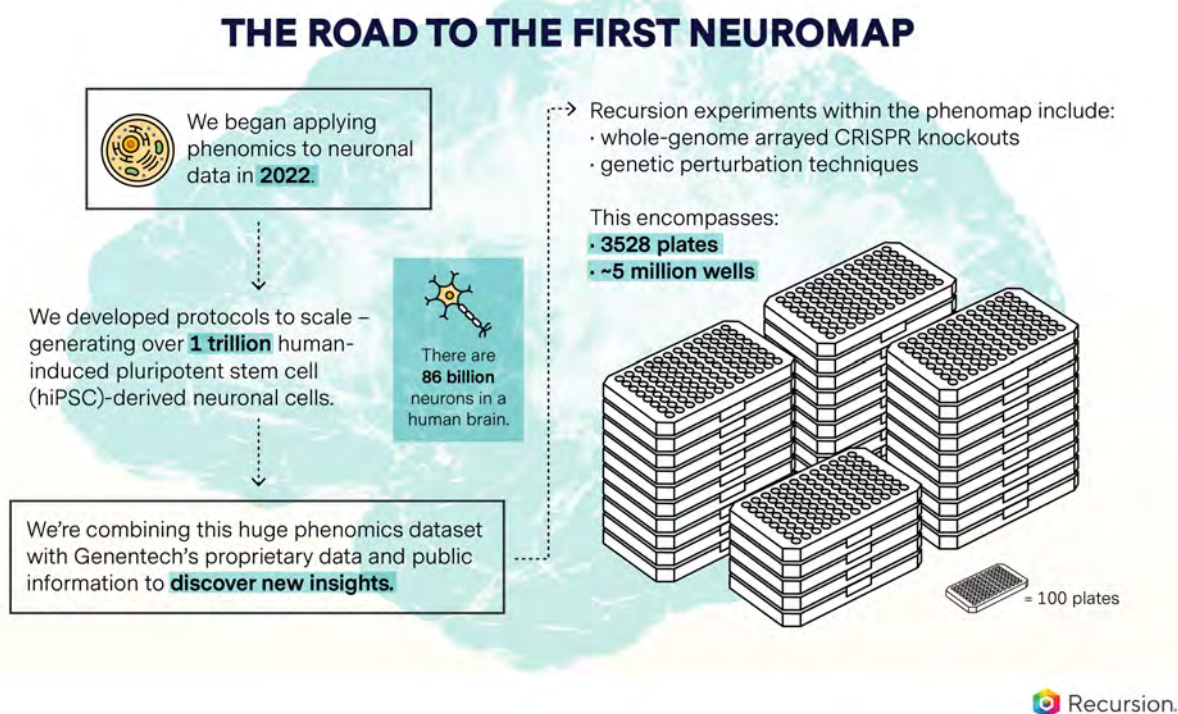


Figure 64: Recursion launched a transformational collaboration with Roche-Genentech, delivering the world's first whole-genome neuromap in 2024.

### Overview

In 2021, Recursion launched a transformational collaboration with Roche-Genentech to create the world's first Neuromap—a comprehensive and scalable neuronal data model powered by machine learning. This effort aimed to uncover novel insights into neurodegenerative diseases, a category of illnesses that has long been difficult to tackle using traditional drug discovery methods. With a dedicated team of 50 people, Recursion set out to overcome numerous technical and biological challenges, all with the goal of driving innovation in neuroscience.

### The Challenge

When the project began, the team faced significant uncertainty. The goal was ambitious: produce enough neurons, knock out genes, and generate a reliable signal from machine learning models to guide the development of potential drug programs. This challenge was particularly daunting given the complexity of neuronal cells, which do not divide or proliferate like other cell types. Unlike other cell types, such as human umbilical vein endothelial cells (HUVECs), which Recursion had previously worked with to create large-scale disease maps, neuronal cells posed a unique set of hurdles due to their limited ability to be produced at scale.

Neurodegenerative diseases had long been a difficult area for drug development. The traditional approaches has yielded limited breakthroughs, and the complexity of the biological system presented a higher bar for success. Recursion needed to develop new technologies and methodologies to produce and analyze neuronal data on a scale never before attempted in drug discovery.

Recursion had already proven its ability to create large-scale cell maps in other disease areas, notably in gastrointestinal oncology, as part of its partnership with Roche and Genentech. The success of this collaboration demonstrated the power of Recursion's phenotypic screening platform, which uses high-throughput technologies to produce vast amounts of biological data. However, creating a Neuromap would require more than just expanding on previous work—it required adapting the process to handle the unique challenges posed by neuronal biology.

## Execution

To tackle this challenge, Recursion collaborated with Genentech to develop and refine a model using human-induced pluripotent stem cells (hiPSCs), which could be differentiated into neurons. This protocol enabled Recursion to produce large quantities of neurons, ultimately generating over 1 trillion hiPSC-derived neuronal cells. These neurons served as the foundation for the Neuromap, a data-rich resource that Recursion, Genentech and Roche could use to gain deeper insights into the genetic underpinnings of neurodegenerative diseases. In addition to the joint development of the neuronal cell context, Recursion's machine learning team played a pivotal role in developing algorithms capable of processing the massive amounts of data generated by the Neuromap. The combination of scalable cell production and cutting-edge computational models allowed Recursion to generate the first whole-genome neuronal phenomap that can be utilized by the partnership to uncover new relationships between genes and the phenotypes associated with neurodegeneration.

## Outcome

Our work led to the exercise of a \$30M option by Roche and Genentech in August 2024 with the Neuromap offering an unbiased view of the genetic relationships related to neurodegenerative diseases and providing insights that could pave the way for development of novel therapies in neuroscience. Unlike traditional approaches that are often guided by pre-existing hypotheses, researchers in the collaboration can now explore new biological pathways and identify potential therapeutic targets that may not have been considered before. Even as these avenues are being explored, the team is also pursuing the development of even more robust Neuromaps. This first map is a genetics-only map, with the whole genome knockout and many additional perturbations related to neurodegenerative diseases. Future maps could comprise additional cell types or large compound libraries.

## Technology Partnerships

As Recursion continues to generate and leverage highly relatable and reliable datasets to support our internal pipeline and therapeutic partnerships, we continue to invest in advanced compute capabilities and data-centric solutions to strengthen our drug discovery and development efforts. Expanding on our previous release of select datasets and models, we are exploring additional opportunities to make more datasets and foundational models available to the broader scientific community. Our collaborations with NVIDIA, Google Cloud, Helix, and Faro Health underline our commitment to implementing AI and technology-enabled solutions to support our efforts to bring better medicines to patients faster.

### NVIDIA

In July 2023, we entered a strategic collaboration with NVIDIA to accelerate the development of our groundbreaking AI foundation models for biology and chemistry using our supercomputer, BioHive-1, and priority access on NVIDIA DGX™ Cloud. In May 2024, we completed BioHive-2, Recursion's new NVIDIA DGX SuperPOD AI supercomputer, powered by 63 DGX H100 systems with a total of 504 NVIDIA H100 Tensor Core GPUs increasing the computational capacity by over 4X. The BioHive-2 supercomputer is believed to be the most powerful supercomputer wholly owned and operated by any pharmaceutical company and was ranked as number 54 in the top supercomputers globally by the Top500 list in 2024.

### Helix

In May 2024, we entered into a multi-year agreement with Helix to access hundreds of thousands of de-identified clinic-genomic records consisting of longitudinal clinical records paired with Helix's Exome+® genomic data. The Helix dataset expands our efforts to use real-world patient data to train causal AI models and design biomarker and patient stratification strategies across broad disease areas.

### Google Cloud

In October 2024, we announced an expanded collaboration with Google Cloud leveraging their technologies to accelerate drug discovery research and further enhance our ability to bring new medicines to patients faster. Through this collaboration, we will explore generative AI capabilities, including Gemini models, to support the RecursionOS. We will improve data search and access from our proprietary dataset with BigQuery and facilitate the scaling of compute resources to run large inference workflows effectively. Additionally, in November 2024, we announced the release of OpenPhenom-S/16 in Google Cloud's Vertex AI Model Garden. OpenPhenom, a non-commercial, publicly available foundation model built on microscopy data, sets a new "gold standard" for the industry, outperforming CellProfiler. This model offers the potential for researchers to replace their existing workflows with an off-the-shelf model that outperforms traditional microscopy analysis pipelines without requiring any additional tuning or training.

## Faro Health

In December 2024, we entered into an agreement with Faro Health to leverage their AI-powered platform for clinical protocol design to reduce clinical trial costs and complexity while minimizing burden to trial participants and sites. We plan to use the Faro platform to optimize the protocol design for upcoming clinical trials. We also anticipate utilizing the structured study definitions created through Faro's software to automate traditionally labor-intensive and time-consuming historically downstream tasks, such as building the Electronic Data Capture system for each study.

## People and Culture

Essential to leading and defining TechBio is our team of over 800 Recursionauts, comprising life scientists such as chemists and biologists (approximately 43% of employees) and computational and technical experts such as data scientists and software engineers (approximately 36% of employees). This kind of functional balance intentionally stands in contrast to traditional biotechnology companies. Together our team creates an environment where empirical data, statistical rigor and creative thinking is brought to bear on the problems we address. While we are united in a common mission, Decoding Biology to Radically Improve Lives, our strength lies in our differences: expertise, gender, race, disciplines, experience and perspectives. Deliberately building and cultivating this culture is critical to achieving our audacious goals.

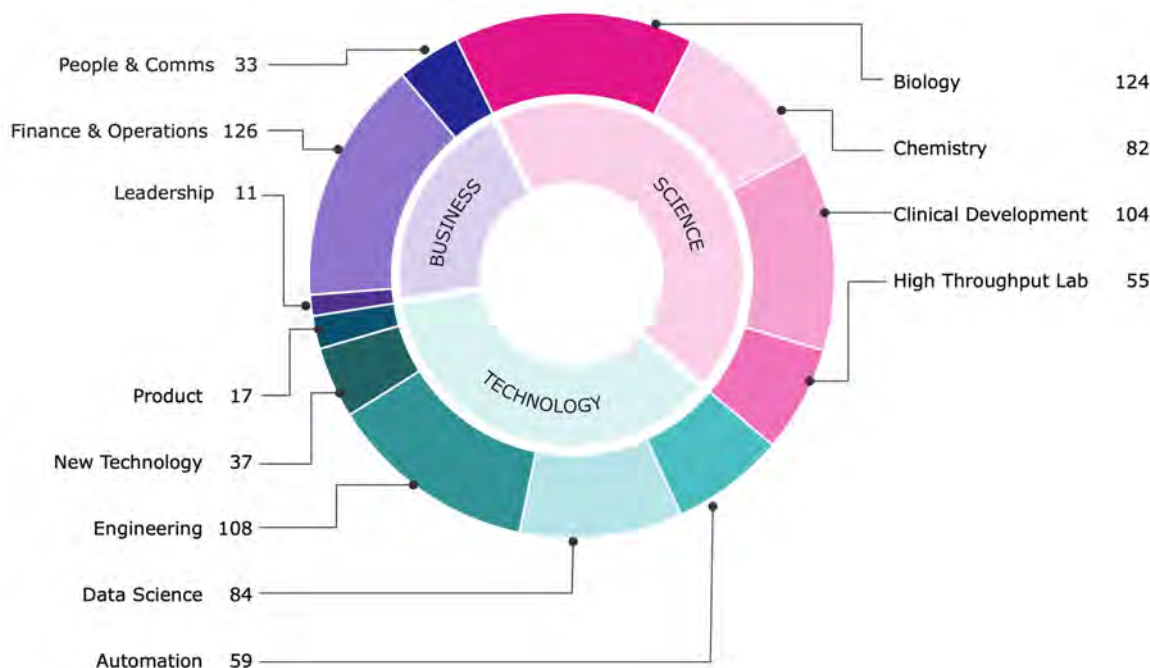
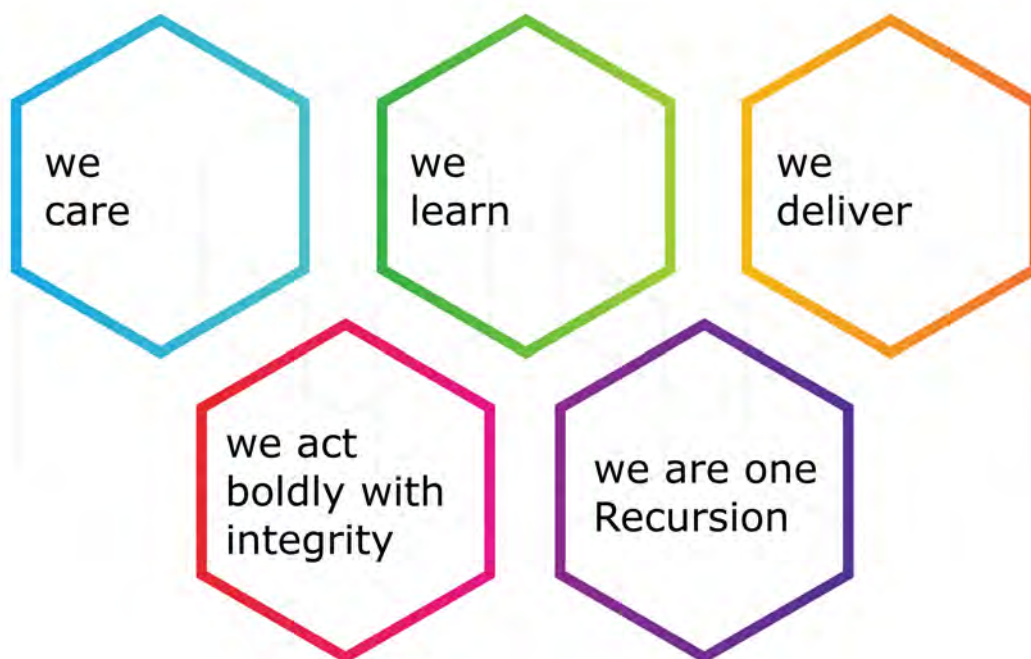


Figure 65. Breakdown of Recursion's over 800 employees across life sciences, technology and strategic operations.

One of the most critical elements supporting Recursion's leadership in TechBio is what we call the Recursion Mindset – a deep belief and commitment to industrialization through automation, systems-thinking, algorithms and data to deliver our mission. This mindset fuels our creative energy focused on Recursion's hardest problems. The Recursion Mindset is made manifest through our Founding Principles and supported by our culture and values. Our Founding Principles are the guideposts for our technical and scientific decision-making. Our values are the core standards and behaviors that define how we work together to achieve our mission. Combined they shape our culture and inspire us to reimagine how medicines are made.



**Figure 66.** Recursion's Founding Principles. These six founding principles differentiate our approach from nearly every other biopharma company, enable us to lead TechBio and form the foundation for a mindset we teach and enrich for at Recursion.



**Figure 67. Recursion's Values.** These five values support our founding principles and guide our culture at Recursion.

### Maximizing Delivery through Diversity

At Recursion we believe a diversity of experiences, backgrounds, ideas and expertise will create high performing teams. Varied and diverse perspectives support better complex decision-making, foster greater innovation and ultimately result in greater company performance and success. We seek the best talent by maximizing diversity at the top of the recruiting funnel and then mitigating bias through objective decision-making throughout the hiring process. We foster an environment of inclusion for candidates and employees to unleash the strength of our differences.



## Employee Recruitment, Development and Training

We are intentional about the employee experience at Recursion, with a fit-for-purpose system that finds, grows and retains top talent to deliver our mission. Our people are mission-driven, humble, bright, generous of spirit and constructively dissatisfied with the status quo. We employ a targeted approach to identify, attract and hire diverse employees across highly technical scientific disciplines including: biology, chemistry, data science, machine learning, engineering, robotics, clinical development and more. We seek people that are aligned with – and emboldened by – our commitment to industrialization as defined by our Recursion Mindset.

We expect our employees to be constantly learning and adapting in order to evolve as quickly as Recursion. Learning and development happens through daily work and projects, as well as formal training and industry conferences and engagements. We offer a unique 2-day immersive experience to all employees called Decoding Recursion. It is an opportunity for close interaction with senior leaders who teach the Recursion Mindset through stories. Continual learning is reinforced throughout our performance system which creates accountability for our learning, delivery and impact on others.

People stay at Recursion because of the opportunity to impact the world and grow in a place where they feel challenged, supported and connected. Throughout the employee experience we create moments, rituals, programs and spaces that inspire ambition, reward contributions and growth and foster belonging.

## Employee Health and Safety

We have dedicated Standard Operating Procedures to manage occupational health and safety, safety training and injury and illness and incident reporting. Every employee is responsible to ensure these procedures and policies are followed. We offer extensive training to ensure understanding and compliance. Compliance is mandatory for all laboratory employees per requirements of the Occupational Safety and Health Administration standard on Hazardous Chemicals in Laboratories. Our Co-Founder and CEO is the Director of Public Safety at the company and has the ultimate responsibility for chemical hygiene within the organization. Our Chemical Hygiene Officer and Lab Manager oversees the day-to-day management of institutional chemical hygiene.

Read more about how we invest in and motivate our people to achieve our mission in Recursion's latest Environmental, Social and Governance Report, available at our corporate website.

## Facilities Headquarters

Our United States headquarters is in downtown Salt Lake City, Utah where we lease ~200,000 square feet of office and laboratory space. The lease for half of this space expires in May 2028 with the remainder expiring in May 2032. Our modern headquarters is a draw for local, national and international talent.

Our European headquarters is in London's Kings Cross neighborhood, where we lease 6,792 square feet of office through January 2029. We also have laboratory space in Milton Park, Oxfordshire for our automation laboratory with approximately 20,151 square feet.



**Figure 68.** Our US headquarters is centrally located in downtown Salt Lake City, Utah and our EU headquarters in London with laboratory space in Milton Park, Oxfordshire. Working with state and local government, we are helping to create a burgeoning life science ecosystem around a downtown cluster of companies centered around our headquarters.

## Core Satellite Offices and Facilities

In addition to our two major headquarters in Salt Lake City, UT and London-Oxford, UK, we operate core satellite offices and a digital vivarium in key markets to attract top talent.

### Toronto and Montréal

In Toronto, we operate a 28,110 square foot space in Toronto's Queen Street West Neighborhood. The lease for this space expires in November 2032. In addition to our Toronto office, we have a 8,367 square foot site in Montréal that houses our semi-autonomous artificial intelligence research engine, Valence Labs, which is located in the world-renowned artificial intelligence and machine learning hub MILA.

### New York

In January 2025, we opened a new 11,655 square foot office in New York City's Hudson Yards neighborhood. This office serves as a key location for our clinical development team and executive functions.



Figure 69. Recursion's satellite offices and facilities in key markets to attract top talent.

### Digital Vivarium

We lease a 25,557 square foot property that serves as a rodent vivarium. This lease expires in May 2028. We use this facility to conduct drug-discovery enabling pharmacokinetic, pharmacodynamic and exploratory safety studies. The facility is equipped with proprietary, digitally enabled cage technology.

## Corporate Social Responsibility

We believe that to achieve our mission, we must act like the company we aim to be, which means we must be a good corporate citizen. In recognition of our commitment to excellence in environmental, social and governance stewardship, Recursion received a Prime Rating in 2024 for ESG performance from Institutional Shareholder Services (ISS). The ISS ESG Corporate Rating provides an assessment of a company's environmental, social and governance activity. A Prime Rating is awarded to companies with ESG performance above a sector-specific threshold and is defined by ISS as "absolute best in class." Additionally, as of January 2024, Recursion was ranked 6 out of 367 companies (approximately top 2%) in the Biotech category by Morningstar Sustainalytics.

To date, we have focused our community efforts in areas of impact that are aligned with our Values and our strengths, including: (i) diversity, equity and inclusion in technology and biotechnology (e.g., in 2020 the Recursion Foundation launched Altitude Lab, a life science incubator and accelerator for diverse health care entrepreneurs); (ii) the growth and sustainability of our local life science and technology ecosystems (e.g., Recursion is a founding member of BioHive, a Utah life science collective); and (iii) the promotion of sustainable environmental practices (e.g., Recursion aims to achieve net-zero greenhouse gas emissions across our operations by the year 2030). We believe that through these principles of community engagement, we can extend our mission of radically improving lives to those in our communities.

Read more about how we are delivering on that belief in Recursion's Environmental, Social and Governance Report.

## Commercialization

We may retain significant development and commercial rights to some of our drug candidates. If marketing approval is obtained, we may commercialize our drug candidates on our own, or potentially with a partner, in the United States and other geographies. We currently have no sales, marketing, or commercial product distribution capabilities. Decisions to create this infrastructure and capability will be made following further advancement of our drug candidates and based on our assessment of our ability to build the necessary capabilities and infrastructure with competitive advantage. Clinical data, the size of the addressable patient population, the size of the commercial infrastructure, manufacturing needs and major trends as to how value is accrued in the industry may all influence or alter our commercialization plans.

## Manufacturing

We currently utilize contract development and manufacturing organizations to produce drug substance and investigational drug product in support of the assets within our pipeline. To date, we have obtained drug substance and drug product for our drug candidates from third party contract manufacturers. We are in the process of developing our supply chain for each of our drug candidates on a project-by-project basis based on our development needs.

## Strategic Partnership and Collaboration Agreements

To achieve our mission, we may partner with leading biotechnology companies, pharmaceutical companies and academic research institutions to access datasets, molecules, or other intellectual property.

### Roche & Genentech Collaboration and License Agreement

On December 5, 2021, we entered into a Collaboration and License Agreement with Genentech, Inc. and F. Hoffmann-La Roche Ltd, pursuant to which we will construct, using our imaging technology and proprietary machine learning algorithms, unique maps of the inferred relationships amongst perturbation phenotypes in a given cellular context (each a “Phenomaps”) and together with Roche and Genentech will create multimodal models and maps to further expand and refine such inferred relationships, in both cases, with the goal to discover and develop therapeutic small molecule and target programs in a gastrointestinal cancer indication and neuroscience (each an “Exclusive Field”).

*Upfront Payment. In January 2022, Roche paid us an upfront cash payment of \$150.0 million.*

**Phenomaps Creation, Acceptance and Access.** Under the Collaboration Agreement, we are responsible for creating a certain number of phenomaps in each of the Exclusive Fields. We will also provide Roche results to requested queries, at Recursion’s discretion, of our pre-existing human umbilical vein endothelial cells (HUVEC) phenomaps. Roche will have specified rights to request queries or have direct access to the Phenomaps to generate novel inferences that may lead to the discovery or development of therapeutic products.

**Phenomaps-Related Options in neuroscience.** Each of the neuroscience phenomaps requested by Roche and created by Recursion may be subject to either an initiation fee, acceptance fee or both. Such fees could exceed \$250.0 million for sixteen (16) accepted phenomaps. In addition, for a period of time after Roche’s acceptance of certain phenomaps, Roche will have the option to obtain, subject to payment of an exercise fee, rights to use outside the collaboration the raw images generated in the course of creating those phenomaps. If Roche exercises its External Use Option for all twelve (12) eligible phenomaps, Roche’s associated exercise fee payments to Recursion could exceed \$250.0 million.

**Collaboration Programs and Roche Options.** Roche and Recursion will collaborate to select certain novel inferences with respect to small molecules or targets generated from the phenomaps for further validation and optimization as collaboration programs. There can be up to 40 programs initiated as part of this collaboration. Roche and Recursion may also combine sequencing datasets from Roche with Recursion’s phenomic imaging data and collaborate to generate new algorithms to produce multimodal maps from which additional collaboration programs may be initiated. For every collaboration program that successfully identifies potential therapeutic small molecules or validates a target, Roche will have an option to obtain an exclusive license to develop and commercialize such potential therapeutic small molecules or to exploit such target in the applicable Exclusive Field. In October 2023, Roche exercised its Small Molecule Validated Hit Option to further advance our first partnership program in GI-oncology. This program continues in the hit to lead series phase.

**Payments if Roche Exercises Option for a Collaboration Program.** Under the collaboration, Roche may initiate up to forty (40) small molecule programs. Each small molecule collaboration program, if optioned and successfully developed and commercialized by Roche, could yield more than \$300.0 million in research, development, commercialization and net sales milestones for Recursion, as well as mid- to high-single digit tiered royalties on net sales. Recursion is also eligible for research, development, commercialization and net sales milestones for target collaboration programs optioned by Roche.

**Recursion Programs.** If Roche does not exercise its options in the Collaboration Agreement for certain collaboration programs, we may, with Roche's prior consent, choose to independently validate, develop and commercialize products in a limited number of such programs, subject to agreed milestones and royalties to Roche. Roche will have rights to obtain an exclusive license to exploit such products by providing notice and paying us an opt-in fee and economics exceeding those that would otherwise be applicable if Roche had exercised its option for such program.

**Exclusivity.** During an agreed period of time after the Collaboration Agreement's effective date, we are subject to certain exclusivities that limit our ability to conduct certain research and development activities with respect to compounds and targets in the Exclusive Fields, other than pursuant to the collaboration with Roche. However, we may continue pursuing products that we are researching and developing in the Exclusive Fields as of the effective date of the Collaboration Agreement.

**Termination.** The Collaboration Agreement includes standard termination provisions, including for material breach or insolvency and for Roche's convenience. Certain of these termination rights can be exercised with respect to a particular Exclusive Field or exclusive license, as well as with respect to the entire Collaboration Agreement.

## **Sanofi License Collaboration and License Agreement**

In January 2022, we entered into a Collaboration and License Agreement, with Sanofi, or the CLA, and in July 2023 and December 2023, we amended the Collaboration and License Agreement, with such as amended CLA referred to as the Amended CLA. Pursuant to the Amended CLA, we will use our artificial intelligence-driven, end-to-end integrated platform to discover and validate novel targets in the oncology and immunology therapeutic areas. We will collaborate with Sanofi to advance certain of these targets into small molecule inhibitor drug research projects and accelerate the identification of certain small molecule development candidates.

Sanofi made an upfront cash payment of \$100 million to us on signing the CLA and made an additional payment of \$4 million in connection with the expansion of the collaboration pursuant to the December 2023 amendment. Under the Amended CLA, Recursion and Sanofi may initiate up to 15 novel small molecule programs. Each program, if successfully researched, developed and/or commercialized, will yield research, clinical development, regulatory, and commercial milestone payments of up to approximately \$343 million including up to \$193 million in the aggregate for certain specified research, development and regulatory milestones, and up to \$150 million in the aggregate for certain specified commercial milestones. The Amended CLA could potentially provide us with up to approximately \$5.2 billion in aggregate milestone payments across all 15 potential programs.

In the case that a therapeutic product resulting from the research collaboration is commercialized, we will also be eligible to receive tiered royalties on net sales ranging from high-single-digits to mid-teens. We also have an option for clinical co-investment which, if exercised, would increase the tiered royalty rates to up to 21% on net sales of co-funded products.

The collaboration may utilize Recursion's AI-based capabilities and precision medicine platform from target identification through patient selection. Once a target is identified, Recursion will be responsible for leading the design, translational and early preclinical studies to determine development candidates. Upon Sanofi's selection of a compound as a development candidate, Sanofi will be solely responsible for the IND-enabling studies and clinical development, manufacturing and commercialization of such development candidate at its own cost and expense. Under the Amended CLA, Sanofi has agreed to use commercially reasonable efforts to obtain regulatory approval for at least one qualifying small molecule product in at least one agreed upon major market.

The research component of the collaboration will be overseen by a joint steering committee comprised of an equal number of representatives from each of Recursion and Sanofi. Recursion and Sanofi may agree to utilize our precision medicine platform for patient enrichment in Sanofi's non-small molecule programs.

Pursuant to the Amended CLA, Recursion granted to Sanofi an exclusive license (with the right to grant sublicences through multiple tiers) to the intellectual property that is the subject of each small molecule research program for all purposes, throughout the world. Sanofi has the right to control the prosecution and maintenance of any patent rights related to intellectual property that is the subject of each small molecule research program.

After the CLA's effective date, we are subject to varying exclusivity arrangements for specified periods of time which limit our ability to conduct research and development, manufacturing or commercialization activities (whether ourselves or in conjunction with a third party) with respect to compounds and targets which are within the scope of the Amended CLA and with respect to certain agreed pathways of interest.

The Amended CLA contains standard termination provisions, including for material breach or insolvency and for Sanofi's convenience. Certain of these termination rights can be exercised in respect of a given target, or in respect of the CLA as a whole. In certain circumstances, upon termination, we have the right to terminate the licenses granted to Sanofi and to pursue the development, manufacture and commercialization of the product candidates.



## **Bayer AG Amended and Restated Research Collaboration and Option Agreement**

On August 28, 2020, Recursion and Bayer entered into a Research Collaboration and Option Agreement, which was subsequently expanded on December 1, 2021, for research and collaboration on a certain number of projects related to fibrosis. On November 8, 2023, the parties amended and restated the original Bayer Agreement to re-align the collaboration with Bayer's strategic shift in focus to oncology. As a result, the parties wound down their joint work in fibrosis and the exclusivities with respect to the field of fibrosis were terminated.

Under the Restated Agreement, Recursion will collaborate with Bayer for the remainder of the five-year period under the original Agreement (extendable by up to 2 years to enable completion of certain research activities), to initiate up to seven programs in oncology. During certain agreed time periods within the collaboration term, Recursion is prohibited from conducting certain research and development activities with respect to certain identified genes of relevance in oncology outside of the collaboration, either by itself or together with third parties. However, Recursion may continue research and development activities for any such identified genes that it has initiated prior to the date of identification of such gene.

Under each oncology project, Recursion will work with Bayer to identify potential lead candidates for development. Under the Restated Agreement, Bayer has the first option to license potential candidates; each such license could potentially result in option exercise fees and development and commercial milestones paid to Recursion with an aggregate value of up to approximately \$210.0 million for one license and up to approximately \$1.5 billion if each program is licensed, as well as tiered royalties for each such license, ranging from low- to mid-single digit percentages of sales, depending on commercial success. Royalty periods for each license are on a country-by-country basis, and the duration of each such period is tied to the duration of patent or regulatory exclusivity in each country (with a minimum term of 10 years each).

If Bayer does not exercise its option with respect to a lead candidate or otherwise discontinues a project prior to completion, within a specified period of time, Recursion may exercise an option to negotiate with Bayer in good faith to obtain an exclusive license under Bayer's interest in any lead series developed pursuant to the project and backup compounds related thereto, as well as a non-exclusive license under Bayer's background intellectual property necessary for Recursion's use of the project results related to such compounds.

Bayer may terminate the collaboration at any time without cause. Either party may terminate the agreement for a material breach by the other party. The term of each license agreement continues on a product-by-product and country-by-country basis until the later of (a) the expiration of the last to expire valid claim of the licensed patents covering such product in such country, (b) the expiration of any applicable regulatory exclusivity period for such product in such country and (c) ten years after the first commercial sale of such product in such country. Bayer may terminate each such license agreement at any time without cause. Either party may terminate each such license agreement for the other party's uncured material breach.

## **Merck KGaA, Darmstadt, Germany Research Collaboration Agreement**

In September 2023, we entered into a Research Collaboration Agreement, or the RCA, with the Healthcare Business of Merck KGaA, Darmstadt, Germany, referred to as Merck KGaA, Darmstadt, Germany, pursuant to which we will be responsible for the design process, as well as translational and early non-clinical studies to discover development candidates based on the initial agreed targets. Upon Merck KGaA, Darmstadt, Germany's selection of a compound as a development candidate, Merck KGaA, Darmstadt, Germany will be solely responsible for the non-clinical studies and clinical development, manufacturing and commercialization of such development candidate at its own cost and expense. Under the RCA, Merck KGaA, Darmstadt, Germany has agreed to use commercially reasonable efforts to obtain regulatory approval for at least one product candidate in certain major markets and to commercialize such product if it receives any such regulatory approval.

The research component of the collaboration will be overseen by a joint steering committee comprised of an equal number of representatives from us and from Merck KGaA, Darmstadt, Germany. The collaboration will also have an IP sub-committee comprised of an equal number of patent attorneys from each party that will be the liaison for intellectual property matters that arise in connection with the collaboration.

The RCA allows Merck KGaA, Darmstadt, Germany and us to identify additional targets in oncology and immunology or other mutually agreed disease areas. Should we identify additional targets for the collaboration, we would be responsible for target validation in addition to drug design.

Merck KGaA, Darmstadt, Germany made an upfront cash payment of \$20 million to us on signing the RCA, and we remain eligible to receive up to \$674 million in discovery, development, regulatory and sales-based milestones, if all milestones for all three initial programs are achieved. Of this amount, up to \$113 million is potentially payable on milestones achieved in the discovery phase of development. In addition, we will receive royalty payments ranging from mid-single-digits to low-double-digits on net sales of any products resulting from the initial three targets that are commercialized. If any additional target is identified for the collaboration, we would be eligible to receive additional milestone payments on such target. Pursuant to the RCA, we granted to Merck KGaA, Darmstadt, Germany a worldwide, exclusive, transferable license (with the right to grant sublicenses through multiple tiers) to the intellectual property that is necessary or reasonably useful for development or commercialization of the target compounds and resulting products, if any, in order to develop, manufacture, commercialize and sell the target compounds

and resulting products, if any. Merck KGaA, Darmstadt, Germany has the right to control the prosecution and maintenance of any patent rights related to intellectual property that is the subject of each program.

The RCA will remain in effect from September 20, 2023 until such date that no milestone payments or royalties are, or may become, payable under the RCA, unless the RCA is terminated earlier in accordance with its terms. The RCA contains standard termination provisions, including termination by either party for material uncured breach or insolvency of the other party, by us if Merck KGaA, Darmstadt, Germany breaches certain obligations with respect to regulatory and commercialization activities, and by Merck KGaA, Darmstadt, Germany for convenience. Certain of these termination rights can be exercised in respect of a given target, or in respect of the RCA as a whole. In certain circumstances, upon termination, we have the right to terminate the licenses granted to Merck KGaA, Darmstadt, Germany and to pursue the development and commercialization of the target compounds and resulting products, if any.

During the term of the RCA, we are subject to exclusivity obligations that limit our ability to conduct research and development or commercialization activities (whether ourselves or in conjunction with a third party) with respect to the compounds and targets which are within the scope of the RCA.

The RCA contains standard confidentiality provisions and representations and warranties made by each party to the agreement. The parties also provide mutual indemnification under the agreement and the RCA excludes liability of either party for consequential or similar damages, except to the extent prohibited by law.

## **Tempus Master Agreement**

On November 3, 2023, Recursion Pharmaceuticals, Inc., or the Company, and Tempus Labs, Inc., or Tempus entered into a Master Agreement, or the Tempus Agreement pursuant to which Tempus may provide certain services and deliverables to the Company and/or license certain data to the Company. The term of the Tempus Agreement is five years from the effective date of the Tempus Agreement, or the Term.

Under the terms of the Tempus Agreement, the Company is granted a limited right to access Tempus's proprietary database of de-identified clinical and molecular data for certain therapeutic product development purposes, including to develop, train, improve, modify, and create derivative works of the Company's machine learning/artificial intelligence models for the purposes of therapeutic product development. The Company is permitted to download a maximum number of de-identified records at any one time, subject to an aggregate cap in the total unique records that can be downloaded over the course of the Term, and to retain each downloaded record for a period of 180 days from the date of download. After such 180-day period, The Company may elect to license such downloaded records for a longer period subject to additional terms and the payment of additional fees.

In exchange for these rights, the Company will pay Tempus an initial license fee in an amount equal to \$22.0 million, or the Initial License Fee and annual license fees during the Term ranging between \$22.0 million and \$42.0 million, which, together with the Initial License Fee, totals up to \$160.0 million over the Term, subject to the Company's early termination, which may be triggered only following the third anniversary of the Master Agreement's effective date, and payment by the Company of an early termination fee (as further discussed below). The Initial License Fee and each annual license fee shall be payable at the Company's option either in the form of (x) cash, (y) shares of Class A Common Stock of the Company or (z) a combination of cash and shares of Class A Common Stock in such proportion as is determined by the Company in its sole discretion; provided that (a) the aggregate number of shares of Class A Common Stock that the Company may issue in connection with all payments under this Agreement shall not exceed 19.9% of the aggregate total of shares of Class A Common Stock and the Company's Class B Common Stock outstanding on November 2, 2023 or the date immediately preceding the date of any shares of Class A Common Stock issued pursuant to the Tempus Agreement, whichever is less (the "Share Maximum").

In the event that all or any portion of the Initial License Fee or any annual license fee is payable in the form of shares of Class A Common Stock, the Company shall, subject to the Share Maximum, issue to Tempus a number of shares of Class A Common Stock equal to (1) the amount of such fee divided by (2) the volume weighted average price of Class A Common Stock for the seven trading day period ending on the trading day immediately preceding (and including) the date that is five business days before the date on which such fee is paid (any shares so issued, the "Tempus Shares").

The Company has agreed to use commercially reasonable efforts to prepare and file a registration statement (or a prospectus supplement to an effective registration statement on Form S-3ASR that will become automatically effective upon filing with the SEC pursuant to Rule 462(e)) with the Securities and Exchange Commission as soon as practicable but in no event later than 30 days after each issuance of Tempus Shares under the Tempus Agreement, and to use its commercially reasonable efforts to have the registration statement declared effective as promptly as possible but in any event within 30 days following initially filing (or up to 90 days in the event of full SEC review). After such registration, the Company has agreed to use commercially reasonable efforts to keep such registration statement effective until such date that all Tempus Shares covered by such registration statement have been sold thereunder or may be sold without restriction or volume limitation under Rule 144 as promulgated by the SEC under the Securities Act of 1933, as amended.

The Tempus Agreement also grants the Company the right to access and use Tempus' LENS software that permits the viewing and analysis of clinical, molecular, and other health data maintained by Tempus. Company will pay Tempus a six-figure annual license fee for the duration of the Term for the use of such software.

In addition to mutual rights to terminate for an uncured breach of the Tempus Agreement, the Company may terminate the Tempus Agreement for convenience after three years upon 90 days prior notice, subject to payment by the Company of an early termination fee equal to (a) an amount per unique record that Company has downloaded prior to termination less (b) the sum of any annual license fees paid prior to termination, which could result in early payment of the aggregate annual license fees contemplated by the Tempus Agreement to the extent all records made available under the Tempus Agreement have been downloaded.

Either party may assign its rights under the Tempus Agreement subject to limited restrictions, but the Company may not assign the Tempus Agreement without Tempus's consent if the proposed assignee is a large pharmaceutical company.

#### **REC-994: University of Utah Research Foundation Agreements**

In February 2016, we entered into an Amended and Restated License Agreement with the University of Utah Research Foundation, or UURF, pursuant to which we obtained an exclusive license under certain patents and a non-exclusive license under certain know-how, in each case controlled by UURF and related to the drug tempol, or REC-994, to make, have made, use, offer to sell, sell, import and distribute products incorporating REC-994 worldwide for the treatment of cerebral cavernous malformation, or CCM. In partial consideration for the license rights, we issued UURF equity in our company. In addition, we agreed to reimburse UURF for a specified portion of costs associated with the filing, maintenance and prosecution of the licensed patent rights. The Amended and Restated License Agreement will expire on a country-by-country basis upon the expiration of the last-to-expire patent within the patent rights in the applicable country. UURF may terminate the agreement for an uncured material breach, if we cease commercially diligent efforts to develop or commercialize a licensed product or service, or our bankruptcy or insolvency.

#### **REC-2282: Ohio State Innovation Foundation In-License**

In December 2018, we entered into an Exclusive License Agreement with the Ohio State Innovation Foundation, or OSIF, pursuant to which we obtained an exclusive, sublicensable, non-transferable, royalty-bearing license under certain patents and fully-paid up, royalty-free, nonexclusive license under certain know-how, in each case controlled by OSIF and related to the pan-histone deacetylase inhibitor, OSU-HDAC42, or REC-2282, to develop, make, have made, use, sell, offer for sale and import products incorporating OSU-HDAC42 worldwide. OSIF also assigned certain assets to us, relating to the pharmaceutical composition known as AR-42. OSIF retains the right to use and allow other academic, nonprofit and government institutions to use the licensed intellectual property for research, non-commercial and educational purposes. OSIF shall not practice, have practiced, or transfer such reserved rights for any clinical purpose other than completion of the existing clinical trials at the time of the license agreement without our prior written consent. We are developing REC-2282 for the treatment of NF2 and are evaluating the utility of the compound in additional disease states using our platform.

Pursuant to the agreement, we must use commercially reasonable efforts to commercialize licensed products and are required to meet certain diligence milestones within two years following the execution of the agreement, including the initiation of clinical trials. The license agreement is also limited by and made subject to certain rights and regulations of the government, including the Bayh-Dole Act.

In consideration for the license, we paid OSIF, an upfront payment of \$2.0 million dollars and are obligated to pay OSIF certain milestones, totaling up to \$20.0 million dollars, as well as mid-single digit royalties on net sales of the licensed products. In addition, we owe 25% of any non-royalty sublicensing consideration prior to a Phase II clinical trial or 15% of such sublicensing consideration after initiation of a Phase II clinical trial, provided that milestone payments are creditable against these sublicensing fees. In 2022, we paid OSIF \$1.0 million dollars upon dosing of the first patient in the Phase 2 study of REC-2282 for the treatment of NF2.

The agreement expires on the expiration of the last valid claim within the licensed patents. We may terminate this agreement on 90 days prior written notice to OSIF. Either party may terminate the agreement on 60 days prior written notice for an uncured, material breach by the other party, or bankruptcy or insolvency of the other party.

## **REC-4881: Takeda License Agreement**

In May 2020, we entered into a License Agreement, or the Takeda In-License, with Takeda Pharmaceutical Company Limited, or Takeda, pursuant to which we obtained an exclusive (even as to Takeda and its affiliates), worldwide, sublicensable under certain conditions, transferable, royalty-bearing license to certain Takeda patents, know-how and materials related to develop, manufacture and commercialize Takeda's clinical-stage compound known as TAK-733, a non-ATP-competitive allosteric inhibitor of MEK1 and MEK2, subject to a non-exclusive, royalty-free, irrevocable, fully paid up, license back to Takeda to use the licensed compounds for non-clinical research purposes. We are currently developing the compound REC-4881 for the treatment of FAP, and patients with spontaneous APC-mutant tumors. We are also evaluating the utility of the compound in additional disease states using our platform.

We are required to use commercially reasonable efforts to develop and commercialize at least one licensed product in each of (a) the US, (b) at least three of the following European countries: the United Kingdom, France, Germany, Italy and Spain and (c) Japan.

Upon execution of the agreement, we paid an upfront fee of \$1.5 million to Takeda. Under the Takeda In-License, we are obligated to pay Takeda milestone amounts totaling up to \$39.5 million upon achievement of specified development and regulatory milestone events. In addition, we are obligated to pay Takeda low-to-mid single-digit royalties based on net sales of products containing the licensed compounds by us, our affiliates or sublicensees, subject to specified reductions. Our obligation to pay royalties continues on a country-by-country basis until the latest of expiration of the last to expire patent licensed by Takeda that covers the product, expiration of any regulatory exclusivity period for the product and ten years after the first commercial sale of the product, in such country. As of the date of this filing, we have not made any milestone or royalty payments to Takeda.

Each party has the right to terminate the license agreement for the other party's material uncured breach, insolvency or bankruptcy. In addition, we may terminate the agreement without cause any time after May 2023, and Takeda may terminate the agreement if we have not conducted any material activities in support of the development or commercialization of the licensed compounds or any product containing a licensed compound and have not demonstrated that we used commercially reasonable efforts towards the development of such compounds or products for a period of 12 consecutive months and such failure is not due to events beyond our reasonable control. Further, Takeda may terminate the license agreement if we challenge the validity or enforceability of a licensed patent. Upon termination for any reason other than for Takeda's breach of the license agreement, upon Takeda's request we are obligated to negotiate in good faith, for a period of 120 days, terms and conditions of a license to Takeda under certain technology developed by us during the term of the agreement for the purpose of developing, commercializing and otherwise exploiting the licensed compounds and products containing the licensed compounds.

## **Target Epsilon: Bayer License Agreement**

In December 2023, we entered into a License Agreement with Bayer, the Bayer License Agreement, pursuant to which we obtained (a) an assignment of certain compounds, know-how and inventions related primarily to fibrosis, and (b) an exclusive, sublicensable and royalty-bearing license under certain project know-how related to fibrosis to research, develop, manufacture and commercialize products as independent research tools in all fields worldwide, subject to a non-exclusive, royalty-free license back to Bayer to use such licensed project know-how solely for internal research and development purposes.

We are required to use commercially reasonable efforts to develop and commercialize at least one product in one of the following countries: (a) the US, (b) Japan, or (c) a country of the European Union.

Under the Bayer License Agreement, we are obligated to pay Bayer milestone amounts totaling up to approximately \$34 million upon achievement of specified development, regulatory and sales milestones. In addition, we are obligated to pay Bayer low single-digit royalties based on net sales of products containing certain compounds by us, our affiliates, or sublicensees, subject to specified reductions. Our obligation to pay royalties continues on a product-by-product and country-by-country basis until the latest of: (a) expiration of the last to expire patent filed by us, our affiliates or sublicensees that covers the product, and (b) ten years after the first commercial sale of the product in such country. As of the date of this filing, we have not made any milestone or royalty payments to Bayer.

Each party has the right to terminate the license agreement for the other party's material uncured breach. In addition, we may terminate the agreement without cause. Upon termination by us without cause or by Bayer for our breach, Bayer would have the right to use, practice, develop and exploit (including the right to sublicense) certain assigned know-how solely for Bayer's internal research and development purposes.



## Competition

Our efforts to date have resulted in several clinical-stage programs, an expansive pipeline of differentiated programs in early discovery and preclinical development, several partnerships with large pharma and technology companies, as well as an intellectual property portfolio comprising patents, trademarks, software and trade secrets. We believe that our differentiated approach provides us with a significant competitive advantage. We are a hybrid company, competing within multiple categories of the pharmaceutical, biotechnology, and technology industries where companies are similarly working to integrate rapidly advancing technologies into their drug discovery and development activities and/or are creating scalable scientific platforms. Notable competitors include:

- **TechBio Companies.** Such companies apply computational tools to unlock novel insights or accelerate drug discovery and development across different points in the value chain. Representative examples include Relay Therapeutics, Isomorphic Labs, Schrodinger, and AbCellera.
- **Scalable Platform Companies.** Such companies are applying novel scientific approaches or engineering novel therapeutic modalities with the potential to seed large numbers of therapeutic candidates. These companies may compete directly with our pipeline of predominantly small molecule therapeutics. Representative companies include Moderna, BioNTech, and Roivant Sciences.
- **Traditional Biopharma Companies.** Such companies, while primarily engaged in late-stage clinical development and product commercialization, are increasingly making their own investments in the application of ML and advanced computational tools across the drug discovery and development value chain. Such investments may include partnerships with other biotechnology companies (including Recursion) from which we may benefit. Representative companies include Janssen (a subsidiary of Johnson & Johnson), Merck, and Pfizer.
- **Large Technology Companies.** Large technology companies constantly seek growth opportunities. Technology-enabled drug discovery may represent a compelling opportunity for these companies, some of which have research groups or subsidiaries focused on drug discovery and others of which have signed large technology partnerships with biopharma companies. Representative companies include Alphabet, Microsoft, and Amazon.

## Intellectual Property

### Patents

As of February 2025, the Recursion patent portfolio is balanced between Platform IP and Program IP.

- **Platform IP:** Approximately one-half of the patents and patent applications that we own or license worldwide relate to the Recursion platform, including patents and applications related to the Recursion OS IP, as well as many other inventions related to Recursion's machine learning and artificial intelligence capabilities, cell perturbations, gene editing, drug discovery, drug development and hardware solutions. We also pursue a strategy of seeking patent protection on smaller discrete inventions throughout the breadth of our pipeline, ranging from experiment design, operations within our labs, data collection and analysis (including deep learning insights).
- **Recursion Program IP:** A breakdown of our Program IP portfolio is below:
  - REC-2282: We exclusively license OSIF's interest in patents and patent applications related to REC-2282 from OSIF; these patents and patent applications relate to composition of matter and methods of use treating cancer cachexia for REC-2282. Currently, we expect our licensed issued patents related to REC-2282 to generally expire between 2030 and 2035, excluding any patent term extension, or other mechanisms for effecting patent term, and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fee. With respect to NF-2, orphan drug exclusivity in the U.S. would run seven years from marketing authorization.
  - REC-994: We exclusively license UURF's interest in patents and patent applications related to use of REC-994 for treatment or prevention of CCM from UURF. Currently, we expect our licensed issued patents related to REC-994 to generally expire in 2035, excluding any patent term extension, or other mechanisms for effecting patent term, and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fee. With respect to CCM, orphan drug exclusivity in the U.S. would run seven years from marketing authorization.
  - REC-4881: We own patent applications, or exclusively license Takeda's interest in patents and patent applications from Takeda, related to composition of matter and methods of reducing polyp burden in people living with FAP using REC-4881. Currently, we expect our licensed issued patents related to REC-4881 to generally expire in 2029, excluding any patent term extension, or other mechanisms for effecting patent term, and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fee. With respect to FAP, orphan drug exclusivity in the U.S. would run seven years from marketing authorization.
  - REC-3964: We own a patent and patent applications related to the composition of matter and methods of inhibiting the toxin produced by *Clostridioides difficile* in the gastrointestinal tract using REC-3964. Currently, we expect our issued patent related to REC-3964 to expire no earlier than 2042, excluding any patent term adjustment or patent term extension, or other mechanisms for effecting patent term, and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fee.

- REC-617: We own patent applications related to REC-617; these patent applications relate to composition of matter and methods of treatment of multiple advanced solid tumor indications for REC-617. Upon issuance, we expect our patents resulting from these patent applications will expire no earlier than 2041, excluding any patent term extension, or other mechanisms for effecting patent term, and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fee.
- REC-1245: We own patent applications related to the composition of matter and methods of treating biomarker-enriched solid tumors and lymphoma using REC-1245. Upon issuance, we expect our patents resulting from these patent applications will expire no earlier than 2043, excluding any patent term adjustment or patent term extension, or other mechanisms for effecting patent term, and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fee.
- REC-3565: We own patent applications related to the composition of matter and methods of treating multiple hematology indications using REC-3565. Upon issuance, we expect our patents resulting from these patent applications will expire no earlier than 2041, excluding any patent term adjustment or patent term extension, or other mechanisms for effecting patent term, and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fee.
- REC-4539: We own a Patent Cooperation Treaty (PCT) application related to the composition of matter and methods of treating multiple hematology and solid tumor indications using REC-4539. Upon issuance of a national phase patent from our PCT application, we expect the resulting patents to expire no earlier than 2043, excluding any patent term adjustment or patent term extension, or other mechanisms for effecting patent term, and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fee.

The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. No consistent policy regarding the scope of claims allowable in patents in the field of biotechnology has emerged in the United States and in Europe, among other countries. Changes in the patent laws and rules, either by legislation, judicial decisions, or regulatory interpretation in other countries may diminish our ability to protect our inventions and enforce our intellectual property rights, and more generally could affect the value of our intellectual property. In particular, our ability to stop third parties from making, using, selling, offering to sell, importing, or otherwise commercializing any of our patented inventions, either directly or indirectly, will depend in part on our success in obtaining, defending and enforcing patent claims that cover our technology, inventions and improvements. With respect to both licensed and company-owned intellectual property, 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 platform and drug candidates and the methods used to manufacture them. Moreover, our issued patents and those that may issue in the future may not guarantee us the right to practice our technology in relation to the commercialization of our drug product candidates. The area of patent and other intellectual property rights in biotechnology is an evolving one with many risks and uncertainties, which may prevent us from commercializing our drug candidates and future drug candidates and practicing our proprietary technology.

Our issued patents and those that may issue in the future may be challenged, narrowed, circumvented, or invalidated, which could limit our ability to stop competitors from marketing related platforms or drug candidates or limit the length of the term of patent protection that we may have for our drug candidates, future drug candidates and platforms. In addition, the rights granted under any issued patents may not provide us with complete protection or competitive advantages against competitors with similar technology. Furthermore, our competitors may independently develop similar technologies that achieve similar outcomes but with different approaches. For these reasons, we may have competition for our drug candidates. Moreover, the time required for the development, testing and regulatory review of our candidate products may shorten the length of effective patent protection following commercialization. For this and other risks related to our proprietary technology, inventions, improvements, platforms and drug candidates, please see the section titled “Risk Factors—Risks Related to Our Intellectual Property.”

Our commercial success will also depend in part on not infringing upon the intellectual property and proprietary rights of third parties. It is uncertain whether the issuance of any third-party patent would require us to alter our development or commercial strategies for our products or processes or to obtain licenses or cease certain activities. Our breach of any license agreements or failure to obtain a license to proprietary rights that we may require to develop or commercialize our future products may have an adverse impact on us. If third parties prepare and file patent applications in the United States that also claim technology to which we have rights, we may have to participate in interference or derivation proceedings in the USPTO to determine priority of invention. For more information, please see “Risk Factors—Risks Related to Our Intellectual Property.”

Some of our pending patent applications in the United States are provisional patent applications. Provisional patent applications are not eligible to become issued patents until, among other things, we file a non-provisional patent application within 12 months of filing of one or more of our related provisional patent applications. If we do not timely file any non-provisional patent applications, we may lose our priority date with respect to our provisional patent applications and any patent protection on the inventions disclosed in our provisional patent applications. While we intend to timely file non-provisional patent applications relating to our provisional patent applications, we cannot predict whether any such patent applications will result in the issuance of patents that provide us with any competitive advantage.

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the earliest date of filing a nonprovisional patent application related to the patent. However, the actual protection afforded by a patent varies on a product-by-product basis, from country to country, and depends upon many factors, including the type of patent, the scope of its coverage, the availability of regulatory-related extensions, the availability of legal remedies in a particular country, and the validity and enforceability of the patent. A U.S. patent also may be accorded patent term adjustment, or PTA, under certain circumstances to compensate for delays in obtaining the patent from the USPTO. In some instances, such a PTA may result in a U.S. patent term extending beyond 20 years from the earliest date of filing a non-provisional patent application related to the U.S. patent. In addition, in the United States, the term of a U.S. patent that covers an FDA-approved drug may also be eligible for patent term extension (PTE), which permits patent term restoration as compensation for the patent term lost during the FDA regulatory review process. However, with respect to patent term extensions granted as a result of the FDA regulatory review period, the restoration period cannot be longer than five years, the total patent term including the restoration period must not exceed 14 years following FDA approval, only one patent applicable to each regulatory review period may be extended and only those issued claims covering the approved drug or a method for using it may be extended. We may not receive an extension if we fail to exercise due diligence during the testing phase or regulatory review process, fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. Moreover, the length of the extension could be less than we request. There can be no assurance that we will benefit from any patent term extension or favorable adjustment to the term of any of our patents.

Rapidly evolving patent laws in the United States and elsewhere make it difficult to predict the breadth of claims that may be allowed or enforced in our patents. Moreover, patent offices in general can require that patent applications concerning pharmaceutical and/or biotechnology-related inventions be limited or narrowed substantially to cover only the specific innovations exemplified in the patent application, thereby limiting the scope of protection against competitive challenges. Thus, even if we are able to obtain patents, the patents may be substantially narrower than anticipated.

Our ability to maintain and defend our intellectual property and proprietary position for our drug product candidates, methods of their use, and other proprietary technologies 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, may receive in the future, or license from third parties may be challenged, invalidated, held unenforceable, narrowed or circumvented, and the rights granted under any issued patents may not provide us with proprietary protection or competitive advantages against third parties, including our competitors, with similar technology. Furthermore, third parties, including our competitors, may be able to independently develop and commercialize similar drugs or products, or duplicate our technology, business model or strategy without infringing our patents.

## **Trademarks**

As of February 2025, our trademark portfolio comprises more than 70 registered trademarks or active trademark applications worldwide, among which we have issued trademarks in the U.S. for “Recursion” and “Recursion Pharmaceuticals.”

## **Trade Secrets**

In addition to our reliance on patent protection for our inventions, drug candidates and programs, we also rely on trade secrets, know-how, confidentiality agreements and continuing technological innovation to develop and maintain our competitive position. For example, some elements of manufacturing processes, proprietary assays, analytics techniques and processes, knowledge gained through clinical experience such as approaches to dosing and administration and management of patients, as well as computational-biological algorithms, and related processes and software, are based on unpatented trade secrets and know-how that are not publicly disclosed. Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees, advisors and consultants, these agreements may be breached, and we may not have adequate remedies for any breach. In addition, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology. As a result, we may not be able to meaningfully protect our trade secrets. It is our policy to require our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information concerning our business or financial affairs developed or made known to the individual or entity during the course of the party’s relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees, the agreements provide that all inventions conceived of by the individual during the course of employment, and which relate to or are reasonably capable of being used in our current or planned business or research and development are our exclusive property. In addition, we take other appropriate precautions, such as physical and technological security measures, to guard against the misappropriation of our proprietary technology by third parties. However, such agreements and policies may be breached, and we may not have adequate remedies for such breaches. For more information regarding the risks related to our intellectual property, see “Risk Factors—Risks Related to Our Intellectual Property.”

## **Government Regulation**

Government authorities in the United States at the federal, state and local level and in other countries regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of drug and

biological products. Generally, before a new drug can be marketed, considerable data demonstrating its quality, safety and efficacy must be obtained, organized into a format specific for each regulatory authority, submitted for review and approved by the relevant regulatory authority.

## U.S. Drug Development

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA. Drugs also are subject to other federal, state and local statutes and regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable United States requirements at any time during the product development process, approval process or post-market may subject an applicant to administrative or judicial sanctions. These sanctions could include, among other actions, the FDA's refusal to approve pending applications, withdrawal of an approval, a clinical hold, untitled or warning letters, product recalls or market withdrawals, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement and civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us.

- Our drug candidates are considered small molecule drugs and must be approved by the FDA through the new drug application, or NDA, process before they may be legally marketed in the United States. The process generally involves the following: completion of extensive preclinical studies in accordance with applicable regulations, including studies conducted in accordance with good laboratory practice, or GLP;
- submission to the FDA of an investigational new drug, or IND, application, which must become effective before human clinical trials in the U.S. may begin;
- approval by an independent institutional review board, or IRB, or ethics committee at each clinical trial site before each trial may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with applicable IND regulations, good clinical practice, or GCP, requirements and other clinical trial-related regulations to establish substantial evidence of the safety and efficacy of the investigational product for each proposed indication;
- submission to the FDA of an NDA;
- a determination by the FDA within 60 days of its receipt of an NDA to accept the filing for review;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities where the drug will be produced to assess compliance with cGMP requirements to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity;
- potential FDA audit of the preclinical study and/or clinical trial sites that generated the data in support of the NDA filing;
- payment of user fees for FDA review of the NDA;
- FDA review and approval of the NDA, including consideration of the views of any FDA advisory committee, prior to any commercial marketing or sale of the drug in the United States; and
- compliance with any post-approval requirements, including the potential requirement to implement a Risk Evaluation and Mitigation Strategy, or REMS, and the potential requirement to conduct post-approval studies.

The data required to support an NDA is generated in two distinct developmental stages: preclinical and clinical. The preclinical and clinical testing and approval process requires substantial time, effort and financial resources, and we cannot be certain that any approvals for any current and future drug candidates will be granted on a timely basis, or at all.

## Preclinical Studies and IND

Before testing any drug product candidate in humans, the product candidate must undergo rigorous preclinical testing. The conduct of preclinical studies is subject to federal regulations and requirements, including GLP and ICH regulations for safety/toxicology studies. The preclinical developmental stage generally involves laboratory evaluations of drug chemistry, formulation and stability, as well as studies to evaluate toxicity in animals, which support subsequent clinical testing. The sponsor must submit the results of the preclinical studies, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND. An IND is a request for authorization from the FDA to administer an investigational product to humans and must become effective before human clinical trials may begin.

Preclinical studies include laboratory evaluation of product chemistry and formulation, as well as in vitro and animal studies to assess the potential for adverse events and in some cases to establish a rationale for therapeutic use. The conduct of preclinical studies is subject to federal regulations and requirements, including GLP regulations for safety/toxicology studies. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical studies, among other things, to the FDA as part of an IND. Some long-term preclinical testing, such as animal tests of reproductive adverse events and carcinogenicity, may continue after the IND is submitted. An IND automatically becomes effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions related to one or more proposed clinical trials and places the trial on clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials, which are generally required for FDA approval of an NDA, to commence. A



separate submission to an existing IND must also be made for each successive clinical trial conducted during product development along with any subsequent changes to the investigational plan. Some long-term nonclinical testing, such as animal tests of reproductive adverse events and carcinogenicity, may continue after the IND is submitted.

## Clinical Trials

The clinical stage of development involves the administration of the investigational product to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control, in accordance with GCP requirements, which include the requirement that all research subjects provide their informed consent for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria and the parameters to be used to monitor subject safety and assess efficacy. Each protocol, and any subsequent amendments to the protocol, must be submitted to the FDA as part of the IND. Furthermore, each clinical trial must be reviewed and approved by an IRB for each institution at which the clinical trial will be conducted to ensure that the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB must also approve the informed consent form that must be provided to each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed. There also are requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries.

A sponsor who wishes to conduct a clinical trial outside of the United States may, but need not, obtain FDA authorization to conduct the clinical trial under an IND. If a foreign clinical trial is not conducted under an IND, the sponsor may submit data from the clinical trial to the FDA in support of an NDA. The FDA will generally accept a well-designed and well-conducted foreign clinical trial not conducted under an IND if the trial was conducted in accordance with GCP and GMP requirements, and the FDA is able to validate the data through an onsite inspection, if deemed necessary, and the practice of medicine in the foreign country is consistent with the United States.

Clinical trials in the United States generally are conducted in three sequential phases, known as Phase 1, Phase 2 and Phase 3, and may overlap.

- Phase 1 clinical trials generally involve a small number of healthy volunteers or disease-affected patients who are initially exposed to a single dose and then multiple doses of the drug candidate. The primary purpose of these clinical trials is to assess the metabolism, pharmacologic action, tolerability and safety of the drug, the side effects associated with increasing doses, and if possible to gain early evidence on effectiveness.
- Phase 2 clinical trials involve studies in disease-affected patients to determine the dose and dosing schedule required to produce the desired benefits. At the same time, safety and further pharmacokinetic and pharmacodynamic information are collected, possible adverse effects and safety risks are identified, and a preliminary evaluation of efficacy is conducted.
- Phase 3 clinical trials generally involve a large number of patients at multiple sites and are designed to provide the data necessary to demonstrate the effectiveness of the product for its intended use, its safety in use and to establish the overall benefit/risk relationship of the product and provide an adequate basis for product approval. These trials may include comparisons with placebo and/or other comparator treatments. The duration of treatment is often extended to mimic the actual use of a product during marketing.

Post-approval trials, sometimes referred to as Phase 4 clinical trials, are conducted after initial marketing approval. These trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, the FDA may mandate the performance of Phase 4 clinical trials as a condition of approval of an NDA.

Progress reports detailing the results of the clinical trials, among other information, must be submitted at least annually to the FDA. The sponsor is also responsible for submitting written IND safety reports, including reports of serious and unexpected suspected adverse events, findings from other studies suggesting a significant risk to humans exposed to the drug, findings from animal or in vitro testing that suggest a significant risk for human subjects, and any clinically significant increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure.

Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients. Additionally, some clinical trials are overseen by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether a trial may move forward at designated checkpoints based on access to certain data from the trial.

Concurrent with clinical trials, companies usually complete additional animal safety studies and also must develop additional information about the chemistry and physical characteristics of the drug as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process, as performed by the

manufacturing facility, must be capable of consistently producing quality batches of our drug candidates. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that our drug candidates do not undergo unacceptable deterioration over their labeled shelf life.

## **NDA Review Process**

Following completion of the clinical trials, data is analyzed to assess whether the investigational product is safe and effective for the proposed indicated use or uses. The results of preclinical studies and clinical trials are then submitted to the FDA as part of an NDA, along with proposed labeling, chemistry, and manufacturing information to ensure product quality and other relevant data. In short, the NDA is a request for approval to market the drug in the United States for one or more specified indications and must contain proof of safety and efficacy for a drug.

The application must include both negative and ambiguous results of preclinical studies and clinical trials, as well as positive findings. Data may come from company-sponsored clinical trials intended to test the safety and efficacy of a product's use or from a number of alternative sources, including studies initiated by investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and efficacy of the investigational product to the satisfaction of the FDA. FDA approval of an NDA must be obtained before a drug may be legally marketed in the United States.

Under the Prescription Drug User Fee Act, or PDUFA, as amended, each NDA must be accompanied by a user fee. FDA adjusts the PDUFA user fees on an annual basis. PDUFA also imposes an annual program fee for each marketed human drug. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. Additionally, no user fees are assessed on NDAs for products designated as orphan drugs, unless the product also includes a non-orphan indication.

The FDA reviews all submitted NDAs before it accepts them for filing and may request additional information rather than accepting the NDA for filing. The FDA must make a decision on accepting an NDA for filing within 60 days of receipt. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA. Under the goals and policies agreed to by the FDA under PDUFA, the FDA has ten months, from the filing date, in which to complete its initial review of a new molecular-entity NDA and respond to the applicant, and six months from the filing date of a new molecular-entity NDA designated for priority review. The FDA does not always meet its PDUFA goal dates for standard and priority NDAs, and the review process is often extended by FDA requests for additional information or clarification.

Before approving an NDA, the FDA will conduct a pre-approval inspection of the manufacturing facilities for the new product to determine whether they comply with cGMP requirements. The FDA will not approve the product 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 FDA also may audit data from clinical trials to ensure compliance with GCP requirements. Additionally, the FDA may refer applications for novel drug products or drug products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions, if any. The FDA is not bound by recommendations of an advisory committee, but it considers such recommendations when making decisions on approval. The FDA likely will reanalyze the clinical trial data, which could result in extensive discussions between the FDA and the applicant during the review process. After the FDA evaluates an NDA, it will issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. A Complete Response Letter indicates that the review cycle of the application is complete, and the application will not be approved in its present form. A Complete Response Letter usually describes all of the specific deficiencies in the NDA identified by the FDA. The Complete Response Letter may require additional clinical data, additional pivotal Phase 3 clinical trial(s) and/or other significant and time-consuming requirements related to clinical trials, preclinical studies and/or manufacturing. If a Complete Response Letter is issued, the applicant may either resubmit the NDA, addressing all of the deficiencies identified in the letter, or withdraw the application. Even if such data and information are submitted, the FDA may decide that the NDA does not satisfy the criteria for approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than we interpret the same data.

Under the Pediatric Research Equity Act, or PREA, NDAs or supplements to NDAs must contain data to assess the safety and effectiveness of the drug for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the drug is safe and effective. The FDA may grant full or partial waivers, or deferrals, for submission of data.

The Best Pharmaceuticals for Children Act, or BPCA, provides NDA holders a six-month extension of any exclusivity—patent or non-patent—for a drug if certain conditions are met. Conditions for exclusivity include the FDA's determination that information relating to the use of a new drug in the pediatric population may produce health benefits in that population, the FDA making a written request for pediatric studies and the applicant agreeing to perform, and reporting on, the requested studies within the statutory timeframe. Applications under the BPCA are treated as priority applications, with all of the benefits that designation confers.

## Orphan Drugs

Under the Orphan Drug Act, the FDA may grant an orphan designation to a drug or biological product intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making the product available in the United States for this type of disease or condition will be recovered from sales of the product.

Orphan drug designation must be requested before submitting an NDA. After the FDA grants orphan drug designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan drug exclusivity, which means that the FDA may not approve any other applications to market the same drug for the same indication for seven years from the date of such approval, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity by means of greater effectiveness, greater safety, or providing a major contribution to patient care or in instances of drug supply issues. However, competitors may receive approval of either a different product for the same indication or the same product for a different indication but that could be used off-label in the orphan indication. Orphan drug exclusivity also could block the approval of one of our products for seven years if a competitor obtains approval before we do for the same product, as defined by the FDA, for the same indication we are seeking approval, or if a drug candidate is determined to be contained within the scope of the competitor's product for the same indication. If one of our products designated as an orphan drug receives marketing approval for an indication broader than that which is designated, it may not be entitled to orphan drug exclusivity. Orphan drug status in the European Union has similar, but not identical, requirements and benefits.

## Expedited Development and Review Programs

The FDA has a fast track program that is intended to expedite or facilitate the process for reviewing new drugs that meet certain criteria. Specifically, new drugs are eligible for fast track designation if they are intended to treat a serious or life-threatening condition and preclinical or clinical data demonstrate the potential to address unmet medical needs for the condition. Fast track designation applies to both the product and the specific indication for which it is being studied. The sponsor can request the FDA to designate the product for fast track status any time before receiving NDA approval, but ideally no later than the pre-NDA meeting with the FDA.

Any product submitted to the FDA for marketing, including under a fast track program, may be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. Any product is eligible for priority review if it treats a serious or life-threatening condition and, if approved, would provide a significant improvement in safety and effectiveness compared to available therapies.

A product may also be eligible for accelerated approval, if it treats a serious or life-threatening condition and generally provides a meaningful advantage over available therapies. In addition, it must demonstrate an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, or IMM, which is reasonably likely to predict an effect on IMM or other clinical benefit. As a condition of approval, the FDA may require that a sponsor of a drug receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. FDA may withdraw drug approval or require changes to the labeled indication of the drug if confirmatory post-market trials fail to verify clinical benefit or do not demonstrate sufficient clinical benefit to justify the risks associated with the drug. If the FDA concludes that a drug shown to be effective can be safely used only if distribution or use is restricted, it may require such post-marketing restrictions as it deems necessary to assure safe use of the product.

Additionally, a drug may be eligible for designation as a breakthrough therapy if the product is intended, alone or in combination with one or more other drugs or biologics, to treat a serious or life-threatening condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over currently approved therapies on one or more clinically significant endpoints. The benefits of breakthrough therapy designation include the same benefits as fast track designation, plus intensive guidance from the FDA to ensure an efficient drug development program. Fast track designation, priority review, accelerated approval and breakthrough therapy designations do not change the standards for approval, but may expedite the development or approval process.

## Post-approval Requirements

Following approval of a new product, the manufacturer and the approved product are subject to continuing regulation by the FDA, including, among other things, monitoring and record-keeping requirements, requirements to report adverse events and comply with promotion and advertising requirements, which include restrictions on promoting drugs for unapproved uses or patient populations, known as "off-label promotion," and limitations on industry-sponsored scientific and educational activities. Although physicians may prescribe legally available drugs for off-label uses, manufacturers may not market or promote such uses. Prescription drug promotional materials must be submitted to the FDA in conjunction with their first use. Further, if there are

any modifications to the drug, including changes in indications, labeling, or manufacturing processes or facilities, the applicant may be required to submit and obtain FDA approval of a new NDA or NDA supplement, which may require the development of additional data or preclinical studies and clinical trials.

The FDA may also place other conditions on approvals including the requirement for REMS, to assure the safe use of the product. A REMS could include medication guides, physician communication plans or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. Any of these limitations on approval or marketing could restrict the commercial promotion, distribution, prescription or dispensing of products. Product approvals may be withdrawn for non-compliance with regulatory standards or if problems occur following initial marketing.

FDA regulations require that products be manufactured in specific approved facilities and in accordance with cGMP regulations. Manufacturers must comply with cGMP regulations that require, among other things, quality control and quality assurance, the maintenance of records and documentation, and the obligation to investigate and correct any deviations from cGMP. Manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP requirements and other laws. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain cGMP compliance. The discovery of violative conditions, including failure to conform to cGMP regulations, could result in enforcement actions, and the discovery of problems with a product after approval may result in restrictions on a product, its manufacturer or the NDA holder, including recalls.

The FDA may withdraw 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 studies to assess new safety risks or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

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

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

## **FDA Regulation of Companion Diagnostics**

Safe and effective use of a therapeutic product may rely upon an in vitro companion diagnostic for use in selecting the patients that will be more likely to respond to that therapy. If an in vitro diagnostic is essential to the safe and effective use of the therapeutic product and if the manufacturer wishes to market or distribute such diagnostic for use as a companion diagnostic, then the FDA will require separate approval or clearance of the diagnostic as a companion diagnostic to the therapeutic product. According to FDA guidance, an unapproved or uncleared companion diagnostic device used to make treatment decisions in clinical trials of a drug generally will be considered an investigational medical device unless it is employed for an intended use for which the device is already approved or cleared. If used to make critical treatment decisions, such as patient selection, the diagnostic device generally will be considered a significant risk device under the FDA's Investigational Device Exemption, or IDE, regulations. The sponsor of the diagnostic device will be required to comply with the IDE regulations for clinical studies involving the investigational diagnostic device. According to the guidance, if a diagnostic device and a drug are to be studied together to support their respective approvals, both products can be studied in the same clinical trial, if the trial meets both the requirements of the IDE regulations and the IND regulations. The guidance provides that depending on the details of the clinical trial protocol, the investigational product(s), and subjects involved, a sponsor may seek to submit an IDE alone (e.g., if the drug has already been approved by FDA and is used consistent with its approved labeling), or both an IND and an IDE.

Pursuing FDA approval/clearance of an in vitro companion diagnostic would require either a pre-market notification, also called 510(k) clearance, or a pre-market approval, or PMA, or a de novo classification for that diagnostic. The review of companion diagnostics involves coordination of review with the FDA's Center for Devices and Radiological Health.



## 510(k) Clearance Process

To obtain 510(k) clearance, a pre-market notification is submitted to the FDA demonstrating that the proposed device is substantially equivalent to a previously cleared 510(k) device or a device that was in commercial distribution before May 28, 1976 for which the FDA has not yet required the submission of a PMA application. The FDA's 510(k) clearance process may take three to 12 months from the date the application is submitted and filed with the FDA, but may take longer if FDA requests additional information, among other reasons. In some cases, the FDA may require clinical data to support substantial equivalence. In reviewing a pre-market notification submission, the FDA may request additional information, which may significantly prolong the review process. Notwithstanding compliance with all these requirements, clearance is never assured.

After a device receives 510(k) clearance, any subsequent modification of the device that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, will require a new 510(k) clearance or require a PMA. In addition, the FDA may make substantial changes to industry requirements, including which devices are eligible for 510(k) clearance, which may significantly affect the process.

## De Novo Classification Process

If a new medical device does not qualify for the 510(k) pre-market notification process because no predicate device to which it is substantially equivalent can be identified, the device is automatically classified into Class III. The Food and Drug Administration Modernization Act of 1997 established a different route to market for low to moderate risk medical devices that are automatically placed into Class III due to the absence of a predicate device, called the "Request for Evaluation of Automatic Class III Designation," or the de novo classification process. This process allows a manufacturer whose novel device is automatically classified into Class III to request down-classification of its medical device into Class I or Class II on the basis that the device presents a low or moderate risk, rather than requiring the submission and approval of a PMA. If the manufacturer seeks reclassification into Class II, the manufacturer must include a draft proposal for special controls that are necessary to provide a reasonable assurance of the safety and effectiveness of the medical device. The FDA may reject the reclassification petition if it identifies a legally marketed predicate device that would be appropriate for a 510(k) or determines that the device is not low to moderate risk and requires PMA or that general controls would be inadequate to control the risks and special controls cannot be developed.

Obtaining FDA marketing authorization, de novo down-classification, or approval for medical devices is expensive and uncertain, may take several years and generally requires significant scientific and clinical data.

## PMA Process

The PMA process, including the gathering of clinical and nonclinical data and the submission to and review by the FDA, can take several years or longer. The applicant must prepare and provide the FDA with reasonable assurance of the device's safety and effectiveness, including information about the device and its components regarding, among other things, device design, manufacturing and labeling. PMA applications are subject to an application fee. In addition, PMAs for medical devices must generally include the results from extensive preclinical and adequate and well-controlled clinical trials to establish the safety and effectiveness of the device for each indication for which FDA approval is sought. In particular, for a diagnostic, the applicant must demonstrate that the diagnostic produces reproducible results. As part of the PMA review, the FDA will typically inspect the manufacturer's facilities for compliance with the Quality System Regulation, or QSR, which imposes extensive testing, control, documentation and other quality assurance and GMP requirements.

After a device is placed on the market, it remains subject to significant regulatory requirements. Among other requirements, medical devices may be marketed only for the uses and indications for which they are cleared or approved, device manufacturers must establish registration and device listings with the FDA and a medical device manufacturer's manufacturing processes and those of its suppliers are required to comply with the applicable portions of the Quality System Regulation, or QSR, which cover the methods and documentation of the design, testing, production, processes, controls, quality assurance, labeling, packaging and shipping of medical devices. Domestic facility records and manufacturing processes are subject to periodic unscheduled inspections by the FDA and the FDA also may inspect foreign facilities that export products to the U.S.

## Other U.S. Regulatory Matters

- Our current and future arrangements with healthcare providers, third-party payors, customers and others may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations, which may constrain the business or financial arrangements and relationships through which we research, as well as, sell, market and distribute any products for which we obtain marketing approval. The applicable federal, state and foreign healthcare laws and regulations that may affect our ability to operate include, but are not limited to: the federal Anti-Kickback Statute, which makes it illegal for any person, including a prescription drug or medical device manufacturer (or a party acting on its behalf), to knowingly and willfully solicit, receive, offer or pay any remuneration that is intended to induce or reward referrals, including the purchase, recommendation, order or prescription of a particular drug, for which payment may be made under a federal healthcare program, such as Medicare or Medicaid. Moreover, the ACA (as defined below) provides that the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act;

- The federal criminal False Claims Act and Civil Monetary Penalties Laws, and the civil False Claims Act that can be enforced by private citizens through civil whistleblower or qui tam actions, 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 or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government and/or impose exclusions from federal health care programs and/or penalties for parties who engage in such prohibited conduct;
- The Federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, prohibits, among other things, 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 implementing regulations also impose obligations on covered entities such as health insurance plans, healthcare clearinghouses and certain health care providers and their respective business associates, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- the FD&C Act, which prohibits, among other things, the adulteration or misbranding of drugs, biologics and medical devices;
- The federal Physician Payments Sunshine Act requires applicable manufacturers of covered drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to annually report to Centers for Medicare & Medicaid Services, or CMS, information regarding certain payments and other transfers of value to physicians and teaching hospitals as well as information regarding ownership and investment interests held by physicians and their immediate family members; and
- Analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, state laws that require biotechnology companies to comply with the biotechnology industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government; state and local laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures and require the registration of their sales representatives, state laws that require biotechnology companies to report information on the pricing of certain drug products and state and foreign laws that 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.

Pricing and rebate programs must also comply with the Medicaid rebate requirements of the U.S. Omnibus Budget Reconciliation Act of 1990 and more recent requirements in the Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the "ACA"). If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply. Manufacturing, sales, promotion and other activities also are potentially subject to federal and state consumer protection and unfair competition laws. In addition, the distribution of pharmaceutical and/or medical device products is subject to additional requirements and regulations, including extensive record-keeping, licensing, storage and security requirements intended to prevent the unauthorized sale of pharmaceutical and/or medical device products. Products must meet applicable child-resistant packaging requirements under the U.S. Poison Prevention Packaging Act as well as other applicable consumer safety requirements.

The failure to comply with any of these laws or regulatory requirements subjects firms to possible legal or regulatory action. Depending on the circumstances, failure to meet applicable regulatory requirements can result in significant civil, criminal and administrative penalties, including damages, fines, disgorgement, imprisonment, exclusion from participation in government funded healthcare programs, such as Medicare and Medicaid, integrity oversight and reporting obligations, contractual damages, reputational harm, diminished profits and future earnings, injunctions, requests for recall, seizure of products, total or partial suspension of production, denial or withdrawal of product approvals or refusal to allow a firm to enter into supply contracts, including government contracts.

## **U.S. Patent-Term Restoration and Marketing Exclusivity**

Depending upon the timing, duration and specifics of FDA approval of any future drug candidates, some of our U.S. patents may be eligible for limited patent term extension under the Hatch-Waxman Act. The Hatch-Waxman Act permits restoration of the patent term of up to five years as compensation for patent term lost during product development and FDA regulatory review process. Patent-term restoration, however, cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent-term restoration period is generally one-half the time between the effective date of an IND or the issue date of the patent, whichever is later, and the submission date of an NDA plus the time between the submission date of an NDA or the issue date of the patent, whichever is later, and the approval of that application, except that the review period is reduced by any time during which the applicant failed to exercise due diligence. Only one patent applicable to an approved drug, a method for using it, or a method of manufacturing it, is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. The USPTO, in consultation with the FDA, reviews and approves the application

for any patent term extension or restoration. In the future, if and when our products receive FDA approval, we may apply for restoration of patent term for our currently owned or licensed patents covering products eligible for patent term extension to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant NDA. Similar provisions are available in Europe and certain other jurisdictions to extend the term of a patent that covers an approved drug. We may seek patent term extension for any of our issued or licensed patents in any jurisdiction where these are available; however, there is no guarantee that the applicable authorities, including the FDA in the United States, will agree with our assessment of whether such extensions should be granted, and if granted, the length of such extensions.

Market exclusivity provisions under the FDCA also can delay the submission or the approval of certain applications. The FDCA provides a five-year period of non-patent marketing exclusivity within the United States to the first applicant 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 is the molecule or ion responsible for the action of the drug substance. During the exclusivity period, the FDA may not accept for review an abbreviated new drug application, or ANDA, or a 505(b)(2) NDA submitted by another company for a generic version of such drug where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement. The FDCA also provides three years of marketing exclusivity for an NDA, 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 applicant are deemed by the FDA to be essential to the approval of the application, for example, new indications, dosages or strengths of an existing drug. This three-year exclusivity covers only the conditions of use associated with the new clinical investigations and does not prohibit the FDA from approving ANDAs for drugs containing the original active agent. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA. However, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to all of the preclinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness or generate such data themselves.

## European Union Drug Development

Similar to the United States, the various phases of preclinical and clinical research in the European Union are subject to significant regulatory controls. Although the EU Clinical Trials Directive 2001/20/EC has sought to harmonize the EU clinical trials regulatory framework, setting out common rules for the control and authorization of clinical trials in the EU, the EU Member States have transposed and applied the provisions of the Directive differently. This has led to significant variations in the member state regimes. Under the current regime, before a clinical trial can be initiated, it must be approved in each of the EU countries where the trial is to be conducted by two distinct bodies: the National Competent Authority, NCA, and one or more Ethics Committees, or ECs. Under the current regime all suspected unexpected serious adverse reactions to the investigated drug that occur during the clinical trial have to be reported to the NCA and ECs of the Member State where they occurred.

The EU clinical trials legislation currently is undergoing a transition process mainly aimed at harmonizing and streamlining clinical-trial authorization, simplifying adverse-event reporting procedures, improving the supervision of clinical trials and increasing their transparency. Recently enacted Clinical Trials Regulation EU No 536/2014 ensures that the rules for conducting clinical trials in the EU will be identical. In the meantime, Clinical Trials Directive 2001/20/EC continues to govern all clinical trials performed in the EU.

## European Union Drug Review and Approval

In the European Economic Area, or EEA, which is composed of the 28 Member States of the European Union and three European Free Trade Association States (Norway, Iceland and Liechtenstein), medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA. There are two types of marketing authorizations.

- The Community MA is issued by the European Commission through the Centralized Procedure, based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, of the EMA, and is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products, advanced-therapy medicines such as gene-therapy, somatic cell-therapy or tissue-engineered medicines and medicinal products containing a new active substance indicated for the treatment of HIV, AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and other immune dysfunctions and viral diseases. The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific, or technical innovation or which are in the interest of public health in the EU.
- National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in another Member States through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure. Under the Decentralized Procedure an identical dossier is submitted to the competent authorities of each of the Member States in which the MA is sought, one of which is selected by the applicant as the Reference Member State, or RMS. The competent authority of the RMS prepares a draft assessment report, a

draft summary of the product characteristics, or SOPC, and a draft of the labeling and package leaflet, which are sent to the other Member States (referred to as the Member States Concerned) for their approval. If the Member States Concerned raise no objections, based on a potential serious risk to public health, to the assessment, SOPC, labeling or packaging proposed by the RMS, the product is subsequently granted a national MA in all the Member States (i.e., in the RMS and the Member States Concerned).

Under the above described procedures, before granting the MA, EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy. Similar to the U.S. patent term-restoration, Supplementary Protection Certificates, or SPCs, serve as an extension to a patent right in Europe for up to five years. SPCs apply to specific pharmaceutical products to offset the loss of patent protection due to the lengthy testing and clinical trials these products require prior to obtaining regulatory marketing approval.

## **Coverage and Reimbursement**

Sales of our products will depend, in part, on the extent to which our products will be covered by third-party payors, such as government health programs, commercial insurance and managed healthcare organizations. There is significant uncertainty related to third-party payor coverage and reimbursement of newly approved products. In the United States, for example, principal decisions about reimbursement for new products are typically made by CMS. CMS decides whether and to what extent a new product will be covered and reimbursed under Medicare, and private third-party payors often follow CMS's decisions regarding coverage and reimbursement to a substantial degree. However, no uniform policy of coverage and reimbursement for drug products exists. Accordingly, decisions regarding the extent of coverage and amount of reimbursement to be provided for any of our products will be made on a payor-by-payor basis.

Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Further, such payors are increasingly challenging the price, examining the medical necessity and reviewing the cost effectiveness of medical drug candidates. There may be especially significant delays in obtaining coverage and reimbursement for newly approved drugs. Third-party payors may limit coverage to specific drug candidates on an approved list, known as a formulary, which might not include all FDA-approved drugs for a particular indication. We may need to conduct expensive pharmaco-economic studies to demonstrate the medical necessity and cost effectiveness of our products. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be obtained.

In addition, companion diagnostic tests require coverage and reimbursement separate and apart from the coverage and reimbursement for their companion pharmaceutical or biological products. Similar challenges to obtaining coverage and reimbursement, applicable to pharmaceutical or biological products, will apply to companion diagnostics.

In addition, in most foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing and reimbursement vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. 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 of our products. Historically, products launched in the European Union do not follow the price structures of the United States and generally prices tend to be significantly lower.

## **Healthcare Reform**

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or MMA, established the Medicare Part D program to provide a voluntary prescription drug benefit to Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities that provide coverage of outpatient prescription drugs. Unlike Medicare Part A and B, Part D coverage is not standardized. While all Medicare drug plans must give at least a standard level of coverage set by Medicare, Part D prescription drug plan sponsors are not required to pay for all covered Part D drugs, and each drug plan can develop its own drug formulary that identifies which drugs it will cover and at what tier or level. However, Part D prescription drug formularies must include drugs within each therapeutic category and class of covered Part D drugs, though not necessarily all the drugs in each category or class. Any formulary used by a Part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs may increase demand for products for which we receive marketing approval. However, any negotiated prices for our products covered by a Part D prescription drug plan likely will be lower than the prices we might otherwise obtain. Moreover, while the MMA applies only to drug benefits for Medicare beneficiaries, private third-party payors often follow Medicare coverage policy and payment limitations in setting their own payment rates.



The United States government, state legislatures and foreign governments have shown significant interest in implementing cost containment programs to limit the growth of government-paid healthcare costs, including price-controls, restrictions on reimbursement and requirements for substitution of generic products for branded prescription drugs. For example, the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively, the ACA, was passed which substantially changed the way healthcare is financed by both the government and private insurers, and significantly impacts the U.S. pharmaceutical industry. The ACA contains provisions that may reduce the profitability of drug products through increased rebates for drugs reimbursed by Medicaid programs, extension of Medicaid rebates to Medicaid managed care plans, mandatory discounts for certain Medicare Part D beneficiaries and annual fees based on pharmaceutical companies' share of sales to federal health care programs. The Medicaid Drug Rebate Program requires pharmaceutical manufacturers to enter into and have in effect a national rebate agreement with the U.S. Department of Health and Human Services, or HHS, Secretary as a condition for states to receive federal matching funds for the manufacturer's outpatient drugs furnished to Medicaid patients. The ACA made several changes to the Medicaid Drug Rebate Program, including increasing pharmaceutical manufacturers' rebate liability by raising the minimum basic Medicaid rebate on most branded prescription drugs from 15.1% of average manufacturer price, or AMP, to 23.1% of AMP and adding a rebate calculation for "line extensions" (i.e., new formulations, such as extended release formulations) of solid oral dosage forms of branded products, as well as potentially impacting their rebate liability by modifying the statutory definition of AMP. The ACA also expanded the universe of Medicaid utilization subject to drug rebates by requiring pharmaceutical manufacturers to pay rebates on Medicaid managed care utilization and by enlarging the population potentially eligible for Medicaid drug benefits. Additionally, for a drug product to receive federal reimbursement under the Medicaid or Medicare Part B programs or to be sold directly to U.S. government agencies, the manufacturer must extend discounts to entities eligible to participate in the 340B drug pricing program. The required 340B discount on a given product is calculated based on the AMP and Medicaid rebate amounts reported by the manufacturer.

Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the ACA have passed.

On November 20, 2020, the HHS Office of Inspector General ("OIG") issued a final rule eliminating the federal Anti-Kickback Statute safe harbors for rebates paid by manufacturers to Medicare Part D plan sponsors, Medicaid managed care organizations, and those entities' pharmacy benefit managers, the purpose of which is to further reduce the cost of drug products to consumers. OIG created two safe harbors for certain point-of-sale reductions in price on prescription pharmaceutical products and certain pharmacy benefit manager service fees. On December 2, 2020, OIG and CMS each issued a final rule that set forth modifications to the federal Anti-Kickback Statute, Civil Monetary Penalties Law and Physician Self-Referral Law (or the Stark Law) (respectively) regulations to remove regulatory barriers to value-based care arrangements. CMS's final rule also clarifies and updates certain long-standing terms that appear throughout the Stark Law regulations.

Other legislative changes have been proposed and adopted in the United States since the ACA was enacted. These changes included aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, effective April 1, 2013, which, due to subsequent legislative amendments, will stay in effect through 2029 unless additional congressional action is taken. The American Taxpayer Relief Act of 2012 was signed into law, which, among other things, reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on customers for our drugs, if approved, and accordingly, our financial operations.

Additionally, there has been heightened governmental scrutiny recently over the manner in which drug manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs and reform government program reimbursement methodologies for drug products. For example, the federal Inflation Reduction Act, signed into law on August 16, 2022, contains multiple provisions that could have an adverse effect on our ability to generate revenue, attain profitability, or commercialize our drug candidates if approved, as the statute includes provisions intended to reduce the cost of prescription drugs under Medicare. In addition to the direct impact of the IRA on federal drug reimbursement, the statute may also lead to similar reductions in payments from private payers. Various members of the current U.S. Congress have indicated that lowering drug prices continues to be a legislative and political priority, and some have introduced other proposals aimed at drug pricing. Similarly, at the state level, legislatures have increasingly passed legislation and implemented 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.

## **Available Information**

Our principal executive office is located at 41 S Rio Grande Street, Salt Lake City, UT 84101. Our telephone number is (385) 269-0203.

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, or the Exchange Act, are available free of charge on our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Our website is [www.recursion.com](http://www.recursion.com). Investors and others should note that we announce material financial and other information to our investors using our investor relations website (<https://ir.recursion.com/>), SEC filings, press releases, public conference calls and webcasts. We use these channels as well as social media and blogs to communicate with our stakeholders and the public about our company, our services and other issues. It is possible that the information we post on social media and blogs could be deemed to be material information. Therefore, we encourage investors, the media and others interested in our company to review the information we post on the social media channels and blogs listed on our investor relations website. Information contained in, or that can be accessed through, our website is not a part of, and is not incorporated into, this report.

This report includes citations to information published by third parties, including academic and industry research, publications, surveys, and studies. While we believe that such information is reliable, we have not separately verified such information, and such information is not a part of, and is not incorporated into, this report.



ITEM 1A

# RISK FACTORS



## Item 1A. Risk Factors.

*You should carefully consider the risks and uncertainties described below, together with all of the other information contained in this Annual Report on Form 10-K and our other public filings with the SEC, before making investment decisions regarding our common stock. The risks described below are not the only risks we face. The occurrence of any of the following risks, or of additional risks and uncertainties not presently known to us or that we currently believe to be immaterial, could cause our business, prospects, operating results, and financial condition to be materially and adversely affected.*

### **RISKS RELATED TO OUR LIMITED OPERATING HISTORY, FINANCIAL POSITION, AND NEED FOR ADDITIONAL CAPITAL**

***We are a clinical-stage biotechnology company with a limited operating history and no products approved by regulators for commercial sale, which may make it difficult to evaluate our current and future business prospects.***

Since our inception in November 2013, we have focused substantially all of our efforts and financial resources on building our drug discovery platform and developing our initial drug candidates. All of our drug candidates are still in the discovery, preclinical development, or clinical stages. Before we can commercialize our drug candidates, they require, among other steps, clinical success; development of internal or external manufacturing capacity and marketing expertise; and regulatory approval by the U.S. Food and Drug Administration (FDA) and other applicable jurisdictions. We have no products approved for commercial sale and we can provide no assurance that we will obtain regulatory approvals to market and sell any drug products in the future. We therefore have never generated any revenue from drug product sales, and we do not expect to generate any revenue from drug product sales in the foreseeable future. Until we successfully develop and commercialize drug candidates, which may never occur, we expect to finance our operations through a combination of equity offerings, debt financings, and strategic collaborations or similar arrangements. Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. For these and other reasons discussed elsewhere in this Risk Factors section, it may be difficult to evaluate our current business and our future prospects.

***We have incurred significant operating losses since our inception and anticipate that we will incur continued losses for the foreseeable future.***

We have incurred net losses in each year since our inception. We had an accumulated deficit of \$1.4 billion as of December 31, 2024. Substantially all of our operating losses have resulted from costs incurred in connection with research and development efforts, including clinical studies, and from general and administrative costs associated with our operations. We expect our operating expenses to significantly increase as we continue to invest in research and development efforts and the commencement and continuation of clinical trials of our existing and future drug candidates. We also continue to incur additional costs associated with operating as a public company. As a result, we expect to continue to incur substantial and increasing operating losses for the foreseeable future. Our prior losses, combined with expected future losses, have had, and will continue to have, an adverse effect on our stockholders' deficit and working capital. Because of the numerous risks and uncertainties associated with developing pharmaceutical products and new technologies, we are unable to predict the extent of any future losses or when we will become profitable, if at all. Even if we do become profitable, we may not be able to sustain or increase our profitability on a quarterly or annual basis.

***We will need to raise substantial additional funding. If we are unable to raise capital when needed, we would be forced to delay, reduce, or eliminate at least some of our product development programs, business development plans, strategic investments, and potential commercialization efforts, and to possibly cease operations.***

Our mission, decoding biology to radically improve lives, is broad, expensive to achieve, and will require substantial additional capital in the future. We have programs throughout the stages of development including clinical, preclinical, late discovery and early discovery. We expect our expenses to increase in connection with our ongoing activities as we continue the research and development of, initiate clinical trials of, and potentially seek marketing approval for, our current drug candidates, and as we add to our pipeline what we believe will be an accelerating number of additional programs. Preclinical and clinical testing is expensive and can take many years, so we will



need supplemental funding to complete these undertakings. If our drug candidates are eventually approved by regulators, we will require significant additional funding in order to launch and commercialize our products.

Our future capital requirements will depend on, and could increase significantly as a result of, many factors, including but not limited to the following:

- the number of drug candidates that we pursue and their development requirements;
- the scope, progress, results, and costs of our current and future preclinical and clinical trials;
- the costs, timing, and outcome of regulatory review of our drug candidates;
- if we obtain marketing approval for any current or future drug candidates, expenses related to product sales, marketing, manufacturing, and distribution;
- our ability to establish and maintain collaborations, licensing, and other strategic arrangements on favorable terms, and the success of and timing and receipts of payments from such collaborations, licensing, and strategic arrangements;
- the impact of any business interruptions to our operations or to the operations of our manufacturers, suppliers, or other vendors, including the timing and enrollment of participants in our planned clinical trials, resulting from global supply chain issues or other force majeure events;
- the extent to which we acquire or invest in businesses, products, and technologies;
- the costs of preparing, filing, and prosecuting patent and other applications covering our intellectual property; maintaining, protecting, and enforcing our intellectual property rights; and defending intellectual property-related claims of third parties;
- our headcount growth and associated costs as we expand our business operations and our research and development activities, including into new geographies and through acquisitions;
- the increase in salaries and wages and the extension of benefits required to retain, attract and motivate qualified personnel;
- the increases in costs of components necessary for our business;
- inflation;
- the costs of any commitments to become carbon neutral by 2030 and other environmental, social and governance goals; and
- the costs of operating as a public company.

We historically have financed our operations primarily through private placements of our capital stock, through the net proceeds from our initial public offering, and from other public offerings, including from “at-the market” offerings. We expect that our existing cash position and short-term investments as of the date of this Annual Report on Form 10-K will be sufficient to fund our operating expenses and capital expenditures for at least the next 12 months. However, identifying potential drug candidates and conducting preclinical development testing and clinical trials is a time-consuming, expensive, and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, our drug candidates, even if approved, may not achieve commercial success. We do not anticipate that our commercial revenues, if any, will be derived from sales of products for at least several years. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives, and we may need to raise substantial additional funds sooner than expected.

Until such time, if ever, as we can generate substantial revenues, we expect to finance our cash needs potentially through a combination of private and public equity offerings and debt financings, as well as strategic collaborations, partnerships, and licensing arrangements. We do not have any committed external source of funds other than amounts payable by Takeda Pharmaceutical Company Limited (Takeda), by Bayer AG (Bayer) by Genentech, Inc. and F. Hoffmann-La Roche Ltd (together, Roche Genentech), Merck KGaA, Darmstadt, Germany (Merck), Sanofi S.A. (Sanofi), and a limited number of other collaborators with respect to which Recursion has a contractual relationship as a result of the business combination with Exscientia, pursuant to the collaboration agreements. Disruptions in the financial markets in general, including due to potential pandemics, U.S. debt ceiling and budget deficit concerns, and geo-political issues such as the Ukraine/Russia conflict, the Israel-Hamas war, and political and trade uncertainties in the greater China region, may make equity and debt financing more difficult to obtain. In addition, entry into certain transactions with foreign entities may be subject to government regulations, including review related to foreign direct investment by U.S. or foreign government entities, as well as certain outbound investments. If a transaction with a foreign entity were subject to regulatory review, such regulatory review might limit our ability to enter into the desired strategic alliance and thus our ability to carry out our long-term business strategy. We cannot be certain that future financing will be available in sufficient amounts or on terms acceptable to

us, if at all. If we are unable to raise additional funds through equity or debt financings, or strategic collaborations or similar arrangements, on a timely basis and satisfactory terms, we may be required to significantly curtail, delay, or discontinue one or more of our research and development programs or the future commercialization of any drug candidate, or we may be unable to expand our operations or otherwise capitalize on our business opportunities as desired. Any of these circumstances could materially and adversely affect our business and results of operations and may cause us to cease operations.

***Raising additional capital and issuing additional securities may cause dilution to our stockholders, restrict our operations, require us to relinquish rights to our technologies or drug candidates, and divert management's attention from our core business.***

The terms of any financing we obtain may adversely affect the holdings or rights of our stockholders, and the issuance of additional securities, whether equity or debt, or the possibility of such issuance, may cause the market price of our shares to decline. To the extent that we raise additional capital or otherwise issue additional securities through the sale of Class A common stock or securities convertible or exchangeable into Class A common stock, our stockholders' ownership interests will be diluted.

For example, we have from time to time raised capital through the issuance of shares of Class A common stock in public offerings and private placements. Also, in February 2025, we entered into a Sales Agreement (the "Citi Sales Agreement") with Citigroup Capital Markets Inc. (the "Citi Sales Agent"), that provides for the offering, issuance and sale of up to an aggregate amount of \$500.0 million of our Class A common stock from time to time in "at-the-market" offerings. In addition to capital raising issuances, in connection with the acquisitions of Cyclica Inc. (Cyclica) and Valence Discovery Inc. (Valence) in May 2023, we issued 12.4 million shares of our Class A common stock or securities convertible or exchangeable into Class A common stock and in November 2024, we issued approximately 102.1 million shares of our Class A Common Stock in connection with our business combination with Exscientia plc (Exscientia). We have also issued 6.7 million shares of our Class A common stock to Tempus AI, Inc. (formerly known as Tempus Labs, Inc.) (Tempus) in payment for license fees under the terms of that certain Master Agreement entered into by and between us and Tempus (the Tempus Agreement) and may issue additional shares in the future under the Tempus Agreement. Issuances of a substantial number of shares of our outstanding Class A common stock in the public market could occur at any time. These issuances, or the perception in the market that the holders of a large number of shares of our Class A common stock intend to sell shares, could reduce the market price of our Class A common stock.

Moreover, as a condition to providing additional funds to us, future investors may demand, and may be granted, favorable terms that may include liquidation, preferences, dividend payments, voting rights or other preferences that materially and adversely affect the rights of common stockholders. Debt financing, if available, would result in increased fixed payment obligations. In addition, we may be required to agree to certain restrictive covenants, which could adversely impact our ability to make capital expenditures, declare dividends, or otherwise conduct our business. We also may need to raise funds through additional strategic collaborations, partnerships, or licensing arrangements with third parties at an earlier stage than would be desirable. Such arrangements could require us to relinquish rights to some of our technologies or drug candidates, future revenue streams, or research programs, or otherwise agree to terms unfavorable to us. Fundraising efforts have the potential to divert our management's attention from our core business or create competing priorities, which may adversely affect our ability to develop and commercialize our drug candidates and technologies.

***We may be required to repurchase for cash all, or to facilitate the purchase by a third party of all, of the shares of Class A common stock that were issued to the Bill & Melinda Gates Foundation, or the Gates Foundation, in exchange for the Exscientia American Depositary Shares (ADSs) that the Gates Foundation purchased from Exscientia in an October 2021 private placement if we default under the global access commitments agreement with Exscientia, which could have an adverse impact on us.***

In connection with the purchase by the Gates Foundation of 1,590,909 of ADSs from Exscientia in a private placement that closed in October 2021, Exscientia entered into a Global Access Commitments Agreement, or the Global Access Agreement. In connection with our business combination with Exscientia, we issued approximately 1.2 million shares of Class A common stock in exchange for such ADSs and became subject to the Global Access Agreement. Pursuant to the Global Access Agreement, we are required to take certain actions to support the Gates Foundation's mission. In the event that we are in breach of certain related provisions of the Global Access Agreement, following a cure period, we may be required to repurchase for cash all, or to facilitate the purchase by a

third party of all, of such shares of Class A common stock issued to the Gates Foundation in the connection with the closing of our business combination with Exscientia, at terms that may not be favorable to us. If this occurs, cash used for this purpose may adversely affect our liquidity, cause us to reduce expenditures in other areas of our business, or curtail our growth plans. If we do not have sufficient cash on hand to purchase the securities, we may have to seek financing alternatives in order to meet our obligations, and there is no certainty that financing would be available on reasonable terms or at all. During any period that we are unable to repurchase such shares of Class A common stock held by the Gates Foundation or arrange for a third party to purchase such shares, we would not likely be allowed to pay dividends, repurchase the securities of any other shareholder or otherwise make any other distribution to any of our shareholders in connection with their securities. Therefore, meeting this purchase obligation, if necessary, could have a material adverse effect on our business and financial results.

***We are engaged in strategic collaborations and we intend to seek to establish additional collaborations, including for the clinical development or commercialization of our drug candidates. If we are unable to establish collaborations on commercially reasonable terms or at all, or if current and future collaborations are not successful, we may have to alter our development and commercialization plans.***

Our product development programs and the potential commercialization of our drug candidates will require substantial additional cash to fund expenses. To date our operating revenue has primarily been generated through funded research and development agreements with Roche Genentech, Takeda, and Bayer. For example, in December 2021, we entered into a Collaboration and License Agreement with Roche Genentech (the Roche Genentech Agreement) for discovery of small molecule drug candidates with the potential to treat key areas of neuroscience and an oncology indication, under which we received a non-refundable upfront payment of \$150.0 million in January 2022, an option fee for a single molecule validation program in oncology of \$3M in October 2023, and an acceptance fee for our first neuroscience phenomap of \$30 million in September 2024. Similarly, in recent periods prior to its business combination with Recursion, Exscientia had a limited number of collaborations that accounted for a significant portion of Exscientia's revenues. These collaborations cover a large number of programs under contract and, therefore, represent a large portion of potential downstream value. We intend to seek additional strategic collaborations, partnerships, and licensing arrangements with pharmaceutical and biotechnology companies. In the near term, the value of our company will depend in part on the number and quality of the collaborations and similar arrangements that we negotiate. Whether we reach a definitive agreement for a collaboration will depend, among other things, on our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration, and the potential collaborator's evaluation of a number of factors. Those factors may include, among others, (i) our technologies and capabilities; (ii) our intellectual property position with respect to the subject drug candidate; (iii) the design or results of clinical trials; (iv) the likelihood of approval by the FDA and similar regulatory authorities outside the U.S.; (v) the potential market for the subject drug candidate; (vi) potential competing products; and (vii) industry and market conditions generally. In addition, the significant number of business combinations among large pharmaceutical companies has reduced the number of potential future collaborators with whom we can partner.

Collaborations and similar arrangements are complex and time-consuming to negotiate and document. We may have to relinquish valuable rights to our product candidates, intellectual property, or future revenue streams, or grant licenses on terms that are not favorable to us or in instances where it would have been more advantageous for us to retain sole development and commercialization rights. We may be restricted under collaboration agreements from entering into future agreements on certain terms with other potential collaborators. In addition, management of our relationships with collaborators requires (i) significant time and effort from our management team; (ii) coordination of our marketing and research and development programs with the marketing and research and development priorities of our collaborators; and (iii) effective allocation of our resources across multiple projects.

Collaborations and similar arrangements may never result in the successful development or commercialization of drug candidates or the generation of sales revenue. The success of these arrangements will depend heavily on the efforts and activities of our collaborators. Collaborators generally have significant discretion in determining the efforts and resources that they will apply to these collaborations, and they may not pursue or prioritize the development and commercialization of partnered drug candidates in a manner that is in our best interests. Product revenues arising from collaborations are likely to be lower than if we directly marketed and sold products. Disagreements with collaborators regarding clinical development or commercialization matters can lead to delays in the development process or commercialization of the applicable drug candidate and, in some cases, the termination of the collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision-making authority. Collaboration agreements are typically terminable by the collaborator, and any such

termination or expiration would adversely affect us financially and could harm our business reputation. If we were to become involved in arbitration or litigation with any of our collaborators, it would consume time and divert management resources away from operations, damage our reputation, impact our ability to enter into future collaboration agreements, and may further result in substantial payments from us to our collaborators to settle those disputes.

We may not be able to establish additional strategic collaborations and similar arrangements on a timely basis, on acceptable terms, or at all, and to maintain and successfully conclude them. Collaborative relationships with third parties could cause us to expend significant resources and incur substantial business risk with no assurance of financial return. If we are unable to establish or maintain strategic collaborations and similar arrangements on terms favorable to us and realize the intended benefits of those partnering arrangements, our research and development efforts and potential to generate revenue may be limited and our business and operating results could be materially and adversely impacted.

***We have no products approved for commercial sale and have not generated any revenue from product sales. We or our current and future collaborators may never successfully develop and commercialize our drug candidates, which would negatively affect our results of operation and our ability to continue our business operations.***

Our ability to become profitable depends upon our ability to generate substantial revenue in an amount necessary to offset our expenses. As of December 31, 2024, we have not generated any revenue from our drug candidates or technologies, other than limited grant revenues, as well as payments under collaboration agreements. We expect to continue to derive most of our revenue in the near future from collaborations. We do not expect to generate significant revenue unless and until we progress our drug candidates through clinical trials and obtain marketing approval of, and begin to sell, one or more of our drug candidates, or we otherwise receive substantial licensing or other payments under our collaborations. Even if we obtain market approval for our drug candidates, one or more of them may not achieve commercial success.

Commercialization of our drug candidates depends on a number of factors, including but not limited to our ability to:

- successfully complete preclinical studies;
- obtain approval of Investigational New Drug (IND) applications by the FDA and similar regulatory approvals outside the U.S., allowing us to commence clinical trials;
- successfully enroll subjects in, and complete, clinical trials;
- receive regulatory approvals from applicable regulatory authorities;
- establish commercial manufacturing capabilities or make arrangements with third-party manufacturers for clinical supply and commercial manufacturing;
- obtain patent and trade secret protection or regulatory exclusivity for our drug candidates, and maintain, protect, defend, and enforce such intellectual property rights;
- launch commercial sales of our drug products, whether alone or in collaboration with other parties;
- obtain and maintain acceptance of our drug products by patients, the medical community, and third-party payors, and effectively compete with other therapies;
- obtain and maintain coverage of and adequate reimbursement for our drug products, if and when approved, by medical insurance providers; and
- demonstrate a continued acceptable safety profile of drug products following marketing approval.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize our drug candidates, which would materially harm our business.

Our current or future collaborators would similarly need to be effective in the above activities as they pertain to the collaborators in order to successfully develop drug candidates. We and they may never succeed in developing and commercializing drug candidates. And even if we do, we may never generate revenues that are significant enough to achieve profitability; or even if our collaborators do, we may not receive option fees, milestone payments, or royalties from them that are significant enough for us to achieve profitability. Even if we achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would eventually depress our value and could impair our ability to raise capital, expand our business, maintain our research and development efforts, develop a pipeline of drug candidates, enter into collaborations, or even continue our operations.



***Our quarterly and annual operating results may fluctuate significantly due to a variety of factors and could fall below our expectations or the expectations of investors or securities analysts, which may cause our stock price to fluctuate or decline.***

The amount of our future losses, and when we might achieve profitability, is uncertain, and our quarterly and annual operating results may fluctuate significantly for various reasons, including, but not limited to, the following:

- the timing of, and our levels of investment in, research and development activities relating to our drug candidates;
- the timing of, and status of staffing and enrollment for, clinical trials;
- the results of clinical trials for our drug candidates, including whether there are any unexpected health or safety concerns with our drug candidates and whether we receive marketing approval for them;
- commercialization of competing drug candidates or any other change in the competitive landscape of our industry, including consolidation among our competitors or partners;
- the timing and cost of manufacturing our drug candidates;
- additions and departures of key personnel;
- the level of demand for our drug candidates should they receive approval, which may vary significantly;
- changes in the regulatory environment or market or general economic conditions;
- the increase in salaries and wages and the extension of benefits required to retain, attract and motivate qualified personnel;
- the increases in costs of components necessary for our business; and
- inflation.

The occurrence of one or more of these or other factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. This variability and unpredictability could also result in our failing to meet any forecasts we provide to the market, or the expectations of industry or financial analysts or investors, for any period. If one or more of these events occur, the price of our Class A common stock could decline substantially.

***If we engage in future acquisitions or strategic partnerships, this may increase our capital requirements, dilute our stockholders' equity, cause us to incur debt or assume contingent liabilities, and subject us to other risks.***

We have engaged and may in the future engage in acquisitions and strategic partnerships, including by licensing or acquiring complementary products, intellectual property rights, technologies, or businesses. Any acquisition or strategic partnership may entail numerous risks, including but not limited to the following:

- increased operating expenses and cash requirements;
- the assumption of indebtedness or contingent liabilities;
- the issuance of our equity securities, which would result in dilution to our stockholders' equity;
- difficulties in assimilating operations, intellectual property, products, and drug candidates of an acquired company, and with integrating new personnel;
- the diversion of our management's attention from our existing product programs and initiatives, even if we are unable to complete such proposed transaction;
- our ability to retain key employees and maintain key business relationships;
- uncertainties associated with the other party to such a transaction, including the prospects of that party and their existing products or drug candidates and ability to obtain regulatory approvals; and
- our inability to generate revenue from acquired intellectual property, technology, and/or products sufficient to meet our objectives or even to offset the associated transaction and maintenance costs.

In addition, if we undertake such a transaction, we may assume or incur debt obligations, incur a large one-time expense, or acquire intangible assets, which could result in significant future amortization expenses and adversely impact our results of operations.

***Costs of materials necessary for our business increasing more rapidly could increase our net losses.***

The costs of materials necessary for our business have risen in recent years and will likely continue to increase given stringency of demands. Competition and fixed price contracts may limit our ability to maintain existing

operating margins. Costs increasing more rapidly than market prices may increase our net losses and may have a material adverse impact on our business and results of operations.

## **RISKS RELATED TO THE DISCOVERY AND DEVELOPMENT OF DRUG CANDIDATES**

***Our approach to drug discovery is unique and may not lead to successful drug products for various reasons, including, but not limited to, challenges identifying mechanisms of action for our candidates.***

We image cells and use cell morphology to understand how a diseased cell responds to drugs and if or when it appears normal. If studying the shape, structure, form, and size of cells does not prove to be an accurate way to better understand diseases or does not lead to the biological insights or viable drug candidates we anticipate, our drug discovery platform may not be useful or may not lead to successful drug products, or we may have to move to a new business model, any of which could have an adverse effect on our reputation and results of operations. If the mechanism of action of a drug candidate is unknown, it may be more difficult to choose the best lead to optimize from an efficacy standpoint and to avoid potential off-target side effects that could affect safety.

We also use our drug discovery platform to conduct AI-enabled chemistry experiments and our technology platform underpins all our efforts. As a result, the quality and sophistication of our platform and technology is critical to our ability to conduct our research discovery activities, to design and deliver promising molecule candidates, and to accelerate and lower the cost of drug discovery as compared to traditional methods for our partnerships. Because AI-designed drug candidates are novel, there is greater uncertainty about our ability to develop, advance and commercialize drug candidates using our AI-design process.

Such uncertainty could make it more difficult to form partnerships with larger pharmaceutical companies, as the expenses involved in late-phase clinical trials increase the level of risk related to potential efficacy and/or safety concerns and may pose challenges to IND and/or New Drug Application (NDA) approval by the FDA or other regulatory agencies.

***Our drug candidates are in preclinical or clinical development, which are lengthy and expensive processes with uncertain outcomes and the potential for substantial delays.***

Our current drug candidates are in preclinical or clinical development. Before we can bring any drug candidate to market, we must, among other things, successfully complete preclinical studies, have the candidate manufactured to appropriate specifications, conduct extensive clinical trials to demonstrate safety and efficacy in humans, and obtain marketing approval from the FDA and other appropriate regulatory authorities, which we have not yet demonstrated our ability to do. Clinical testing is expensive, difficult to design and implement, can take many years to complete, and is uncertain as to outcome. A failure of a clinical trial can occur at any stage of testing. The outcome of preclinical development testing and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. We may accelerate development from cell models in our drug discovery platform directly to patients without validating results through animal studies or validate results in animal studies at the same time as we conduct Phase 1 clinical trials. This approach could pose additional risks to our success if the effect of certain of our drug candidates on diseases has not been tested in animals prior to testing in humans.

We have several clinical-stage drug candidates and we anticipate filing IND applications with the FDA or other regulators for Phase 1 or Phase 2 studies, as applicable, for these drug candidates. We may not be able to file such INDs, or INDs for any other drug candidates, and begin such studies, on the timelines we expect, if at all, and any such delays could impact any additional product development timelines. Moreover, we cannot be sure that submission of an IND will result in the FDA or other regulators allowing further clinical trials to begin or that, once begun, issues will not arise that require us to suspend or terminate these trials. For example, prior to the business combination with Recursion, Exscientia stopped the Phase 1/2 clinical trial of EXS21546 after receiving information demonstrating that the drug candidate was not sufficiently promising to justify further clinical development. Commencing each of these clinical trials is subject to finalizing the trial design based on discussions with the FDA and other regulatory authorities. The requirements imposed by these regulatory authorities, or their governing statutes, could change at any time, which may result in stricter approval conditions than we currently expect and/or necessitate completion of additional or longer clinical trials. Successful completion of our clinical trials is a prerequisite to submitting NDAs to the FDA, as well as Marketing Authorization Applications (MAAs) to the European Medicines Agency (EMA) and the Medicines and Healthcare Products Regulatory Agency (MHRA) for

each drug candidate and, consequently, to the ultimate approval and commercial marketing of each drug candidate. We do not know whether any of our future clinical trials will begin on time or be completed on schedule, if at all.

We have experience, and may in the future experience delays in completing our preclinical studies and initiating or completing clinical trials, or numerous unforeseen events during, or as a result of, any clinical trials, that could require us to incur additional costs or delay or prevent our ability to receive marketing approval or to commercialize our drug candidates, including but not limited to those related to one or more of the following:

- regulators, Institutional Review Boards (IRBs), or ethics committees may not authorize us or our investigators to commence a clinical trial or to conduct a clinical trial at prospective trial sites;
- we may have difficulty reaching, or fail to reach, agreement on acceptable terms with prospective trial sites and prospective Contract Research Organizations (CROs), the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- the number of participants required for clinical trials of our drug candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate, or participants may drop out of clinical trials or fail to return for post-treatment follow-up at a higher rate than we anticipate;
- we or our third-party contractors may fail to comply with regulatory requirements, fail to meet their contractual obligations to us in a timely manner or at all, deviate from the clinical trial protocol, or drop out of a trial, which may require that we add new clinical trial sites or investigators;
- the supply or quality of our drug candidates or the other materials necessary to conduct clinical trials of our drug candidates may be insufficient, delayed, or inadequate;
- the occurrence of delays in the manufacturing of our drug candidates;
- reports may arise from preclinical or clinical testing of other therapies that raise safety, efficacy, or other concerns about our drug candidates; and
- clinical trials may produce inconclusive, mixed, or negative results about our drug candidates, including determinations that candidates have undesirable side effects or other unexpected characteristics, in which event, we may decide – or our investigators or regulators, IRBs, or ethics committees may require us — to suspend or terminate the trials.

From time to time as we move through the stages of development, we have published and expect in the future to publish interim top-line or preliminary data from our clinical trials. Interim data from clinical trials are subject to the risk that one or more of the clinical outcomes may materially change as enrollment of participants continues and more data become available. Preliminary or top-line data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, interim and preliminary data should be viewed with caution until the final data are available. Adverse differences between preliminary or interim data and final data could significantly harm our business prospects.

Our product development costs will increase if we experience delays in testing or regulatory approvals. We do not know whether any of our future clinical trials will begin as planned, or whether any of our current or future clinical trials will need to be restructured or will be completed on schedule, if at all. If we decide or are required to suspend or terminate a clinical trial, we may elect to abandon product development for that program. Significant preclinical study or clinical trial delays could also shorten any periods during which we may have the exclusive right to commercialize our drug candidates or could allow our competitors to bring products to market before we do and impair our ability to successfully commercialize our drug candidates. Any delays in or unfavorable outcomes from our preclinical or clinical development programs may significantly harm our business, operating results, and prospects.

***If we experience delays or difficulties in the enrollment of patients in clinical trials, our receipt of necessary regulatory approvals could be delayed or prevented.***

We may not be able to initiate, continue, and complete clinical trials for current or future drug candidates if we are unable to locate and timely enroll a sufficient number of eligible participants in these trials as required by the FDA or similar regulatory authorities outside the United States. The process of finding potential participants may prove more costly than currently expected and our ability to enroll eligible participants may be limited or may result in slower enrollment than we anticipate due to a number of factors, including but not limited to the following:

- the severity of the disease under investigation;

- the eligibility criteria for the clinical trial in question, such as requirements that participants have specific characteristics or diseases;
- the availability of an appropriate genomic screening test;
- the perceived risks and benefits of the drug candidate under study;
- difficulties in identifying, recruiting, and enrolling a sufficient number of participants to complete our clinical studies;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- the referral practices of physicians;
- whether competitors are conducting clinical trials for drug candidates that treat the same indications as ours, and the availability and efficacy of competing therapies;
- our ability to monitor participants adequately during and after the trial and to maintain participant informed consent and privacy;
- the proximity and availability of clinical trial sites for prospective participants;
- pandemics or other public health crises such as the COVID-19 pandemic, natural disasters, global political instability, warfare, or other external events that may limit the availability of participants, principal investigators, study staff, or clinical sites; and
- the risk that enrolled participants will not complete a clinical trial.

If individuals are unwilling to participate in or complete our studies for any reason, or we experience other difficulties with enrollment or participation, the timeline for recruiting participants, conducting studies, and obtaining regulatory approval of potential products may be delayed.

***Our planned clinical trials, or those of our current and potential future collaborators, may not be successful or may reveal significant adverse events not seen in our preclinical or nonclinical studies, which may result in a safety profile that could inhibit regulatory approval or market acceptance of any of our drug candidates.***

Before obtaining regulatory approvals for the commercial sale of any products, we must demonstrate through preclinical studies and clinical trials that our drug candidates are both safe and effective for use in each target indication. Failure can occur at any time during the clinical trial process. The results of preclinical studies and early clinical trials of our drug candidates may not be predictive of the results of later-stage clinical trials, and initial success in clinical trials may not be indicative of results that will be obtained when such trials are completed. An extremely high rate of drug candidates fail as they proceed through clinical trials. Drug candidates in later stages of clinical trials also may fail to show the desired safety and efficacy profile despite having progressed through nonclinical studies and initial clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or unacceptable safety issues, notwithstanding promising results in earlier trials. Most drug candidates that commence clinical trials are never approved for marketing, and there can be no assurance that any of our current or future clinical trials will ultimately be successful or support further clinical development of any of our drug candidates.

As is the case with many treatments for rare diseases and other conditions, there have been, and it is likely that in the future there may be, side effects associated with the use of our drug candidates. If significant adverse events or other side effects are observed in any of our current or future drug candidates, we may have difficulty recruiting participants in our clinical trials, they may drop out of our trials, or we may be required to abandon the trials or our development efforts of one or more drug candidates altogether. Moreover, if we develop drug candidates in combination with one or more disease therapies, it may be more difficult to accurately predict side effects. We, the FDA, other applicable regulatory authorities, or an IRB may suspend or terminate clinical trials of a drug candidate at any time for various reasons, including a belief that subjects in such trials are being exposed to unacceptable health risks or adverse side effects. Some potential therapeutics developed in the biotechnology industry that initially showed therapeutic promise in early-stage trials were later found to cause side effects that prevented their further development. Even if the side effects do not preclude the product from obtaining or maintaining marketing approval, undesirable side effects may inhibit market acceptance of the approved product due to its tolerability versus other therapies. Any of these developments could materially harm our business, operating results, and prospects.



***We may develop drug candidates for use in combination with other therapies, which exposes us to additional risks.***

We may evaluate current or future drug candidates for use in combination with one or more currently approved therapies. If a drug candidate we develop were to receive marketing approval for use in combination with existing therapies, we would continue to bear the risks that the FDA or similar foreign regulatory authorities could revoke approval of the therapies used in combination with our drug candidate or that safety, efficacy, manufacturing, or supply issues could arise with such existing therapies. This could result in our own products being removed from the market or being less successful commercially.

We may also potentially evaluate current or future drug candidates in combination with one or more other therapies that have not yet been approved for marketing by the FDA or similar foreign regulatory authorities. We will not be able to market and sell any drug candidate we develop in combination with any such therapies that do not ultimately obtain marketing approval whether alone or in combination with our product. In addition, unapproved therapies face the same risks described with respect to our drug candidates currently in development and clinical trials, including the potential for serious adverse effects, delay in their clinical trials, and lack of FDA or comparable non-U.S. regulatory authorities' approval. If safety, efficacy, manufacturing, or supply issues arise with the products we choose to evaluate in combination with our drug candidates, we may be unable to obtain approval of or market such combination.

***We conduct clinical trials for our drug candidates outside the United States, and the FDA and similar foreign regulatory authorities may not accept data from such trials.***

We have conducted and are currently conducting clinical trials outside the United States, including in the United Kingdom, Belgium, Spain, Romania, Poland, and the Netherlands, and may in the future choose to conduct additional clinical trials outside the United States in locations that may include Australia, Europe, Asia, or other jurisdictions. FDA acceptance of trial data from clinical trials conducted outside the United States requires that all of FDA's clinical trial requirements be met. In addition, in cases where data from clinical trials conducted outside the United States are intended to serve as the sole basis for marketing approval in the United States, the FDA will generally not approve the application on the basis of foreign data alone unless (i) the data are applicable to the United States population and United States medical practice; (ii) the trials are performed by clinical investigators of recognized competence; and (iii) the data may be considered valid without the need for an on-site inspection by the FDA or, if the FDA considers such an inspection to be necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means. Additionally, the FDA's clinical trial requirements, including sufficient size of patient populations and statistical powering, must be met. Many foreign regulatory bodies have similar approval requirements, and such foreign trials would be subject to the applicable local laws of the foreign jurisdictions where the trials are conducted. There can be no assurance that the FDA or any similar foreign regulatory authority will accept data from trials conducted outside of the United States or the applicable jurisdiction. If the FDA or any similar foreign regulatory authority does not accept such data, it would result in the need for additional trials, which would be costly and time-consuming and delay aspects of our business plan, and which may result in our drug candidates not receiving approval or clearance for commercialization in the applicable jurisdiction.

Following the United Kingdom's departure from the EU (referred to as Brexit) on January 31, 2020, and the end of the "transition period" on December 31, 2020, the EU and the United Kingdom entered into a trade and cooperation agreement that governs certain aspects of their future relationship, including the assurance of tariff-free trade for certain goods and services. As the regulatory framework for pharmaceutical products in the United Kingdom is derived from EU directives and regulations, Brexit will materially impact the future regulatory regime that applies to products and the approval of drug candidates in the United Kingdom. Longer term, the United Kingdom is likely to develop its own legislation that diverges from that in the EU, which may delay or preclude marketing approval for our drug candidates in one or both jurisdictions. As a result of our expanded operations in the United Kingdom following the business combination with Exscientia, any changes made as a result of Brexit may require us to incur additional expenses to develop, manufacture, and commercialize our drug candidates in the EU and the United Kingdom and adversely impact our ability to obtain regulatory approvals in the EU and the United Kingdom. We do not yet know the full extent to which our business could be adversely affected.

***It is difficult to establish with precision the incidence and prevalence for target patient populations of our drug candidates. If the market opportunities for our drug candidates are smaller than we estimate, or if any***

***approval that we obtain is based on a narrower definition of the patient population, our revenue and ability to achieve profitability will be adversely affected, possibly materially.***

Even if approved for commercial sale, the total addressable market for our drug candidates will ultimately depend upon, among other things, (i) the indications and diagnostic criteria included in the final label; (ii) acceptance by the medical community; and (iii) patient access, product pricing, and reimbursement by third-party payors. The number of patients targeted by our drug candidates may turn out to be lower than expected, patients may not be amenable to treatment with our products, or new patients may become increasingly difficult to identify or access, all of which would adversely affect our results of operations and our business. Due to our limited resources and access to capital or for other reasons, we must prioritize development of certain drug candidates, which may prove to be the wrong choices and may adversely affect our business.

***Although we intend to explore other therapeutic opportunities in addition to the drug candidates that we are currently developing, we may fail to identify viable new drug candidates for clinical development for a number of reasons.***

Research programs to pursue the development of our existing and planned drug candidates for additional indications, and to identify new drug candidates and disease targets, require substantial technical, financial, and human resources whether or not they are ultimately successful. For example, under the Roche Genentech Agreement, we are collaborating with Roche Genentech to develop various projects related to the discovery of small molecule drug candidates with the potential to treat “key areas” of neuroscience and an oncology indication. There can be no assurance that we will find potential targets using this approach, that the conditions targeted will be tractable, or that clinical trials will be successful. Our research programs may initially show promise in identifying potential indications and/or drug candidates, yet fail to yield results for clinical development for a number of reasons, including but not limited to the following:

- the research methodology used may not be successful in identifying potential indications and/or drug candidates, including as a result of the limited patient sample represented in our databases and the validity of extrapolating based on insights from a particular cellular context that may not apply to other, more relevant cellular contexts;
- potential drug candidates may, after further study, be shown to have harmful side effects or other characteristics that indicate they are unlikely to be effective products; or
- it may take greater human and financial resources than we can allocate to identify additional therapeutic opportunities for our drug candidates or to develop suitable potential drug candidates through internal research programs, thereby limiting our ability to develop, diversify, and expand our product portfolio.

Because we have limited financial and human resources, we will have to prioritize and focus on certain research programs, drug candidates, and target indications while forgoing others. As a result, we may forgo or delay pursuit of opportunities with other drug candidates or for other indications that later prove to have greater commercial potential or a greater likelihood of success. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities.

Accordingly, there can be no assurance that we will ever be able to identify additional therapeutic opportunities for our drug candidates or to develop suitable potential drug candidates through internal research programs, which could materially adversely affect our future growth and prospects.

***If we are unable to obtain, or if there are delays in obtaining, required regulatory approvals for our drug candidates in the U.S. or other jurisdictions, or if approval is subject to limitations, we will be unable to commercialize, or will be delayed or limited in commercializing, the drug candidates in such jurisdiction and our ability to generate revenue may be materially impaired.***

Our drug candidates and the activities associated with their development and commercialization — including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale, distribution, import, and export — are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by comparable authorities in other countries. Before we can commercialize any of our drug candidates, we must obtain marketing approval. As of December 31, 2024, all of our drug candidates are in development, and we have not received approval to market any of our drug candidates from regulatory

authorities in any jurisdiction. It is possible that our current and future drug candidates will never obtain regulatory and marketing approval.

We have only limited experience in filing and supporting applications to regulatory authorities and expect to rely on CROs and/or regulatory consultants to assist us in this process. Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the drug candidate's safety and efficacy. It also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Given our novel approach to drug discovery that uses our platform to generate data, regulatory authorities may not approve any of our drug candidates derived from our platform. They may also elect to inspect our platform and facilities and manufacturing and research practices, which may uncover regulatory deficiencies that must be addressed and remedied before research or market authorizations may occur.

The process of obtaining regulatory approvals, both in the United States and abroad, is expensive and often takes many years. If the FDA or a comparable foreign regulatory authority requires that we perform additional preclinical or clinical trials, then approval may be delayed, if obtained at all. The FDA and comparable regulatory authorities in other countries have substantial discretion in the approval process and may refuse to accept any application, or they may decide that our data are insufficient for approval and require additional preclinical, clinical, or other studies. Our drug candidates could be delayed in receiving, or fail to receive, regulatory approval for many reasons, including but not limited to the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may not be able to enroll a sufficient number of patients in our clinical studies;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a drug candidate is safe and effective for its proposed indication or that a related companion diagnostic is suitable to identify appropriate patient populations;
- a drug candidate may be only moderately effective or may have undesirable or unintended side effects, toxicities, or other characteristics;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- we may be unable to demonstrate that a drug candidate's clinical and other benefits outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the data collected from clinical trials of our drug candidates may not be sufficient or of sufficient quality to support the submission of an NDA or other submission or to obtain regulatory approval in the United States or elsewhere;
- the FDA or comparable foreign regulatory authorities may find deficiencies with, or fail to approve, our manufacturing processes or facilities, or those of third-party manufacturers with which we contract, for clinical and commercial supplies; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change such that our clinical or manufacturing data are insufficient for approval.

Even if we obtain approval, regulatory authorities may approve any of our drug candidates for fewer or more limited indications than we request, thereby narrowing the commercial potential of the drug candidate. In addition, regulatory authorities may grant approval contingent on the performance of costly post-marketing clinical trials or may approve a drug candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that drug candidate.

If we are unable to obtain, or experience delays in obtaining, approval of our current and future drug candidates in the U.S. or other jurisdictions, or if approval is subject to limitations, the commercial prospects for the drug candidates may be harmed, and our reputation and ability to generate revenues may be materially impaired.

***Our product candidates may cause significant adverse events, toxicities or other undesirable side effects when used alone or in combination with other approved products or investigational new drugs that may***

***result in a safety profile that could prevent regulatory approval, prevent market acceptance, limit their commercial potential or result in significant negative consequences.***

If our product candidates are associated with undesirable side effects or have unexpected characteristics in preclinical studies or clinical trials when used alone or in combination with other approved products or investigational new drugs we may need to interrupt, delay or abandon their development or limit development to more narrow uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective. Treatment-related side effects could also affect patient recruitment or the ability of enrolled subjects to complete the trial or result in potential product liability claims. Any of these occurrences may prevent us from achieving or maintaining market acceptance of the affected product candidate and may harm our business, financial condition and prospects significantly.

Patients in our ongoing and planned clinical trials may in the future suffer other significant adverse events or other side effects not observed in our preclinical studies or previous clinical trials. Our product candidates may be used in populations for which safety concerns may be particularly scrutinized by regulatory agencies. Patients treated with our product candidates may also be undergoing surgical, radiation and chemotherapy treatments, which can cause side effects or adverse events that are unrelated to our product candidate but may still impact the success of our clinical trials. The inclusion of critically ill patients in our clinical trials may result in deaths or other adverse medical events due to other therapies or medications that such patients may be using or due to the gravity of such patients' illnesses. For example, it is possible that some of the patients enrolled in our clinical trials may die or experience major clinical events either during the course of our clinical trials or after participating in such trials, which has occurred in the past.

If further significant adverse events or other side effects are observed in any of our current or future clinical trials, we may have difficulty recruiting patients to the clinical trials, patients may drop out of our trials, or we may be required to abandon the trials or our development efforts of that product candidate altogether. We, the FDA, EMA, other comparable regulatory authorities or an IRB may suspend clinical trials of a product candidate at any time for various reasons, including a belief that subjects in such trials are being exposed to unacceptable health risks or adverse side effects. Some potential therapeutics developed in the biotechnology industry that initially showed therapeutic promise in early-stage trials have later been found to cause side effects that prevented their further development. Even if the side effects do not preclude the product candidate from obtaining or maintaining marketing approval, undesirable side effects may inhibit market acceptance due to its tolerability versus other therapies. Any of these developments could materially harm our business, financial condition and prospects. Further, if any of our product candidates obtains marketing approval, toxicities associated with such product candidates previously not seen during clinical testing may also develop after such approval and lead to a requirement to conduct additional clinical safety trials, additional contraindications, warnings and precautions being added to the drug label, significant restrictions on the use of the product or the withdrawal of the product from the market. We cannot predict whether our product candidates will cause toxicities in humans that would preclude or lead to the revocation of regulatory approval based on preclinical studies or early-stage clinical trials.

***Interim, topline and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.***

From time to time, we may publicly disclose preliminary, interim or topline data from our clinical trials. These interim updates are based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. For example, we may report tumor responses in certain patients that are unconfirmed at the time and which do not ultimately result in confirmed responses to treatment after follow-up evaluations. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the topline results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Topline data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, topline data should be viewed with caution until the final data are available. In addition, we may report interim analyses of only certain endpoints rather than all endpoints. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Adverse changes between interim data and final data could significantly harm our business and prospects. Further, additional disclosure of interim data by us or by our competitors in the future could result in volatility in the price of our common stock.



In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is typically selected from a more extensive amount of available information. You or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product candidate or our business. If the preliminary or topline data that we report differ from late, final or actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, any product candidates may be harmed, which could harm our business, financial condition, results of operations and prospects.

***If we experience delays or difficulties in the enrollment and/or maintenance of patients in clinical trials, our regulatory submissions or receipt of necessary marketing approvals could be delayed or prevented.***

We may not be able to initiate or continue clinical trials for our product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials to such trial's conclusion as required by the FDA, EMA or other comparable foreign regulatory authorities. Often done through biomarker testing, patient identification and enrollment are significant factors in the timing of clinical trials. Our ability to identify and enroll eligible patients may be limited or may result in slower enrollment than we anticipate. If patient identification proves unsuccessful, we may have difficulty enrolling or maintaining patients appropriate for our product candidates. Similarly, enrollment in trials for our product candidates may be limited or slower than we anticipated if any required laboratory biomarker tests are not available due to shortages of staff or reagents.

Enrollment of patients in our clinical trials and maintaining patients in our ongoing clinical trials may be delayed or limited if our clinical trial sites limit their onsite staff or temporarily close as a result of a global pandemic or other public health emergencies. Patient enrollment may be affected if our competitors have ongoing clinical trials for programs that are under development for the same indications as our product candidates, and patients who would otherwise be eligible for our clinical trials instead enroll in clinical trials of our competitors' programs. Patient enrollment for our current or any future clinical trials may be affected by other factors, including:

- size and nature of the patient population;
- severity of the disease under investigation;
- availability and efficacy of approved drugs for the disease under investigation;
- patient eligibility criteria for the trial in question as defined in the protocol;
- perceived risks and benefits of the product candidate under study;
- clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new products that may be approved or other product candidates being investigated for the indications we are investigating;
- clinicians' willingness to screen their patients for biomarkers to indicate which patients may be eligible for enrollment in our clinical trials;
- patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment;
- proximity and availability of clinical trial sites for prospective patients; and
- the risk that patients enrolled in clinical trials will drop out of the trials before completion or, because they may be late-stage cancer patients, will not survive the full terms of the clinical trials.

Our inability to enroll a sufficient number of patients for our clinical trials would result in significant delays or may require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our product candidates and jeopardize our ability to obtain marketing approval for the sale of our product candidates. Furthermore, even if we are able to enroll a sufficient number of patients for our clinical trials, we may have difficulty maintaining participation in our clinical trials through the treatment and any follow-up periods.

***We may never realize a return on our investment of resources and cash in our drug discovery collaborations.***

We conduct drug discovery activities for or with collaborators who are also engaged in drug discovery and development, which include pre-commercial biotechnology companies and large pharmaceutical companies. Under these collaborations, we typically provide, among other resources, the benefit of our drug discovery platform and platform experts who identify molecules that have activity against one or more specified targets. In consideration, we have received, and expect to receive in the future, (i) equity investments; (ii) upfront fees; and/or (iii) the right to receive option fees, cash milestone payments upon the achievement of specified development, regulatory, or commercial sales milestones for the drug discovery targets, and potential royalties. Our ability to receive fees and

payments and realize returns from our drug discovery collaborations in a timely manner, or at all, is subject to a number of risks, including but not limited to the following:

- our collaborators may incur unanticipated costs or experience delays in completing, or may be unable to complete, the development and commercialization of any drug candidates;
- collaborators have significant discretion in determining the amount and timing of efforts and resources that they will apply to our collaborations and may not perform their obligations as currently expected;
- collaborators may decide not to pursue development or commercialization of drug candidates for various reasons, including results of clinical trials or other studies, changes in the collaborator's strategic focus or available funding, their desire to develop products that compete directly or indirectly with our drug candidates, or external factors (such as an acquisition or industry slowdown) that divert resources or create competing priorities;
- existing collaborators and potential future collaborators may begin to perceive us to be a competitor more generally, particularly as we advance our internal drug discovery programs, and therefore may be unwilling to continue existing collaborations, or enter into new collaborations, with us;
- a collaborator may fail to comply with applicable regulatory requirements regarding the development, manufacture, distribution, or marketing of a drug candidate or product;
- disagreements with collaborators, including disagreements over intellectual property or proprietary rights, contract interpretation, or the preferred course of development, might cause delays or terminations of the research, development, or commercialization of drug candidates, or might result in litigation or arbitration;
- collaborators may not properly obtain, maintain, enforce, defend, or protect our intellectual property or proprietary rights, or they may use our proprietary information in such a way as to potentially lead to disputes or legal proceedings that could jeopardize or invalidate our or their intellectual property or proprietary rights;
- collaborators may infringe, misappropriate, or otherwise violate the intellectual property or proprietary rights of third parties, which may expose us to litigation and potential liability; and
- drug discovery collaborations may be terminated prior to our receipt of any significant value.

In addition, we may be over-reliant on our partners to provide information for molecules that we in-license, or such molecules may no longer be well-protected because the composition of matter patents that once protected them become expired. Moreover, we may have difficulty obtaining the quality and quantity of active pharmaceutical ingredients (API) for use in drug candidates, or we may be unable to ensure the stability of the molecule, all of which is needed to conduct clinical trials or bring a drug candidate to market. For those molecules that we are attempting to repurpose for other indications, our collaboration partners may not have sufficient data, may have poor quality data, or may not be able to help us interpret data, any of which could cause our collaboration to fail.

Furthermore, the amounts we are entitled to receive upon the achievement of such milestones vary depending on regulatory approval and the level of commercial success achieved, if any.

If any drug discovery collaborations that we enter into do not result in the successful development and commercialization of drug products that result in option fees, milestone payments, royalties, or other payments to us as expected, we may not receive an adequate return on the resources we have invested in such collaborations, which would have an adverse effect on our business, results of operations and prospects. Further, we may not have access to, or may be restricted from disclosing, certain information regarding development and commercialization of our collaborators' drug candidates and, consequently, may have limited ability to inform our stockholders about the status of, and likelihood of achieving, option fees, milestone payments or royalties under such collaborations.

***We may never realize a return on our equity investments in our drug discovery collaborators.***

We have decided to take and may decide in the future to take equity stakes in our drug discovery collaborators. We may never realize a return on our equity investments in our drug discovery collaborators. None of the drug discovery collaborators in which we hold equity generate revenue from commercial sales of drug products. They are therefore dependent on the availability of capital on favorable terms to continue their operations. In addition, if the drug discovery collaborators in which we hold equity raise additional capital, our ownership interest in and degree of control over these drug discovery collaborators will be diluted, unless we have sufficient resources and choose to invest in them further or successfully negotiate contractual anti-dilution protections for our equity investment. The financial success of our equity investment in any collaborator will likely be dependent on a liquidity event, such as a public offering, acquisition or other favorable market event reflecting appreciation in the value of the equity we hold. The capital markets for public offerings and acquisitions are dynamic, and the likelihood of liquidity events for the

companies in which we hold equity interests could significantly worsen. Further, valuations of privately held companies are inherently complex due to the lack of readily available market data. If we determine that any of our investments in such companies have experienced a decline in value, we may be required to record an impairment, which could negatively impact our financial results. All of the equity we hold in our drug discovery collaborators is subject to a risk of partial or total loss of our investment.

***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 products in the biopharmaceutical and related industries is highly competitive. There are other companies focusing on technology-enabled drug discovery to identify and develop new chemical entities (NCEs) that have not previously been investigated in clinical trials and/or known chemical entities (KCEs) that have been previously investigated. Some of these competitive companies are employing scientific approaches that are the same as or similar to our approach, and others are using entirely different approaches. These companies include large pharmaceutical companies, specialty pharmaceutical companies, and biotechnology companies of various sizes worldwide. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies. Potential competitors also include academic institutions, government agencies, and other public and private research organizations. Many of the companies that we compete against, or which we may compete against in the future, have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals, and marketing approval of products than we do. They may also compete with us in recruiting and retaining qualified scientific and management personnel, in establishing clinical trial sites and patient recruitment for clinical trials, as well as in acquiring technologies complementary to, or necessary for, developing our programs.

Within the field of technology-enabled drug discovery, we believe that our approach utilizing a combination of wet-lab biology to generate our proprietary dataset, and the *in silico* tools in our closed-loop system, sets us apart and affords us a competitive advantage in initiating and advancing drug development programs. We further believe that the principal competitive factors to our business include (i) the accuracy of our computations and predictions; (ii) the ability to integrate experimental and computational capabilities; (iii) the ability to successfully transition research programs into clinical development; (iv) the ability to raise capital; and (v) the scalability of our platform, pipeline, and business.

Any drug candidates that we successfully develop and commercialize will compete with currently-approved therapies, and new therapies that may become available in the future, from segments of the pharmaceutical, biotechnology, and other related industries. The key competitive factors affecting the success of all of our drug candidates, if approved, are likely to be (i) their efficacy, safety, convenience, and price; (ii) the level of non-generic and generic competition; and (iii) the availability and amount of reimbursement from government healthcare programs, commercial insurance plans, and other third-party payors. Our commercial opportunity could be reduced or eliminated if competing products are more effective, have fewer or less severe side effects, are more convenient, or are less expensive than products that we or our collaborators may develop, or if competitors obtain FDA or other regulatory approval more rapidly than us and are able to establish a strong market position before we or our collaborators are able to enter the market.

If our proprietary tools and technology and other competitive advantages do not remain in place and evolve appropriately as barriers to entry in the future, or if we and our collaboration partners are not otherwise able to effectively compete against existing and potential competitors, our business and results of operations may be materially and adversely affected.

***Because we have multiple programs and drug candidates in our development pipeline and are pursuing a variety of target indications and treatment modalities, we may expend our limited resources to pursue a particular drug candidate and fail to capitalize on development opportunities or drug candidates that may be more profitable or for which there is a greater likelihood of success.***

We currently focus on the development of drug candidates regardless of the treatment modality or the particular target indication. Because we have limited financial and personnel resources, we may forgo or delay pursuit of opportunities with potential target indications or drug candidates that later prove to have greater commercial potential than our current and planned development programs and drug candidates. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and other future drug candidates for specific indications may not yield any future drug candidates that are commercially viable.

***We and our collaborators may not achieve projected discovery and development milestones and other anticipated key events in the time frames that we or they announce, which could have an adverse impact on our business and could cause our stock price to decline.***

From time to time we have made, and in the future are likely to make, public statements regarding the expected timing of certain milestones and key events, such as the commencement and completion of preclinical and clinical studies in our internal drug discovery programs as well as developments and milestones under our collaborations. Our collaborators, such as Roche Genentech, have also made public statements regarding expectations for the development of programs under collaborations with us and may in the future make additional statements about their goals and expectations for collaborations with us. The actual timing of these events can vary dramatically due to a number of factors, such as (i) delays or failures in our, or our current and future collaborators', drug discovery and development programs; (ii) the amount of time, effort, and resources committed by us and our current and future collaborators; and (iii) the numerous uncertainties inherent in the development of drugs. As a result, there can be no assurance that our, or our current and future collaborators', programs will advance or be completed in the time frames we or they announce or expect. If we or any collaborators fail to achieve one or more of these milestones or other key events as planned and announced, our business and reputation could be materially adversely affected.

## **RISKS RELATED TO OUR PLATFORM AND DATA**

***We have invested, and expect to continue to invest, in research and development efforts to further enhance our drug discovery platform, which is central to our mission. If the return on these investments is lower or develops more slowly than we expect, our business and operating results may suffer.***

Our drug discovery platform is central to our mission to decode biology by integrating technological innovations across biology, chemistry, automation, data science, and engineering. The platform includes the Recursion Operating System, which combines an advanced infrastructure layer to generate proprietary biological and chemical datasets, and the Recursion Map, a suite of custom software, algorithms, and machine learning tools. Our platform depends upon the continuous, effective, and reliable operation of our software, hardware, databases, and related tools and functions, as well as the integrity of our data. Our ability to develop drug candidates and increase revenue depends in large part on our ability to enhance and improve our platform. The success of any enhancement to our platform depends on several factors, including (i) innovation in hardware solutions; (ii) increased computational storage and processing capacity; (iii) development of more advanced algorithms; and (iv) generation of additional biological and chemical data, such as that which is necessary to our ability to identify important and emerging use cases and quickly develop new and effective innovations to address those use cases.

We have invested, and expect to continue to invest, in research and development efforts, acquisitions, and licensing agreements that further enhance our platform. These investments may involve significant time, risks, and uncertainties, including the risks that any new software or hardware enhancement or the integration of software or hardware from an acquired company or third party licensor may not be introduced in a timely or cost-effective manner; may not keep pace with technological developments; or may not achieve the functionality necessary to generate significant revenues.

Our proprietary software tools, hardware, and data sets are inherently complex. We have from time to time found defects, vulnerabilities, or other errors in our software and hardware that produce the data sets we use to discover new drug candidates, and new errors with our software and hardware may be detected in the future. The risk of



errors is particularly significant when new software or hardware is first introduced or when new versions or enhancements of existing software or hardware are implemented. Errors may also result from the interface of our proprietary software and hardware tools with our data or with third-party systems and data.

If we are unable to successfully enhance our drug discovery platform, or if there are any defects or disruptions in our platform that are not timely resolved, our ability to develop new innovations and ultimately gain market acceptance of our products and discoveries could be materially and adversely impacted, and our reputation, business, operating results and prospects could be materially harmed.

***Our information technology systems and infrastructure may fail or experience security breaches and incidents that could adversely impact our business and operations and subject us to liability.***

We have experienced significant growth in the complexity of our data and the software tools that our hardware infrastructure supports. We rely significantly upon information technology systems and infrastructure owned and maintained by us or by third party providers to generate, collect, store, and transmit confidential and proprietary information and data (including but not limited to intellectual property, proprietary business information, and personal information) and to operate our business. We also outsource elements of our operations to, and obtain products and services from, third parties and engage in collaborations for drug discovery with third parties, each of which has or could have access to our confidential or proprietary information.

We deploy and operate an array of technical and procedural controls to reduce the risks to our information technology systems, infrastructure and data and to work to maintain the availability, confidentiality and integrity of our data, and we expect to continue to incur significant costs on such detection and prevention efforts.

Despite these measures, our information technology and other internal infrastructure systems face the risk of failures, interruptions, security breaches and incidents, or other harm from various causes or sources, and third parties with whom we share confidential or proprietary information, and third parties on which we otherwise rely, face similar risks and may experience similar events that materially impact us. These causes or sources include but are not limited to the following:

- service interruptions;
- system malfunctions and other technical errors;
- computer viruses and other malicious code;
- natural disasters;
- global political instability;
- warfare;
- telecommunication and electrical failures;
- inadvertent or intentional actions by our employees or third-party providers; and
- cyber-attacks by malicious third parties, including the deployment of ransomware and malware, denial-of-service attacks, social engineering, and other means to affect service reliability and threaten the confidentiality, integrity, and availability of information.

With respect to cyber-attacks, the techniques used by cyber criminals change frequently, may not be recognized until launched, and can originate from a wide variety of sources, including outside groups and individuals with a range of motives (including industrial espionage) and expertise, such as organized crime affiliates, terrorist organizations, or hostile foreign governments or agencies. These risks may be heightened in connection with geopolitical events such as the conflict between Russia and Ukraine. Sophisticated cyber attackers (including foreign adversaries engaged in industrial espionage) are skilled at adapting to existing security technology and developing new methods of gaining access to organizations' sensitive business data, which could result in the loss of sensitive information, including trade secrets. Further, severe ransomware attacks are becoming increasingly prevalent and can lead to significant interruptions in our operations, ability to provide our products or services, loss of sensitive data and income, reputational harm, and diversion of funds. Extortion payments may alleviate the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments.

We take steps designed to detect, mitigate, and remediate vulnerabilities in our information systems (such as our hardware and/or software). We may not, however, detect and remediate all such vulnerabilities on a timely basis or

otherwise. Further, we may experience delays in deploying remedial measures and patches designed to address identified vulnerabilities. Vulnerabilities could be exploited and result in a security breach or other incident.

The costs to us to investigate and mitigate actual and suspected security breaches and other incidents could be significant. We may not be able to anticipate all types of threats and implement preventive measures effective against all such threats. Additionally, actual, potential, or anticipated incidents may cause us to incur increasing costs, including costs to deploy additional personnel and protection technologies, train employees and engage third-party experts and consultants. In addition, an increased amount of work is occurring remotely, including through the use of mobile devices. This could increase our cybersecurity risk, create data accessibility concerns, and make us more susceptible to communication disruptions.

We may experience cyber-attacks, security breaches and other incidents, and other system failures, errors, or outages, although to our knowledge we have not experienced any material interruption or incident as of December 31, 2024. The loss, corruption, unavailability of, or damage to our data would interfere with and undermine the insights we draw from our platform and could impair the integrity of our clinical trial data, leading to regulatory delays or the inability to get our drug candidates approved. If we do not accurately predict and identify our infrastructure requirements and failures and timely enhance our infrastructure, or if our remediation efforts are not successful, it could result in a material disruption of our business operations and development programs, including the loss or unavailability of, damage to, or unauthorized acquisition, disclosure, use, or other processing of our trade secrets, individuals' personal information, or other proprietary or sensitive data. A security breach or other incident that leads to unauthorized acquisition, disclosure, or other processing of our intellectual property or other proprietary information could also affect our intellectual property rights and enable competitors to compete with us more effectively. Likewise, as we rely on third parties for the manufacture of our drug candidates and to conduct clinical trials, similar events relating to their systems and operations could also have a material adverse effect on our business and lead to regulatory agency actions.

Moreover, any security breach or other incident that leads to loss of, unauthorized access to, disclosure of, or other processing of personal information, including personal information regarding clinical trial subjects, contractors, directors, or employees, or the perception any of these has occurred, could harm our reputation, compel us to comply with federal and/or state notification laws and foreign law equivalents, subject us to mandatory corrective action, and otherwise subject us to liability under laws and regulations that protect the privacy and security of personal information. For more information see "Risk Factors— We are subject to U.S. and foreign laws regarding privacy, data protection, and cybersecurity that could entail substantial compliance costs, while the failure to comply could subject us to significant liability" set forth below.

Failures, disruptions, security breaches and other incidents, cyber-attacks, and other harmful events impacting data processed or maintained in our business, or information technology systems or infrastructure used in our business, including those resulting in a loss of or damage to our information technology systems or infrastructure, or the loss of or inappropriate acquisition, disclosure, or other processing of confidential, proprietary, or personal information, or the perception any of these has occurred, could expose us to a risk of loss, enforcement measures, regulatory agency investigations, proceedings, and other actions, penalties, fines, indemnification claims, litigation, potential civil or criminal liability, collaborators' loss of confidence, damage to our reputation, and other consequences, which could materially adversely affect our business and results of operations. While we maintain insurance coverage for certain expenses and liabilities related to failures or breaches of our information technology systems, it may not be adequate to cover all losses associated with such events. In addition, such insurance may not be available to us in the future on satisfactory terms or at all. Furthermore, if the information technology systems of third parties with whom we do business become subject to disruptions or security breaches or incidents, we may have insufficient recourse against them, and we may have to expend significant resources to mitigate the impact of such an event and to develop and implement protections designed to prevent events of this nature from occurring.

***Interruptions in the availability of server systems or communications with internet or cloud-based services, or failure to maintain the security, confidentiality, accessibility, or integrity of data stored on such systems, could harm our business.***

We rely on third-party data centers and telecommunications solutions, including cloud infrastructure services such as Google Cloud and Amazon Web Services, to host substantial portions of our technology platforms and to support our business operations. We have no control over these cloud-based service or other third-party providers, although we attempt to reduce risk by minimizing reliance on any single third party or its operations. We have experienced,

and expect we may in the future again experience, system interruptions, outages, or delays due to a variety of factors, including infrastructure changes, human or software errors, website hosting disruptions, and capacity constraints. A prolonged service disruption affecting our cloud-based solutions could damage our reputation or otherwise materially harm our business.

Further, if the security measures of our third-party data center or cloud infrastructure providers are breached or otherwise compromised by cyber-attacks or other means and unauthorized access to our information technology systems or data occurs, it could result in interruptions to our operations and the loss of proprietary or confidential information, which could damage our reputation, cause us to incur substantial costs, divert our resources from other tasks, and subject us to significant legal and financial exposure and liabilities, any one of which could materially adversely affect our business, results of operations, and prospects. Such third-party providers may also be subject to natural disasters, global political instability, warfare, power losses, telecommunications failures, or other disruptive events that could negatively affect our business and require us to incur significant costs to secure alternate cloud-based solutions. In addition, any changes in our third-party providers' service levels or features that we utilize or a termination of our agreements could also adversely affect our business.

***Our solutions utilize third-party open source software (OSS), which presents risks that could adversely affect our business and subject us to possible litigation.***

Our solutions include software that is licensed from third parties under open source licenses, and we expect to continue to incorporate such OSS in our solutions in the future. We cannot ensure that we have effectively monitored our use of OSS, validated the quality or source of such software, or are in compliance with the terms of the applicable open source licenses or our policies and procedures. Use of OSS may entail greater risks than use of third-party commercial software because open source licensors generally do not provide support, updates, or warranties or other contractual protections regarding infringement claims or the quality of the code. OSS may also be more susceptible to security vulnerabilities. Third-party OSS providers could experience service outages, data loss, privacy breaches, cyber-attacks, and other events relating to the applications and services they provide, which could diminish the utility of these services and harm our business. We also could be subject to lawsuits by third parties claiming that what we believe to be licensed OSS infringes such parties' intellectual property rights, which could be costly for us to defend and require us to devote additional research and development resources to change our solutions.

***Issues relating to the use of artificial intelligence and machine learning in our offerings could adversely affect our business and operating results.***

We incorporate artificial intelligence and machine learning ("AI") solutions into our platform, in applications that are important to our operations and our drug discovery processes. There are significant risks involved in utilizing AI. Issues relating to the use of new and evolving technologies such as AI and machine learning may cause us to experience brand or reputational harm, competitive harm, legal liability, and new or enhanced governmental or regulatory scrutiny, and we may incur additional costs to resolve such issues. Known risks of AI currently include inaccuracy, bias, toxicity, intellectual property infringement or misappropriation, privacy, data protection and cybersecurity issues, and data provenance disputes. Perceived or actual technical, legal, compliance, privacy, data protection, cybersecurity, ethical or other issues relating to the use of AI may cause public confidence in AI to be undermined, which could slow our customers' adoption of our products and services that use AI. In addition, litigation or government regulation related to the use of AI may also adversely impact our and others' abilities to develop and offer products that use AI, as well as increase the cost and complexity of doing so. See the section titled "—Regulatory and legislative developments related to the use of AI could adversely affect our use of such technologies in our products, services, and business." Developing, testing and deploying AI systems may also increase the cost profile of our product offerings due to the nature of the computing costs involved in such systems, which could impact our project margin and adversely affect our business and operating results. In addition, AI may have or produce errors or inadequacies that are not easily detectable. If the data used to train AI or the content, analyses, or recommendations that AI applications assist in producing are or are alleged to be deficient, inaccurate, incomplete, overbroad or biased, our business, financial condition, and results of operations may be adversely affected. The legal landscape and subsequent legal protection for the use of AI and the collection and use of data used to train AI models remains uncertain, and development of the law in this area could impact our ability to enforce our proprietary rights or protect against infringing uses. If we do not have sufficient rights to collect or use the data on which our AI relies or to the outputs produced by AI applications, we may incur liability through the alleged violation of certain laws, third-party privacy rights, online terms of service, or other contracts to which we or

our data providers are a party. Our use of AI applications may also, in the future, result in security breaches or other incidents that implicate the personal data of customers or patients. Any such security breaches or other incidents related to our use of AI applications could adversely affect our reputation and results of operations.

## **RISKS RELATED TO OUR OPERATIONS/COMMERCIALIZATION**

***Even if any drug candidates we develop receive marketing approval, they may fail to achieve the degree of market acceptance by physicians, patients, healthcare payors, and others in the medical community necessary for commercial success.***

The commercial success of our drug candidates that receive marketing approval will depend upon their degree of market acceptance by physicians, patients, third-party payors, and others in the medical community. The degree of market acceptance will depend on a number of factors, including but not limited to the following:

- their efficacy and safety as demonstrated in pivotal clinical trials and published in peer-reviewed journals;
- their potential and perceived advantages compared to alternative treatments, including any similar generic treatments;
- the prevalence and severity of any side effects or adverse events;
- our ability to offer these products for sale at competitive prices;
- our ability to offer appropriate patient access programs, such as co-pay assistance;
- their convenience and ease of dosing and administration compared to alternative treatments;
- the clinical indications for which the drug candidate is approved by the FDA or comparable regulatory authorities;
- product labeling or product insert requirements of the FDA or other comparable foreign regulatory authorities, including any limitations, contraindications, or warnings;
- restrictions on how the product is distributed;
- the timing of market introduction of competitive products;
- publicity concerning these products or competing products and treatments;
- the strength of marketing and distribution support; and
- favorable third-party coverage and sufficient reimbursement.

Sales of medical products also depend on the willingness of physicians to prescribe treatment with our drug products, which is likely to be based on a determination by these physicians that the products are safe, therapeutically effective, and cost effective. In addition, the inclusion or exclusion of products from treatment guidelines established by various physician groups, as well as the viewpoints of influential physicians, can affect the willingness of other physicians to prescribe treatment with our drug products. We cannot predict whether physicians, physicians' organizations, hospitals, other healthcare providers, government agencies, or private insurers will determine that any product we may develop is safe, therapeutically effective and cost effective as compared with competing treatments. If any drug candidates we develop do not achieve an adequate level of acceptance, we may not generate significant product revenue, and we may not become profitable.

***If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to sell and market any drug candidates we may develop, we may not be successful in commercializing those drug candidates, if and when they are approved.***

We do not have a sales or marketing infrastructure and have little experience in the sale, marketing, or distribution of pharmaceutical products. To achieve commercial success for any approved product for which we retain sales and marketing responsibilities, we must either develop a sales and marketing organization, develop sales and marketing software solutions, or outsource these functions to third parties. In the future, we may choose to build a focused sales, marketing, and commercial support infrastructure to market and sell our drug candidates, if and when they are approved. We may also elect to enter into collaborations or strategic partnerships with third parties to engage in commercialization activities with respect to selected drug candidates, indications, or geographic territories, including territories outside the United States, although there is no guarantee we will be able to enter into these arrangements.

There are risks involved with both establishing our own commercial capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force or reimbursement specialists is expensive and time-consuming and could delay any product launch. If the commercial launch of a



drug candidate for which we recruit a sales force and establish marketing and other commercialization capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition commercialization personnel. Factors that may inhibit our efforts to commercialize any approved product on our own include but are not limited to the following:

- the inability to recruit and retain adequate numbers of effective sales, marketing, reimbursement, customer service, medical affairs, and other support personnel;
- the inability of sales personnel or software tools to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future approved products;
- the inability of reimbursement professionals to negotiate arrangements for formulary access, reimbursement, and other acceptance by payors;
- the inability to price products at a sufficient price point to enable an adequate and attractive level of profitability;
- restricted or closed distribution channels that make it difficult to distribute our products to segments of the patient population;
- the 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; and
- unforeseen costs and expenses associated with creating an independent commercialization organization.

If we enter into arrangements with third parties to perform sales, marketing, commercial support, and distribution services, they may also experience many of the above challenges. In addition, our product revenue or the profitability of product revenue may be lower than if we were to market and sell any products we may develop internally. We may not be successful in entering into such arrangements, or we may be unable to do so on terms that are favorable to us or them. We also may have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively, or they may expose us to legal and regulatory risk by not adhering to regulatory requirements and restrictions governing the sale and promotion of prescription drug products, including those restricting off-label promotion. If we do not establish commercialization capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing any future approved drug candidates.

***We are subject to regulatory and operational risks associated with the physical and digital infrastructure at both our internal facilities and those of our external service providers.***

Our facilities in Salt Lake City, Utah have not been reviewed or pre-approved by any regulatory agency, such as the FDA. An inspection by the FDA could disrupt our ability to generate data and develop drug candidates. Our laboratory facilities are designed to incorporate a significant level of automation of equipment, with integration of several digital systems to improve efficiency of research operations. We have attempted to achieve a high level of digitization for a research operation relative to industry standards. While this is meant to improve operational efficiency, this may pose additional risk of equipment malfunction and even overall system failure or shutdown due to internal or external factors including, but not limited to, design issues, system compatibility, or potential security breaches or other incidents. This may lead to delay in potential drug candidate identification or a shutdown of our facility. Any disruption in our data generation capabilities could cause delays in advancing new drug candidates into our pipeline, advancing existing programs, or enhancing the capabilities of our platform, including expanding our data, the occurrence of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***In the future, we may manufacture drug substances or products at our facilities for preclinical and clinical use, and we may face risks arising from our limited prior manufacturing capability and experience.***

We do not currently have the infrastructure or capability internally to manufacture drug substances or products for preclinical, clinical, or commercial use. If, in the future, we decide to produce drug substances or products for preclinical and clinical use, the costs of developing suitable facilities and infrastructure and implementing appropriate manufacturing processes may be greater than expected. We may also have difficulty implementing the full operational state of the facility, causing delays to preclinical or clinical supply or the need to rely on third-party service providers, resulting in unplanned expenses.

***The manufacture of drugs is complex, and our third-party manufacturers may encounter difficulties in production or supply chain. If any of our third-party manufacturers encounter such difficulties, our ability to***

***provide adequate supply of our product candidates for clinical trials or our products for patients, if approved, could be delayed or prevented.***

We currently utilize contract development and manufacturing organizations to produce drug substance and investigational drug product in support of the assets within our pipeline. To date, we have obtained drug substance and drug product for our drug candidates from third party contract manufacturers. Manufacturing drugs, especially in large quantities, is complex and may require the use of innovative technologies. Each lot of an approved drug product must undergo thorough testing for identity, strength, quality, purity and potency. Manufacturing drugs requires facilities specifically designed for and validated for this purpose, as well as sophisticated quality assurance and quality control procedures. Slight deviations anywhere in the manufacturing process, including filling, labeling, packaging, storage and shipping and quality control and testing, may result in lot failures, product recalls or spoilage. When changes are made to the manufacturing process, we may be required to provide preclinical and clinical data showing the comparable identity, strength, quality, purity or potency of the products before and after such changes. If microbial, viral or other contaminations are discovered at the facilities of our manufacturer, such facilities may need to be closed for an extended period of time to investigate and remedy the contamination, which could delay clinical trials and adversely harm our business. The use of biologically derived ingredients can also lead to allegations of harm, including infections or allergic reactions, or closure of product facilities due to possible contamination. Additionally, we may experience supply chain disruptions or slowdowns, including related manufacturing, logistics, labor supply or other factors related to the supply chains of products and materials that we use. If our third-party manufacturers are unable to produce sufficient quantities for clinical trials or for commercialization as a result of these challenges, or otherwise, our development and commercialization efforts would be impaired, which would have an adverse effect on our business, financial condition, results of operations and growth prospects.

***Changes in methods of product candidate manufacturing or formulation may result in additional costs or delay.***

As product candidates progress through preclinical and clinical trials to marketing approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize yield and manufacturing batch size, minimize costs and achieve consistent quality and results. Such changes carry the risk that they will not achieve these intended objectives. Any of these changes could cause our product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials conducted with the altered materials. This could delay completion of clinical trials, require the conduct of bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates and jeopardize our ability to commercialize our product candidates, if approved, and generate revenue.

***Recursion, or the third parties upon whom we depend, may be adversely affected by natural disasters, and our business continuity plans and insurance coverage may not be adequate.***

Our current operations are located in Salt Lake City, Utah; Milpitas, California; Toronto and Montreal, Canada; and London, United Kingdom. A natural disaster or other serious unplanned event, such as flood, fire, explosion, earthquake, extreme weather condition, pandemic (including COVID-19), power shortage, telecommunications failure, global political instability, warfare, or man-made incident, could result in us being unable to fully utilize our facilities, delays in the development of our drug candidates, interruption of our business operations, or unexpected increased costs, which may have a material and adverse effect on our business. Our collaboration partners, as well as suppliers to us or our collaboration partners, and our third-party service providers and vendors, are similarly subject to some or all of these events. If a natural disaster, power outage, or other event occurs that (i) prevents us from using all or a significant portion of our headquarters or our datacenters; (ii) damages critical infrastructure or our equipment, such as our research facilities or the manufacturing facilities of our third-party contract manufacturers; or (iii) otherwise significantly disrupts operations, it may be difficult, or in certain cases impossible, for us to continue our business for a substantial period of time.

Furthermore, the disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses, business interruptions, and harm to our research and development programs as a result of the limited nature of our disaster recovery and business continuity plans. As part of our risk management policy, we maintain insurance coverage at levels that we believe are appropriate for our business to the extent it is available on commercially reasonable terms. However, in the event of an accident or incident at these facilities, the amounts of insurance may not be sufficient to cover all of our damages and losses.

In addition, our facilities in Salt Lake City, Utah are located in a busy downtown area. Although we believe we have taken the necessary steps to ensure our operations are safe to the surrounding area, there could be a risk to the public if we were to conduct hazardous material research, including use of flammable chemicals and materials, at our facilities. If the surrounding community perceives our facility as unsafe, it could have a material and adverse effect on our reputation, operations, and prospects.

***If we fail to comply with environmental, health and safety, or other laws and regulations, we could become subject to fines, penalties, or personal injury or property damages.***

We are subject to numerous environmental, health and safety, and other 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 and radioactive materials. Our operations also produce hazardous waste products. We generally contract with third parties for the 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 our use of hazardous materials, we could be held liable for significant damages for harm to persons or property, as well as civil or criminal fines and penalties. Although we maintain workers' compensation insurance to cover costs and expenses arising from injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against all such potential liabilities.

***Our insurance policies are expensive and protect us only from some business risks, which leaves us exposed to significant uninsured liabilities.***

We do not carry insurance for all categories of risk that our business may encounter and insurance coverage is becoming increasingly expensive. We do not know if we will be able to maintain existing insurance with adequate levels of coverage in the future, and any liability insurance coverage we acquire in the future may not be sufficient to reimburse us for any expenses or losses we may suffer. If we obtain marketing approval for any drug candidates that we or our collaborators may develop, we intend to acquire insurance coverage to include the sale of commercial products, but we may be unable to obtain such insurance on commercially reasonable terms or in adequate amounts. The coverage or coverage limits currently maintained under our insurance policies may not be adequate. If our losses exceed our insurance coverage, our financial condition would be adversely affected. Clinical trials or regulatory approvals for any of our drug candidates could be suspended, which could adversely affect our results of operations and business, including by preventing or limiting the development and commercialization of any drug candidates that we or our collaborators may identify. Additionally, operating as a public company has made it more expensive for us to obtain directors and officers liability insurance. If we do not maintain adequate levels of directors and officers liability insurance, it may be more difficult for us to attract and retain qualified individuals to serve on our board of directors and in our executive team.

***Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.***

We have substantial federal and state net operating loss (NOL) carryforwards. To the extent that we continue to generate taxable losses as expected, unused losses will carry forward to offset future taxable income, if any, until such unused losses expire, except the federal NOLs generated during and after fiscal year 2018 are carried forward indefinitely. Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change," its ability to use pre-change NOL carryforwards and certain other pre-change tax attributes (such as research tax credits) to offset its post-change income could be subject to an annual limitation. An "ownership change" is generally defined as a greater than 50% change by value in the ownership of the corporation's equity by one or more 5% shareholders over a three-year period. Such annual limitation could result in the expiration of a portion of our NOL carryforwards before full utilization thereof. We may have experienced ownership changes within the meaning of Section 382 in the past and we may experience some ownership changes in the future as a result of subsequent shifts in our stock ownership, such as a result of our follow-on offerings or subsequent shifts in our stock ownership (some of which shifts are outside our control). We have not yet conducted a study to assess whether an ownership change has occurred. Future legislative or regulatory changes could also negatively impact our ability to utilize our NOL carryforwards or other tax attributes. We also have substantial foreign NOLs, which are likely subject to similar restrictions under the laws of the applicable jurisdiction. Provisions of state or foreign tax law may also suspend or otherwise limit our ability to use NOLs and accumulated state or foreign tax attributes. As a result, if we attain profitability, we may be unable to use all or a material portion of our

NOL carryforwards and other tax attributes for federal, state or foreign tax purposes, which could result in increased tax liability and adversely affect our future cash flows.

***Changes in tax laws or regulations that are applied adversely to us or disagreements between us and tax authorities regarding the application of existing tax laws or regulations may have a material adverse effect on our business, cash flow, financial condition or results of operations.***

New income, sales, use or other tax laws or regulations could be enacted at any time, which could affect our tax profile and our business and financial performance. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. For example, the Tax Cuts and Jobs Act of 2017 (TCJA) eliminated the option to deduct research and development expenditures currently and requires taxpayers to capitalize and amortize them over five or fifteen years pursuant to Code Section 174, beginning in 2022. Further, the Inflation Reduction Act of 2022 (IRA), among other changes, imposes a one-percent excise tax on stock repurchases made on or after January 1, 2023. Any further changes in tax laws or regulations that are applied adversely to us could have a material adverse effect on our business, cash flow, financial condition or results of operations.

A tax authority may disagree with tax positions that we take, and may take the position that tax liabilities, interest and penalties, which could be material, are payable by us. Contesting such an assessment may be lengthy and costly and if we were unsuccessful in disputing the assessment, the implications could increase our anticipated effective tax rate, where applicable.

***If our estimates or judgments relating to our critical accounting policies prove to be incorrect, or financial reporting standards or interpretations change, our results of operations could be adversely affected.***

The preparation of financial statements in conformity with generally accepted accounting principles in the United States (U.S. GAAP) requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience, known trends and events, and various other factors that we believe to be reasonable under the circumstances, as provided in “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Use of Estimates.” The results of these estimates form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Significant assumptions and estimates used in preparing our consolidated financial statements include stock-based compensation and valuation of our equity investments in early-stage biotechnology companies. Our results of operations may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions.

Additionally, we regularly monitor our compliance with applicable financial reporting standards and review new pronouncements and drafts thereof that are relevant to us. As a result of new standards, changes to existing standards, or changes in their interpretation, we might be required to change our accounting policies, alter our operational policies, and implement new or enhanced systems so that they reflect new or amended financial reporting standards, or we may be required to restate our published financial statements, which may have an adverse effect on our financial position and reputation.

***Product liability lawsuits could cause us to incur substantial liabilities and could limit commercialization of any drug candidates that we may develop.***

We face an inherent risk of product liability exposure related to the testing of drug candidates in human clinical trials, and we will face an even greater risk if we commercially sell any medicines that we may develop. If we cannot successfully defend ourselves against claims that our drug candidates or medicines caused injuries, we could incur substantial damages or settlement liability. Regardless of merit or eventual outcome, liability claims may also result in adverse effects including but not limited to the following:

- decreased demand for any drug candidates or therapeutics that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend the litigation;



- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- the inability to commercialize our drug candidates.

Although we maintain product liability insurance, including coverage for clinical trials that we sponsor, it may not be adequate to cover all liabilities that we may incur. We anticipate that we will need to increase our insurance coverage as we commence additional clinical trials and if we successfully commercialize any drug candidates. The market for insurance coverage can be challenging, and the costs of insurance coverage will increase as our clinical programs increase in size. We may not be able to maintain insurance coverage at a reasonable cost and with adequate limits to satisfy any and all liability that may arise.

## **RISKS RELATED TO OUR RELIANCE ON THIRD PARTIES**

***Third parties that perform some of our research and preclinical testing or conduct our clinical trials may not perform satisfactorily or their agreements may be terminated.***

We currently rely, and expect to continue to rely, on third parties to conduct some aspects of research and preclinical testing and clinical trials. The third parties include CROs, clinical data management organizations, contract laboratories, medical institutions, and principal investigators. Any of these third parties may fail to fulfill their contractual obligations, including by not meeting deadlines for the completion of research, testing, or trials, or we or they may terminate their engagements with us. If any of our relationships with these third parties terminate, we may not be able to enter into arrangements with alternative third parties on commercially reasonable terms, or at all. If we need to enter into alternative arrangements, such negotiations could delay product development activities. Termination of or limitations on our relationships with foreign third parties can also occur if U.S. legislation, sanctions, trade restrictions, or other U.S. and foreign regulatory requirements, prohibitions or restrictions, limit or prevent our ability to enter into arrangements with such foreign third parties. For example, we currently rely on foreign CROs and CDMOs, including an affiliate/subsidiary of WuXi AppTec Co., Ltd. (WuXi AppTec) in China that has been listed as a biotechnology company “of concern” in proposed U.S. legislation known as the BIOSECURE Act. While the BIOSECURE Act as currently proposed would restrict purchasing of services or products from WuXi AppTec and other companies of concern in China, it would only impact U.S. companies that contract with or receive funding from the U.S. government, which means that our company would not be directly impacted by the BIOSECURE Act. As another example, the Department of Justice recently issued a final rule which takes effect in April 2025 that places limitations, and in some cases prohibitions, on certain transfers of sensitive personal data to business partners located in China or with other specified links to China (and other designated countries). These and other future further legislation, sanctions, or restrictions could adversely impact our current or future third-party arrangements with companies such as WuXi AppTec which could delay or impact clinical trials and consequently delay or obstruct successful commercialization of our drug candidates.

Our reliance on third parties for research and development activities reduces our control over these activities, but does not relieve us of our responsibilities. For example, we remain responsible for ensuring that each of our respective clinical trials is conducted in accordance with the general investigational plan and protocols for the trial, as well as applicable legal, regulatory, and scientific standards. We also are required to register ongoing clinical trials and post the results of completed clinical trials on a government-sponsored database within certain timeframes. In addition, the FDA and comparable foreign regulatory authorities require compliance with good clinical practices (GCP) guidelines for conducting, recording, and reporting the results of clinical trials to assure that data and reported results are credible, reproducible, and accurate, and that the rights, integrity, and confidentiality of trial participants are protected. Regulatory authorities enforce GCP compliance through periodic inspections of trial sponsors, principal investigators, and trial sites.

If we or any of the third parties fail to comply with applicable GCP regulations, some or all of the clinical data generated in our clinical trials may be deemed unreliable, and the FDA or comparable foreign regulatory authorities may require us to perform additional nonclinical or clinical trials or to enroll additional patients before approving our marketing applications. In addition, if we or the third parties fail to comply with our stated protocols or applicable laws and regulations during the conduct of clinical trials, we or the third parties could be subject to warning letters or enforcement actions by the FDA and comparable foreign regulatory authorities, which could result in civil penalties or criminal prosecution, as well as adverse publicity that harms our business.

We also will not be able to obtain, or may be delayed in obtaining, marketing approvals for any drug candidates we may develop if these third parties do not successfully carry out their contractual duties, meet expected deadlines, or conduct clinical trials in accordance with our stated protocols or regulatory requirements. As a result, we may be delayed or unable to successfully commercialize our drug candidates.

***Third parties that manufacture our drug candidates for preclinical development, clinical testing, and future commercialization may not provide sufficient quantities of our drug candidates or products at an acceptable cost, which could delay, impair, or prevent our development or commercialization efforts.***

We do not currently own or operate any manufacturing facilities and have no manufacturing personnel. We rely, and expect to continue to rely, on third parties for drug supplies for our clinical trials, the manufacture of many of our drug candidates for preclinical development and clinical testing, as well as the commercial manufacture of our products if any of our drug candidates receive marketing approval. We may be unable to establish necessary agreements with third-party manufacturers or to do so on acceptable terms. This reliance on third parties increases the risk that we will not have sufficient quantities of our drug candidates or products, or will not have sufficient quantities at an acceptable cost or quality, which could delay, impair, or prevent our development or commercialization efforts.

In addition, the facilities used by our contract manufacturers to manufacture our drug candidates must be inspected by the FDA pursuant to pre-approval inspections that will be conducted after we submit our marketing applications to the FDA. We do not expect to control the manufacturing process of, and will be completely dependent on, our contract manufacturers for compliance with current good manufacturing practice guidelines (cGMP) in connection with the manufacture of our drug candidates in the near to intermediate term, or possibly the long term. If our contract manufacturers cannot maintain adequate quality control and qualified personnel to successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or others, including cGMP guidelines, they will not be able to pass regulatory inspections and/or maintain regulatory compliance for their manufacturing facilities.

If the FDA or a comparable foreign regulatory authority finds deficiencies with, does not approve, or withdraws approval of these facilities for the manufacture of our drug candidates, we may need to find alternative manufacturing facilities, which would significantly impact our timelines and ability to develop, obtain regulatory approval for, or market our drug candidates, if approved. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for us. Our drug candidates and any other products that we may develop may compete with the drug candidates and approved products of other companies for access to manufacturing facilities or capacity, which may further restrict our ability to secure alternative manufacturing sites.

Further, our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of drug candidates or products that may be approved, operating restrictions, and criminal prosecutions, any of which could significantly and adversely affect our business, supplies of our drug candidates, and prospects.

Even if we are able to establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including but not limited to the following:

- reliance on the third party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third party;
- the possible misappropriation of our proprietary information, including our trade secrets and know-how; and
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us.

Any performance failure on the part of our existing or future third-party manufacturers could delay clinical development or marketing approval. If it is necessary to replace any such third-party manufacturer, we may incur added costs and delays in identifying and qualifying any a replacement. In addition, any performance failure on the part of our distributors could delay clinical development or marketing approval of any drug candidates we may develop or seek to commercialize, producing additional losses and depriving us of product revenue.

Our current and anticipated future dependence upon others for the manufacture and distribution of our drug candidates or products may adversely affect our future profit margins and our ability to commercialize any products that receive marketing approval on a timely and competitive basis, if at all.

***If we are unable to adequately source clinical and commercial supplies, equipment, and active pharmaceutical ingredients (API) from third party vendors as our drug development pipeline matures, our business could be significantly harmed.***

We procure raw materials, components, parts, consumables, reagents, and equipment used in the development and operation of our platform and the development of our drug candidates from third party vendors. We also rely on third party vendors to perform quality testing. Particular risks to our platform include reliance on third-party equipment and instrument suppliers and consumable and reagent suppliers. As we increase development of drug products and commence clinical testing and commercialization, we will require expanded capacity across our supply chain. We face risks regarding our sourcing of products and quality-testing services, including but not limited to the following:

- the inability of suppliers and service providers to grow their capacity to meet demand, whether from us or other drug manufacturers, particularly if the field of technology-enabled drug discovery continues to expand;
- termination or non-renewal of supply and service agreements with third parties in a manner or at a time that is costly or damaging to us;
- disruptions to the operations of these suppliers and service providers caused by conditions unrelated to our business or operations, including the bankruptcy of the supplier or service provider or force majeure events, such as public health crises, global political instability, natural disasters, supply chain issues, or warfare; and
- inspections of third-party facilities by regulatory authorities that could have a negative outcome and result in delays in, or termination of, their ability to meet our requirements.

Moreover, certain of our specialized equipment, as well as the API used in our drug candidates, are obtained from single-source suppliers. Our ability to successfully develop our drug candidates, and to ultimately supply our commercial products in quantities sufficient to meet the market demand, depends in part on our ability to obtain equipment and the API for these products in accordance with regulatory requirements and in sufficient quantities for clinical testing and commercialization. We do not currently have arrangements in place for a redundant or second-source supply of any such equipment or ingredients in the event any of our current suppliers fails or is unable to meet our requirements. While our single-source suppliers have generally met our demand for their products on a timely basis in the past, we are not certain that they will be able to meet our future demand, whether due to any of the above factors, the nature of our agreements with those suppliers, our limited experience with those suppliers, our relative importance as a customer, or any other reason. For all of our drug candidates, we intend to identify and qualify additional vendors and manufacturers, as available, to provide such equipment and API prior to our submission of an NDA to the FDA and/or an MAA to the EMA, which may require additional regulatory inspection or approval and result in further delay.

Any interruption or delay in the supply of components, materials, specialized equipment, API, and quality-testing sources at acceptable prices and in a timely manner could impede, delay, limit, or prevent our development efforts, which could harm our business, results of operations, and prospects.

## **RISKS RELATED TO OUR INTELLECTUAL PROPERTY**

***Our success significantly depends on our ability to obtain and maintain patents of adequate scope covering our proprietary technology and drug candidate products. Obtaining and maintaining patent assets is inherently challenging, and our pending and future patent applications may not issue with the scope we need, if at all.***

Our commercial success depends in significant part on our ability and the ability of our licensors and collaborators to obtain and maintain patent protection and other intellectual property rights in the United States and other countries relating to our drug product candidates and our core proprietary technologies important to the development and implementation of our business.

Patent prosecution is a complex, expensive, and lengthy process, with no guarantee that a patent will issue in a timely fashion or at all, or with sufficiently broad claims to protect our drug product candidates and proprietary technologies. Further, the laws and regulations for obtaining and maintaining patents are subject to change by legislative or judicial action in the relevant jurisdictions. The patent positions of pharmaceutical, biotechnology, and other life sciences companies in particular can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in biotechnology patents has emerged to date in the U.S., and tests used for determining the patentability of patent claims in all technologies are in flux. The pharmaceutical, biotechnology, and other life sciences patent laws and regulations outside the U.S. can be even more uncertain. The U.S. Patent and Trademark Office (USPTO) and patent offices in other jurisdictions have often required that patent applications concerning pharmaceutical and/or biotechnology-related inventions be limited or narrowed substantially to cover only the specific innovations exemplified in the patent application, thereby limiting the scope of protection against competitive challenges.

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 in the patent offices and courts in the United States and abroad. Third parties may invent, publish, or file patents of their own in ways which overlap or conflict with our patent rights. Moreover, even if unchallenged, our owned patent portfolio and any patent portfolio we license may not provide us with any meaningful protection or prevent competitors from designing around our patent claims to circumvent our owned or licensed patents by developing similar or alternative technologies or products in a non-infringing manner. For example, a third party may develop a competitive product that provides benefits similar to one or more of our drug candidates, but that has a different composition that falls outside the scope of our patent protection. In addition, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after its first effective, non-provisional filing date, and patents protecting drug candidates might expire before or shortly after the candidates are commercialized given the amount of time required for development, testing, and regulatory review. The various governmental patent agencies also require compliance with extensive rules and fee obligations. Failure to do so can, under certain circumstances, result in the abandonment of a patent application or the termination of patent rights. Non-compliance events that could result in abandonment or lapse of a patent or patent application include a failure to respond to official actions within prescribed time limits, non-payment of fees, and failure to properly legalize and submit formal documents.

We have patent applications pending before the USPTO and other patent offices, and we plan to file new applications in the future. Patent offices may require us to significantly narrow our claims based upon prior art discovered by the USPTO or through third-party submissions. Moreover, we do not always have the right to control the preparation, filing, prosecution, and maintenance of licensed patents and applications under arrangements with collaborators or licensors. We may become involved in procedural challenges, including *inter partes* review, which could result in the narrowing or elimination of our patent rights or those of our licensors. This could limit our ability to stop others from freely using or commercializing similar or identical technology and products, or limit the duration of the patent protection covering our technology and drug candidates. Such challenges may also result in our inability to manufacture or commercialize our drug candidates without infringing third-party patent rights. Further, inadvertent or intentional public disclosures of our inventions prior to the filing of a patent application have precluded us, and in the future may preclude us, from obtaining patent protection in certain jurisdictions. We also could fail to identify patentable aspects of our technology and research and development output in time to obtain patent protection.

We also currently own a number of U.S. provisional patent applications. These provisional applications are not eligible to become issued patents until, among other things, we file a non-provisional patent application within 12 months of filing one or more of our related provisional patent applications. If we do not timely file any non-provisional patent applications, we may lose our priority dates with respect to our provisional patent applications and any patent protection on the inventions disclosed in such applications.

Our current patent portfolio contains a limited number of patents and patent applications, some of which are in-licensed from third parties, related to our drug product candidates and methods of their use. While we license composition of matter patents for REC-4881 and REC-2282, we expect these patents to expire prior to commercial launch. We cannot be certain that any non-provisional patent applications we or our licensors may file will result in issued patent claims covering the composition of matter of REC-994, REC-2282, REC-4881, REC-3964, REC-617, REC-1245, REC-3565, or REC-4539.

We cannot provide any assurances that any of our or our licensors' pending or future patent applications will issue, or that any pending or future patent applications that mature into issued patents will include claims with a scope



sufficient to protect our drug candidates from competition. If we fail to obtain and maintain adequate intellectual property protection covering any technology, invention, or improvement that is important to our business, or if the scope of the patent protection obtained is not sufficiently broad, we may not be able to prevent third parties from launching generic versions of our products, from using our proprietary technologies, or from marketing products that are very similar or identical to ours. If the breadth or strength of protection provided by our patents and patent applications are threatened, it could also dissuade companies from collaborating with us to license, develop, or commercialize current or future drug candidates. This could have a material, adverse effect on our ability to successfully commercialize our technology and products, and on our business, results of operations, and prospects.

***Our current proprietary position for certain drug product candidates depends upon our owned or in-licensed patent filings covering components of such drug product candidates, manufacturing-related methods, formulations, and/or methods of use, which may not adequately prevent a competitor or other third party from using the same drug candidate for the same or a different use.***

Composition of matter patent protection is generally considered to be desirable for drug products because it provides protection without regard to any particular method of use or manufacturing, or formulation. For some of the molecules that we in-license from our collaboration partners, we cannot rely on composition of matter patent protection as the term on those patents has already expired or is close to expiring.

Method of use patents protect the use of a product for the specified method and formulation patents cover formulations to deliver therapeutics. While we file applications covering method of use for our programs at appropriate times in the development process, we cannot be certain that claims in any future patents issuing from these applications will cover all commercially-relevant applications of molecules in competing uses. These types of patents do not prevent a competitor or other third party from developing, marketing, or commercializing a similar or identical product for an indication that is outside the scope of the patented method, or from developing a different formulation that is outside the scope of the patented formulation. Moreover, with respect to method of use patents, even if competitors or other third parties do not actively promote their product for our targeted indications or uses for which we may obtain patents, physicians may recommend that patients use these products off-label, or patients may do so themselves. Although off-label use may infringe or contribute to the infringement of method of use patents, the practice is common and this type of infringement is difficult to prevent or enforce. Additionally, some commercially-relevant jurisdictions do not allow for patents covering a new method of use of an otherwise-known molecule. Consequently, we may not be able to prevent third parties from practicing our inventions in the United States or abroad, which may have a material adverse effect on our business.

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

Filing, prosecuting, maintaining, and defending patents related to our drug product candidates or other proprietary technologies we may develop in all countries throughout the world would be prohibitively expensive, and the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products, and our patent rights 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 foreign jurisdictions. The legal systems of certain countries, such as certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patent rights or marketing of competing products in violation of our intellectual property and proprietary rights generally. In addition, some jurisdictions, such as Europe, Japan and China, may have a higher standard for patentability than in the United States, including, for example, the requirement of claims having literal support in the original patent filing and the limitation on using supporting data that is not in the original patent filing. Under those heightened patentability requirements, we may not be able to obtain sufficient patent protection in certain jurisdictions even though the same or similar patent protection can be secured in the U.S. and other jurisdictions.

Proceedings to enforce our intellectual property and proprietary rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patent rights

at risk of being invalidated or interpreted narrowly, could put our owned or in-licensed 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 and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or any of our licensors are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition, results of operations and prospects may be adversely affected.

In 2012, the European Patent Package, or EU Patent Package, regulations were passed with the goal of providing a single pan-European Unitary Patent and a new European Unified Patent Court, or UPC, for litigation involving European patents. Implementation of the EU Patent Package began in June 2023, when the UPC opened for business. Under the UPC, all European patents, including those issued prior to ratification of the European Patent Package, will by default automatically fall under the jurisdiction of the UPC. The UPC provides our competitors with a new forum to centrally revoke our European patents and allow for the possibility of a competitor to obtain pan-European injunctions. It will be several years before we will understand the scope of patent rights that will be recognized and the strength of patent remedies that will be provided by the UPC. Under the EU Patent Package, we have the right to opt our patents out of the UPC over the first seven years of the court's existence, but doing so may preclude us from realizing the benefits of the new unified court.

***If we do not obtain patent term extension and data exclusivity for any drug product candidates we may develop, our business may be materially harmed.***

Depending upon the timing, duration, and specifics of any FDA marketing approval of any drug candidates we may develop, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Action of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond 14 years from the date of product approval. Only one patent may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. However, we may not be granted an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents, or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our business, financial condition, results of operations and prospects could be materially harmed.

***We may need to license certain intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms.***

The growth of our business may depend in part on our ability to acquire, in-license or use third-party intellectual property and proprietary rights. A third party may hold intellectual property that is important or necessary to the development of our products. It may be necessary for us to use the patented or proprietary technology of third parties to commercialize our products, in which case we would be required to obtain a license from these third parties. For example, when we explore repurposing molecules owned by our collaboration partners or other third parties, we in-license the rights to use those molecules for our use. In addition, our drug product candidates may require specific formulations to work effectively and efficiently, we may develop product candidates containing our compounds and pre-existing pharmaceutical compounds, or we may be required by the FDA or comparable foreign regulatory authorities to provide a companion diagnostic test or tests with our product candidates, any of which could require us to obtain rights to use intellectual property held by third parties. In addition, with respect to any patent or other intellectual property rights we may co-own with third parties, we may require licenses to such co-owners' interest to such patent or other intellectual property rights. We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify as necessary or important to our business operations. In addition, we may fail to obtain any of these licenses at a

reasonable cost or on commercially reasonable terms, if at all. Were that to happen, we may need to cease use of the compositions or methods covered by those third-party intellectual property rights, and may need to seek to develop alternative approaches that do not infringe, misappropriate or otherwise violate those intellectual property rights, which may entail additional costs and development delays, even if we were able to develop such alternatives, which may not be feasible. Even if we are able to obtain a license, it may be non-exclusive, which means that our competitors may also receive access to the same technologies licensed to us. In that event, we may be required to expend significant time and resources to develop or license replacement technology. If we are not able to obtain a license, or to obtain one on commercially reasonable terms and with sufficient breadth to cover the intended use of third-party intellectual property, our business could be materially harmed.

The licensing and acquisition of third-party intellectual property rights is a competitive area, and companies that may be more established or have greater resources than we do may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their size, resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. There can be no assurance that we will be able to successfully complete these types of negotiations and ultimately acquire the rights to the intellectual property related to the products or product candidates that we may seek to develop or market. If we are unable to successfully obtain rights to required third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of certain programs and our business, financial condition, results of operations and prospects could suffer.

***Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.***

Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. Assuming that other requirements for patentability are met, prior to March 2013, in the United States, the first to invent the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application was entitled to the patent. After March 2013, under the Leahy-Smith America Invents Act (the America Invents Act) enacted in September 2011, the United States transitioned to a first inventor to file system in which, assuming that other requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. A third party that files a patent application in the USPTO after March 2013, but before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by such third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application. Since patent applications in the United States and most other countries are typically not published until 18 months after filing or until issuance, or in some cases not at all, we cannot be certain that we were the first to either (i) file any patent application related to our therapeutic and diagnostic programs and other proprietary technologies we may develop or (ii) invent any of the inventions claimed in our owned or in-licensed patent applications.

The America Invents Act also includes a number of significant changes that affect the way patent applications will be prosecuted and also may affect patent litigation. These include allowing third party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO administered post-grant proceedings, including post-grant review, *inter partes* review and derivation proceedings. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in United States federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. Therefore, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our owned or in-licensed patent applications and the enforcement or defense of patents issuing from those patent applications, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, the patent positions of companies in the development and commercialization of pharmaceuticals are particularly uncertain. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in

certain circumstances and weakened the rights of patent owners in certain situations. For example, U.S. Supreme Court rulings, such as *Amgen Inc. v. Sanofi*, 598 U.S. 594, 143 S. Ct. 1243 (2023), may limit the breadth of certain genus patent claims covering composition of matter of pharmaceutical products if enough compounds with shared claimed features are not provided. As such, we cannot guarantee that we will be able to obtain patents covering our drug product candidates. These cases and others like them have created uncertainty with respect to the validity and enforceability of patents, once obtained. Depending on future actions by the U.S. Congress, the federal courts and the USPTO, the laws and regulations governing patents could change in unpredictable ways. In addition, the complexity and uncertainty of European patent laws have also increased in recent years. Any of the foregoing could have a material adverse effect on our owned and in-licensed patent portfolio and our ability to protect and enforce our intellectual property in the future.

***Issued patents covering our drug product candidates and proprietary technology that we have developed or may develop in the future could be found invalid or unenforceable if challenged in court or before administrative bodies in the United States or abroad.***

Our patent rights may be subject to priority, validity, inventorship and enforceability disputes. Legal proceedings relating to intellectual property claims, with or without merit, are unpredictable and generally expensive and time-consuming and likely to divert significant resources from our core business, including distracting our management and scientific personnel from their normal responsibilities and generally harm our business. If we or our licensors are unsuccessful in any of these proceedings, such patents and patent applications may be narrowed, invalidated or held unenforceable, we may be required to obtain licenses from third parties, which may not be available on commercially reasonable terms or at all, or we may be required to cease the development, manufacture or commercialization of our product candidates. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

If we or one of our licensors initiated legal proceedings against a third party to enforce a patent covering our drug product candidates or methods of their use, or other proprietary technologies, we may develop, the defendant could counterclaim that such patent is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may raise claims challenging the validity or enforceability of a patent before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post-grant review, *inter partes* review, derivation proceedings, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). Such proceedings could result in the revocation of, cancellation of or amendment to our patent rights in such a way that they no longer cover our drug product candidates or methods of their use, and other proprietary technologies we may develop. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we or our licensing partners and the patent examiner were unaware during prosecution. If a third party were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our drug product candidates or methods of their use, or other proprietary technologies, that we may develop. Such a loss of patent protection would have a material adverse impact on our business, financial condition, results of operations and prospects.

***We may be subject to claims challenging the inventorship of our owned or in-licensed patent rights and other intellectual property.***

We may be subject to claims that former employees, collaborators or other third parties have an interest in our patent rights, trade secrets, or other intellectual property as an inventor or co-inventor. For example, we may have inventorship disputes arise from conflicting obligations of consultants or others who are involved in developing our therapeutic and diagnostic programs and other proprietary technologies we may develop. Litigation may be necessary to defend against these and other claims challenging inventorship or our patent rights, trade secrets or other intellectual property. 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, intellectual property that is important to our therapeutic and diagnostic programs and other proprietary technologies we may develop. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to



our management and other employees. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

***Intellectual property rights do not necessarily address all potential threats.***

The degree of future protection afforded by our intellectual property rights, and particularly those arising from patents, is uncertain because these rights have limitations and may not adequately protect our business or permit us to maintain our competitive advantage. Examples where our intellectual property rights may not further our competitive advantage include but are not limited to the following:

- others may be able to duplicate or utilize similar technology in a manner that infringes our patents but is undetectable or done in a jurisdiction where we have not secured, or cannot secure or enforce, patent rights;
- we, or our licensing partners or collaborators, might not have been the first to make the inventions covered by our owned or licensed current or future patent applications;
- we, or our licensing partners or collaborators, might not have been the first to file patent applications covering our or their inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our owned or licensed intellectual property rights;
- it is possible that our owned or licensed current or future patent applications will not lead to issued patents;
- any patent issuing from our owned or licensed current or future patent applications may be held invalid or unenforceable, including as a result of legal challenges by our competitors or other third parties, or may not provide us with any competitive advantages;
- our competitors or other third parties might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- it is possible that there are prior public disclosures that could invalidate our or our licensors' patents;
- we may not develop additional proprietary technologies that are patentable;
- the patents or pending or future patent applications of others, if issued, may harm our business; and
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property.

Should any of these events occur, they could have a material, adverse effect on our business, results of operations, and prospects.

***If we are unable to protect the confidentiality of our trade secrets and know-how, our business and competitive position may be harmed.***

In addition to the protection afforded by patents, we rely on trade secret protection and contractual arrangements to protect proprietary know-how, information, and technology that is not covered by our patents. With respect to curating our data and our library of small molecules generally, we consider trade secrets and know-how to be our primary intellectual property. Unpatented proprietary rights, including trade secrets and know-how, can be difficult to protect and may lose their value if their secrecy is lost or if they are independently developed by a third party.

We seek to protect our proprietary technology and processes, in part, by entering into non-disclosure and confidentiality agreements with parties that have access to them, including our collaborators, scientific advisors, employees, and consultants. We cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or proprietary technology and processes. Our agreements with our employees and consultants also require them to acknowledge ownership by us of inventions they may conceive as a result of their work for us and to perfect such ownership by assignment. However, we may not be able to prevent the unauthorized disclosure or use of our trade secrets or other confidential information through these agreements or other preventative measures. In addition, third parties, including our competitors, could independently develop and lawfully use the same or substantially equivalent trade secrets and know-how. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them from using that technology or

information to compete with us. Any loss of trade secret protection or other unpatented proprietary rights could harm our business, results of operations, financial condition, and prospects.

We may be subject to claims that third parties have an ownership interest in our trade secrets. For example, we may have disputes arise from conflicting obligations of our employees, consultants or others who are involved in developing our product candidate. Litigation may be necessary to defend against these and other claims challenging ownership of our trade secrets. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable trade secret rights, such as exclusive ownership of, or right to use, trade secrets that are important to our therapeutic programs and other proprietary technologies we may develop. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to our management and other employees. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

***We may not identify relevant third-party patents or may incorrectly interpret the relevance, scope or expiration of a third-party patent, which might adversely affect our ability to develop and market our drug product candidates.***

We cannot guarantee that any of our patent searches or analyses, including the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third-party patent and pending patent application in the United States and abroad that is relevant to or necessary for the commercialization of our current and future products and product candidates in any jurisdiction. The scope of a patent claim is determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending patent application may be incorrect, which may negatively impact our ability to market our products. We may incorrectly determine that our drug product candidates are not covered by a third-party patent or may incorrectly predict whether a third party's pending patent application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, and we may incorrectly conclude that a third-party patent is invalid and unenforceable. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our drug product candidates. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

***We may be subject to claims that we or our employees have wrongfully used or disclosed alleged trade secrets of third parties or are in breach of their non-competition or non-solicitation agreements with third parties.***

We take efforts intended to ensure that our employees and consultants do not use the intellectual property, proprietary information, know-how, or trade secrets of others in their work for us, or breach any applicable non-competition or non-solicitation agreement. However, we may in the future be subject to claims that we or these individuals have, inadvertently or otherwise, used or disclosed the alleged trade secrets or other proprietary information of a third party, including a former employer or competitor, or that we caused an employee or contractor to breach the terms of their non-competition or non-solicitation agreement with a third party. In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in obtaining such agreements or an assignment of rights to us.

Litigation may be necessary to defend against or enforce these claims, which may be costly, a distraction to management, and of uncertain outcome. If we are found liable for disclosure or misuse of a third party's proprietary information, or if we are unable to secure rights to intellectual property developed by an employee or contractor a court could prohibit us from using technologies or features that may be essential to our drug candidates that incorporate or are derived from such proprietary information, in addition to awarding damages. Moreover, any such litigation could also adversely affect our ability to hire or retain employees or contractors. If we are unable to establish our rights to valuable intellectual property or retain key personnel, this failure may prevent us from successfully commercializing our drug candidates and have an adverse effect on our business, financial condition, and results of operation.

***Litigation to defend against third party claims of intellectual property infringement, misappropriation or other violations against us or our collaborators, or to enforce our intellectual property rights or the intellectual property rights of our collaborators, presents numerous risks.***

The biotechnology and pharmaceutical industries are characterized by extensive and frequent litigation regarding patents and other intellectual property rights. Intellectual property litigation or other legal proceedings, with or without merit, is generally expensive and time consuming, potentially distracting to technical and management personnel, and subject to uncertain outcomes. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios.

Our commercial success depends upon our ability, and the ability of our collaborators, to develop, manufacture, market, and sell our drug product candidates, and to use our proprietary technologies, without infringing, misappropriating, or otherwise violating the intellectual property or proprietary rights of third parties. Given the vast and continually increasing number of patents in our field of technology, we cannot be certain that we do not infringe existing patents or that we will not infringe patents granted in the future. We may in the future become party to, or threatened with, litigation or adversarial proceedings initiated by our competitors or other third parties alleging that our products or technologies are covered by their patents.

Many companies have obtained patents or filed patent applications in areas important to our business, including artificial intelligence and deep learning, technology-aided drug discovery, CRISPR, high-throughput screening, and combinations of any or all of these fields. For example, we sublicense CRISPR-Cas9 gene editing technology from a licensed vendor, which provides critical tools upon which portions of our drug discovery process relies. CRISPR-Cas9 gene editing is a field that is highly active for patent filings and there are ongoing disputes between third parties, which we are not party to, regarding the ownership of and licensing rights related to the technology. The extensive patent filings related to CRISPR and Cas make it difficult for us to assess the full extent of relevant patents and pending applications that may cover this technology, and there may be third-party patents, or pending patent applications with claims that may issue in the future, covering our use of CRISPR-Cas9.

If we or our collaborators are found to infringe a third party's patent or other intellectual property rights, such determination could result in significant damages and costs including treble damages and attorneys' fees for willful infringement or royalties. In the event of a successful infringement claim against us or our collaborators, we may have to redesign the infringing products or technologies, which may be impossible or require substantial time and monetary expenditure. In addition, we could be required to obtain a license from such third party to continue developing and marketing our drug product candidates or other proprietary technology, which may not be available on commercially reasonable terms or at all, or to cease developing and commercializing the infringing technology or drug product candidates altogether. If we are prevented from commercializing our drug product candidates or forced to cease some of our business operations, this restriction could materially harm our reputation and have a significant adverse impact on our business, results of operations, and prospects.

We may initiate litigation, or file counterclaims, to protect or enforce our patents and other intellectual property rights if we believe competitors or other third parties have infringed, misappropriated, or otherwise violated our intellectual property rights or the intellectual property rights of our collaborators in certain circumstances. Our ability to enforce our intellectual property rights or the intellectual property rights of our collaborators is subject to litigation risks, including that the opposing party may seek counterclaims against us, as well as uncertainty as to the protection and enforceability of those rights in some countries. If we seek to enforce our patents or the patents of our collaborators, we may be subject to findings that these patents should be interpreted narrowly and do not cover the technology at issue, or that these patents are invalid or unenforceable. If we are unable to enforce and protect our intellectual property rights or the intellectual property rights of our collaborators, or if they are circumvented, invalidated, or rendered obsolete by the rapid pace of technological change, it could have an adverse impact on our competitive position, business, financial position, and prospects.

Competing products may also be sold in other countries in which our patent coverage might not exist or might not be as strong. The legal systems of some countries do not favor the enforcement of patents and other intellectual property rights, and other jurisdictions may have limited enforcement rights for patent holders. This could make it difficult for us to stop the infringement of our patents, if obtained, or the misappropriation of our

other intellectual property rights in other countries. Consequently, we and our licensors or collaborators may have limited remedies in those foreign countries if patents are infringed, or we or our licensors may be compelled to grant a license to a third party, which could materially diminish the value of those patents and could limit our potential revenue opportunities. In addition, competitors may use our technologies to develop their own products that compete with ours in jurisdictions where we have not obtained patent protection or where we have patent protection but limited enforcement rights. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate to obtain a significant commercial advantage from the intellectual property that we own or license.

Even if resolved in our favor, the foregoing proceedings could be very expensive, particularly for a company of our size, and time-consuming. Such proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such proceedings adequately. Some of our competitors may be able to sustain the costs of litigation or administrative proceedings.

***If we fail to comply with our obligations in the agreements under which we collaborate with or license intellectual property rights from third parties, if the licenses are terminated, if a dispute regarding these licenses arises, or we otherwise experience disruptions to our business relationships with our collaborators or licensors, we could lose rights that are important to our business.***

We license certain intellectual property that is important to our business and, in the future, we may enter into additional agreements that provide us with licenses to valuable intellectual property or technology. Our current license agreements impose, and we expect our future license agreements will impose, various development, diligence, commercialization, and other obligations on us in order to maintain the licenses. In spite of our efforts, a licensor might conclude that we have materially breached our obligations under a license agreement and seek to terminate the agreement, thereby removing or limiting our ability to develop and commercialize products and technology covered by the agreement. If these in-licenses are terminated, or if the underlying patent rights licensed thereunder fail to provide the intended exclusivity, competitors or other third parties would have the freedom to seek regulatory approval of, and to market, products identical to ours and we may be required to cease development and commercialization of certain of our drug candidates. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

Moreover, disputes may arise regarding intellectual property subject to a licensing agreement, including but not limited to the following:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which our technology and processes infringe, misappropriate or otherwise violate intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under our collaborative development relationships;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners;
- our right to transfer or assign the license agreement; and
- the priority of invention of patented technology.

The agreements under which we license intellectual property or technology from third parties are, and future agreements are likely to be, complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or it could increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected drug candidates, which could have a material adverse effect on our business, financial conditions, results of operations, and prospects.

These and similar issues may arise with respect to our collaboration agreements, such as the Bayer Agreement and the Roche Genentech Agreement. The Bayer Agreement, the Roche Genentech Agreement, the Merck Agreement, and the Sanofi Agreement are some of our key collaborations, and there is no assurance that these collaborations



will continue past their current terms, on favorable terms or at all, or that at any time while the collaborations are in effect the parties will operate under the agreements without disputes.

***Some of our intellectual property has been, and in the future may be, discovered through government-funded programs and thus may be subject to federal regulations such as “march-in” rights, certain reporting requirements, and a preference for U.S.-based companies, and compliance with such regulations may limit our exclusive rights and our ability to contract with non-U.S. manufacturers.***

Our intellectual property rights may be subject to a reservation of rights by one or more third parties. For example, certain intellectual property rights that we have licensed, or may in the future license, have been generated through the use of U.S. government funding. As a result, the U.S. government may have certain rights to intellectual property embodied in our current or future processes and related products and services. These U.S. government rights include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In addition, the U.S. government has the right, under certain limited circumstances, to require the licensor to grant exclusive, partially exclusive, or non-exclusive licenses to any of these inventions to a third party if the U.S. government determines that (1) adequate steps have not been taken to commercialize the invention and achieve practical application of the government-funded technology, (2) government action is necessary to meet public health or safety needs, (3) government action is necessary to meet requirements for public use under federal regulations or (4) we have failed to meet requirements of federal regulations (also collectively referred to as “march-in rights”).

The U.S. government also has the right to take title to these inventions if we or our licensors fail to disclose the invention to the government or fail to file an application to register the intellectual property within specified time limits. These rights may permit the U.S. government to disclose our confidential information to third parties. In addition, our rights in such inventions may be subject to requirements to manufacture products embodying such inventions in the United States. Intellectual property generated under a government-funded program is also subject to certain reporting requirements, compliance with which may require us to expend substantial resources.

Any exercise by the U.S. government of such rights could have a material adverse effect on our competitive position, business, results of operations, financial condition, and prospects.

***If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.***

Our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented, declared generic, or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential collaborators or customers in our markets of interest. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. Our efforts to enforce or protect our proprietary rights related to our intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely affect our business, financial condition, results of operations, and prospects.

## **RISKS RELATED TO ACQUISITIONS**

***The failure to integrate successfully the businesses of Recursion and Exscientia in the expected timeframe would adversely affect Recursion’s future business and financial performance***

The combination of two independent companies is a complex, costly and time-consuming process. As a result, the combined company will be required to devote significant management attention and resources to integrate the business practices and operations of Exscientia and Recursion. The integration process may disrupt the business of either or both of the companies and, if implemented ineffectively, could preclude realization of the full benefits expected by Exscientia and Recursion business combination. The failure of Recursion to meet the challenges involved in successfully integrating the operations of Exscientia and Recursion or otherwise to realize the anticipated benefits of the business combination could cause an interruption of the activities of Recursion and could seriously harm its results of operations. In addition, the overall integration of the two companies may result in

material unanticipated problems, expenses, liabilities, competitive responses, loss of customer relationships and diversion of management's attention, and may cause Recursion's stock price to decline. The difficulties of combining the operations of Recursion and Exscientia include, among others:

- managing a significantly larger company;
- coordinating geographically separate organizations, including extensive operations outside of the U.S.;
- the potential diversion of management's focus and resources from other strategic opportunities and from operational matters;
- performance shortfalls at one or both of the companies as a result of the diversion of management's attention caused by integrating the companies' operations;
- aligning and executing the strategy of Recursion and Exscientia;
- retaining existing business relationships and executing new strategic or commercial relationships;
- maintaining employee morale and retaining key management and other employees;
- the disruption of, or the loss of momentum in, each company's ongoing business or inconsistencies in standards, controls, systems, procedures and policies;
- integrating two unique business cultures, which may prove to be incompatible;
- the possibility of faulty assumptions underlying expectations regarding the integration process;
- consolidating corporate and administrative infrastructures and eliminating duplicative operations;
- integrating IT, communications and other systems;
- changes in applicable laws and regulations; and
- managing tax costs or inefficiencies associated with integrating the operations of Recursion and Exscientia.

Many of these factors will be outside of Recursion's control and any one of them could result in increased costs, decreased revenues and diversion of management's time and energy, which could materially impact the combined company's business, financial condition and results of operations. In addition, even if the operations of Recursion and Exscientia are integrated successfully, Recursion may not realize the full benefits of the business combination, including the cost savings or other benefits and synergies that Recursion and Exscientia expect. These benefits may not be achieved within the anticipated timeframe, or at all. As a result, Recursion and Exscientia cannot assure their respective stockholders, shareholders and ADS holders that the combination of Recursion and Exscientia will result in the realization of the full benefits anticipated from the business combination.

***The anticipated benefits of the business combination with Exscientia may vary from expectations.***

Recursion may fail to realize the anticipated cost savings or other benefits expected from the business combination with Exscientia, which could adversely affect its business, financial condition and operating results. The success of the business combination will depend, in significant part, on Recursion's ability to successfully integrate the businesses of Recursion and Exscientia and realize the anticipated strategic benefits and synergies from the business combination. Recursion and Exscientia believe that the combination of the two businesses will complement each party's strategy by providing a balanced and diversified product portfolio, operational efficiencies, supply chain optimization, complementary geographic footprints, product development synergies and capital raising opportunities. However, achieving these goals requires, among other things, realization of the targeted cost synergies expected from the business combination. The anticipated benefits of the business combination and actual operating, technological, strategic and revenue opportunities may not be realized fully or at all, or may take longer to realize than expected. If Recursion is not able to achieve these objectives and realize the anticipated benefits and synergies expected from the business combination within the anticipated timeframe or at all, Recursion's business, financial condition and operating results may be adversely affected.

***The future results of Recursion will suffer if Recursion does not effectively manage its expanded operations resulting from the business combination with Exscientia.***

As a result of the business combination with Exscientia, the size of the business of Recursion has increased significantly. Recursion's future results depends, in part, upon its ability to manage this expanded business, which

will pose substantial challenges for management, including challenges related to the management and monitoring of new operations and associated increased costs and complexity. There can be no assurance that Recursion will be successful or that it will realize the expected operating efficiencies, cost savings, revenue enhancements and other benefits currently anticipated from the business combination.

***Business issues currently faced by Recursion or Exscientia may be imputed to the operations of the other.***

To the extent either Recursion or Exscientia had, or is perceived by business partners to have had, operational challenges, such as performance, management or workforce issues, those challenges may raise concerns by existing business partners of the other company, which may limit or impede Recursion's future ability to obtain additional business from those business partners.

***Recursion is exposed to greater foreign currency exchange risk.***

As a result of integrating the businesses of Exscientia, Cyclica, and Valence, a greater portion of Recursion's business takes place in international markets. Recursion will conduct its business and prepare its consolidated financial statements in its functional currency, while the financial statements of each of its subsidiaries will be prepared in the functional currency of that entity and the business of that entity will be conducted in the functional currency of that entity. Accordingly, it is expected that Recursion's revenues and earnings will be exposed to the risks that may arise from fluctuations in foreign currency exchange rates, which could have a material adverse effect on Recursion's business, results of operations or financial condition.

***As a company with substantial operations outside of the United States, we are subject to economic, political, regulatory and other risks associated with international operations.***

As a result of our acquisitions, we now have substantial operations in Canada, England, Scotland, and our business is subject to risks associated with conducting business outside of the United States. Many of our suppliers and clinical trial relationships are now located outside the United States. Accordingly, our future results could be harmed by a variety of factors, including:

- economic weakness, including inflation, or political instability in certain non-U.S. economies and markets;
- differing and changing regulatory requirements for product approvals;
- differing jurisdictions could present different issues for securing, maintaining or obtaining freedom to operate in such jurisdictions;
- potentially reduced protection for intellectual property and proprietary rights;
- difficulties in compliance with different, complex and changing laws, regulations and court systems of multiple jurisdictions and compliance with a wide variety of foreign laws, treaties and regulations;
- changes in non-U.S. regulations and customs, tariffs and trade barriers;
- changes in currency exchange rates of the pound sterling, euro and the risk of the imposition of currency controls;
- changes in a specific country's or region's political or economic environment;
- trade protection measures, import or export licensing requirements or other restrictive actions by governments;
- differing reimbursement regimes and price controls in certain non-U.S. markets;
- negative consequences from changes in tax laws or practice;
- compliance with tax, employment, immigration and labor laws for employees living or travelling abroad, including, for example, the variable tax treatment in different jurisdictions of options granted under our share option schemes or equity incentive plans;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- litigation or administrative actions resulting from claims against us by current or former employees or consultants individually or as part of class actions, including claims of wrongful terminations, discrimination, misclassification or other violations of labor law or other alleged conduct;
- difficulties associated with staffing and managing international operations, including differing labor relations;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geo-political actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires and other natural disasters caused by climate change.

***We have in the past and may in the future acquire other companies or technologies, which could divert our management's attention, result in additional dilution to our shareholders and otherwise disrupt our operations and adversely affect our operating results.***

In August 2021, Exscientia acquired 100% of the outstanding share capital of Allcyte GmbH, a precision medicine biotechnology company. In May 2023, we acquired Cyclica and Valence, and in November 2024, we entered into a business combination with Exscientia. We may in the future seek to acquire or invest in additional businesses, solutions or technologies that we believe could complement or expand our solutions, enhance our technical capabilities, or otherwise offer growth opportunities. The pursuit of potential acquisitions or business combinations may divert the attention of management and cause us to incur various expenses in identifying, investigating and pursuing suitable acquisitions, whether or not they are consummated.

Our success in realizing any such growth opportunities and cost synergies, and the timing of this realization, depends on the successful integration of any acquired company's, business and operations with our business and operations. Even if we are able to integrate our business with acquired businesses or the business of a future acquisition target successfully, this integration may not result in the realization of the outcomes and benefits, growth opportunities, and cost synergies we expect within the anticipated time frame or at all. Moreover, we may incur substantial expenses in connection with the integration of any acquired company's business with our business. While we may be able to anticipate that certain expenses will be incurred, such expenses are difficult to estimate accurately, and may exceed our estimates. Accordingly, the outcomes and benefits from any future acquisition may be offset by costs incurred or delays in integrating the potential acquisition targets, which could cause the outcomes and benefits we may anticipate to be inaccurate or not realized.

In addition, a significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill and other intangible assets, which must be assessed for impairment at least annually. In the future, if our acquisitions do not yield expected returns, we may be required to take charges to our operating results based on this impairment assessment process, which could adversely affect our results of operations.

Acquisitions could also result in dilutive issuances of equity securities or the incurrence of debt, which could adversely affect our operating results. In addition, if an acquired business fails to meet our expectations, our business, financial condition, results of operations and prospects may suffer.

## **RISKS RELATED TO GOVERNMENT REGULATION**

***We may be unable to obtain U.S. or foreign regulatory approval and, as a result, may be unable to commercialize our product candidates.***

Our product candidates are and will continue to be subject to extensive governmental regulations relating to, among other things, research, testing, development, manufacturing, safety, efficacy, approval, recordkeeping, reporting, labeling, storage, packaging, advertising and promotion, pricing, marketing and distribution of drugs. Rigorous preclinical testing and clinical trials and an extensive regulatory approval process must be successfully completed in the United States and in many foreign jurisdictions before a new drug can be approved for marketing. Satisfaction of these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. We cannot provide any assurance that any product candidate we may develop will progress through required clinical testing and obtain the regulatory approvals necessary for us to begin selling them.

We have not conducted, managed or completed large-scale or pivotal clinical trials nor managed the regulatory approval process with the FDA or any other regulatory authority. The time required to obtain approvals from the FDA and other regulatory authorities is unpredictable and requires successful completion of extensive clinical trials which typically takes many years, depending upon the type, complexity and novelty of the product candidate. The standards that the FDA and its foreign counterparts use when evaluating clinical trial data can, and often does, change during drug development, which makes it difficult to predict with any certainty how they will be applied. We may also encounter unexpected delays or increased costs due to new government regulations, including future legislation or administrative action, or changes in FDA policy during the period of drug development, clinical trials and FDA regulatory review.

Any delay or failure in seeking or obtaining required approvals would have a material and adverse effect on our ability to generate revenue from any particular product candidates we are developing and for which we are seeking approval. Furthermore, any regulatory approval to market a drug may be subject to significant limitations on the approved uses or indications for which we may market, promote and advertise the drug or the labeling or other



restrictions. In addition, the FDA has the authority to require a REMS plan as part of approving a marketing application, or after approval, which may impose further requirements or restrictions on the distribution or use of an approved drug. These requirements or restrictions might include limiting prescribing to certain physicians or medical centers that have undergone specialized training, limiting treatment to patients who meet certain safe-use criteria and requiring treated patients to enroll in a registry. These limitations and restrictions may significantly limit the size of the market for the drug and affect reimbursement by third-party payors.

We are also subject to numerous foreign regulatory requirements governing, among other things, the conduct of clinical trials, manufacturing and marketing authorization, pricing and third-party reimbursement. The foreign regulatory approval process varies among countries, and generally includes all of the risks associated with FDA approval described above as well as risks attributable to the satisfaction of local regulations in foreign jurisdictions. Moreover, the time required to obtain approval may differ from that required to obtain FDA approval.

***The FDA, EMA and other comparable foreign regulatory authorities may not accept data from trials conducted in locations outside of their jurisdiction.***

The acceptance of study data by the FDA, EMA or other comparable foreign regulatory authority from clinical trials conducted outside of their respective jurisdictions may be subject to certain conditions. In cases where data from United States clinical trials are intended to serve as the basis for marketing approval in the foreign countries outside the United States, the standards for clinical trials and approval may be different. There can be no assurance that any United States or foreign regulatory authority would accept data from trials conducted outside of its applicable jurisdiction. If the FDA, EMA or any applicable foreign regulatory authority does not accept such data, it would result in the need for additional trials, which would be costly and time-consuming and delay aspects of our business plan, and which may result in our product candidates not receiving approval or clearance for commercialization in the applicable jurisdiction.

Uncertainty in the regulatory framework could also result in disruption to the supply and distribution as well as the import/export both of active pharmaceutical ingredients and finished product. Such a disruption could create supply difficulties for ongoing clinical trials. The cumulative effects of the disruption to the regulatory framework, uncertainty in future regulation, and changes to existing regulations may increase our development lead time to marketing authorization and commercialization of products in the EU and/or the UK and increase our costs. We cannot predict the impact of such changes and future regulation on our business or the results of our operations.

***Even if we receive FDA or other regulatory approval for any of our drug candidates, we will be subject to ongoing regulatory obligations and other conditions that may result in significant additional expense, as well as the potential recall or market withdrawal of an approved product if unanticipated safety issues are discovered.***

Even if the FDA or a comparable foreign regulatory authority approves any of our drug candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion, and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements also include submission of safety and other post-marketing information and reports, establishment registration and listing, as well as continued compliance with cGMPs for manufacturing processes and GCPs for any clinical trials that we conduct post-approval. Any regulatory approvals that we receive for our drug candidates may also be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or they may contain requirements for potentially costly post-marketing studies and surveillance to monitor the safety and efficacy of the drug product.

Any failure to comply with regulatory requirements, or any discovery of previously unknown problems with a drug product — including adverse events of unanticipated severity or frequency — or with our third-party manufacturers or manufacturing processes, may result in, among other things:

- restrictions on the marketing or manufacturing of the drug product, withdrawal of the product from the market, or voluntary or mandatory product recalls;
- clinical trial holds;
- fines, warning letters or other regulatory enforcement action;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us;
- product seizure or detention, or refusal to permit the import or export of drug products; and
- injunctions or the imposition of civil or criminal penalties.

The occurrence of any of the foregoing actions could materially and adversely affect our reputation, business,

results of operation, and prospects.

***Though we have been granted orphan drug designation for certain of our drug candidates, we may be unsuccessful or unable to maintain the benefits associated with such a designation, including the potential for market exclusivity.***

As part of our business strategy, we have sought orphan drug designation for certain of our drug candidates and may do so for other drug candidates in the future. Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs for relatively small patient populations as orphan drugs. The FDA may designate a drug as an orphan drug if it is intended to treat a rare disease or condition. In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers.

Similarly in Europe, the European Commission, upon the recommendation of the EMA's Committee for Orphan Medicinal Products, grants orphan drug designation for drugs intended for the diagnosis, prevention, or treatment of a life-threatening, seriously debilitating or serious and chronic condition when, without incentives, it is unlikely that sales of the drug in Europe would be sufficient to justify the necessary investment in developing the drug. In Europe, orphan drug designation entitles a party to financial incentives such as reduction of fees or fee waivers. We have received orphan drug designation from the FDA and European Commission for REC-4881 for the potential treatment of FAP and REC-994 for the potential treatment of CCM, but we may be unsuccessful with respect to other drug candidates in the future.

Generally, if a drug with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the drug is entitled to a period of marketing exclusivity, which precludes the FDA or the EMA from approving another marketing application for the same drug and indication for that time period, except in limited circumstances. The applicable period is seven years in the United States and ten years in Europe. The European exclusivity period can be reduced to six years if a drug no longer meets the criteria for orphan drug designation or if the drug is sufficiently profitable so that market exclusivity is no longer justified. Even if we obtain orphan drug exclusivity for a drug, that exclusivity may not effectively protect the drug from competition because different drugs can be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve a different drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective, or makes a major contribution to patient care. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. Moreover, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition or if another drug with the same active part of the molecule is determined to be safer, more effective, or represents a major contribution to patient care. Orphan drug designation neither shortens the development time or regulatory review time of a drug, nor gives the drug any advantage in the regulatory review or approval process. While we may seek orphan drug designation for our drug candidates, we may never receive such designations. Even if we do receive such designations, there is no guarantee that we will enjoy the benefits of those designations.

In response to the court decision in *Catalyst Pharms., Inc. v. Becerra*, 14 F.4th 1299 (11th Cir. 2021), in January 2023, which challenged FDA's orphan exclusivity determination, the FDA published a notice in the Federal Register to clarify that while the agency complies with the court's order in *Catalyst*, the FDA intends to continue to apply its longstanding interpretation of the regulations to matters outside of the scope of the *Catalyst* order – that is, the agency will continue tying the scope of orphan-drug exclusivity to the uses or indications for which a drug is approved, which permits other sponsors to obtain approval of a drug for new uses or indications within the same orphan designated disease or condition that have not yet been approved. It is unclear how future litigation, especially in view of Supreme Court's overturn of the *Chevron* doctrine in *Loper Bright Enterprises v. Raimondo*, legislation, agency decisions, and administrative actions under the new Trump administration will impact the scope of the orphan drug exclusivity.

***Obtaining and maintaining regulatory approval of our drug candidates in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of our drug candidates in other jurisdictions.***

We may submit marketing applications in countries other than the United States. Regulatory authorities in jurisdictions outside of the United States have requirements for approval of drug candidates with which we must

comply prior to marketing in those jurisdictions. For example, our trials to date have consisted of small patient populations and some international regulatory filings may require larger patient populations or additional nonclinical studies or clinical trials.

Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties, and costs for us and could delay or prevent the introduction of our products in certain countries. If we fail to comply with the regulatory requirements in international markets and/or fail to receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our drug candidates will be harmed.

Obtaining and maintaining regulatory approval of our drug candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain regulatory approval in any other jurisdiction, although a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in others. For example, even if the FDA grants marketing approval of a drug candidate, comparable regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing, and promotion of the drug candidate in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States. These may include additional nonclinical studies and clinical trials since clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In short, the foreign regulatory approval process involves all of the risks associated with FDA approval. In many jurisdictions outside the United States, a drug candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we may intend to charge for our drug products will also be subject to regulatory approval.

***Failure to comply with anti-bribery and anti-corruption laws and anti-money laundering laws, and similar laws, could subject us to penalties and other adverse consequences.***

We have expanded our operations outside of the United States, use service providers in many regions outside the U.S. and expect our foreign activities to increase in the future. If we continue expanding our operations outside of the United States, we must dedicate additional resources to comply with U.S. laws governing activities in other countries, as well as numerous laws and regulations in each jurisdiction in which we plan to operate, such as the U.S. Foreign Corrupt Practices Act, the United Kingdom Bribery Act 2010, and similar laws, U.S. and foreign anti-money laundering laws and regulations.

Anti-corruption and anti-bribery laws have been enforced aggressively in recent years and are interpreted broadly to generally prohibit companies, their employees, agents, representatives, business partners, and third-party intermediaries from authorizing, offering, or providing, directly or indirectly, improper payments or benefits to recipients in the public or private sector. Compliance with the FCPA is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents particular 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 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.

We have direct or indirect interactions with officials and employees of governmental agencies or government-affiliated hospitals, universities or other organizations. We engage third parties for clinical trials and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals and to otherwise assist in conducting our business abroad. We can be held liable for the corrupt or other illegal activities of our employees, agents, representatives, business partners and third parties, even if we do not explicitly authorize or have prior knowledge of such activities. These laws also require that we keep accurate books and records and maintain internal controls and compliance procedures designed to prevent any such actions. We cannot assure you that all of our employees, agents, representatives, business partners, or third-party intermediaries will not take actions in violation of applicable law for which we may be ultimately held responsible. As we increase our international sales and business, our risks under these laws may increase.

Changing, inconsistent, or conflicting laws, rules and regulations governing international business practices, and ambiguities in their interpretation and application, create uncertainty and challenges. Any allegations or failure to comply with any such laws or regulations may result in whistleblower complaints, sanctions, settlements, prosecution, enforcement actions, fines, damages, adverse media coverage, investigations, substantial civil and criminal penalties, and suspension or debarment from government contracting, all of which may have an adverse

effect on our reputation, business, results of operations, and prospects. Responding to any investigation or action will likely result in a materially significant diversion of management's attention and resources and significant defense costs and other professional fees. The SEC also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions.

***We are subject to various governmental export controls, trade and economic sanctions, and import laws and regulations that could impair our ability to compete in international markets and subject us to liability if we are not in full compliance with applicable laws.***

Our products and technologies are subject to export control laws and regulations, including the Export Administration Regulations administered by the U.S. Department of Commerce, and our products, technologies, and activities are subject to trade and economic sanctions, including those administered by the U.S. Treasury Department's Office of Foreign Assets Control, or OFAC, as well as regulations administered by the governments of the United Kingdom and authorities in the European Union, which we collectively refer to as trade controls. As such, licenses and notices may be required to import products, technologies, and services from or export or re-export products, technologies, and services to certain countries and end users and for certain end uses. For example, the U.S. government continues to add additional entities in China and elsewhere to restricted party lists impacting the ability of U.S. companies to provide products, technology, and services to, and in some cases receive products, technologies, and services from, these entities. These controls may impact our ability to import certain products, technology, or services from or export or re-export certain products, technology, or services to China and other destinations, and it is also possible that the Chinese government will retaliate in ways that could impact our business. The process for obtaining necessary licenses and making required notices may be time-consuming or unsuccessful, potentially causing delays in sales or losses of sales opportunities. Trade controls are complex and dynamic regimes and monitoring and ensuring compliance can be challenging. Any failure to comply with these regimes could subject us to both civil and criminal penalties, including substantial fines, possible incarceration of responsible individuals for willful violations, possible loss of our export or import privileges, and reputational harm. In addition, investigating or defending against any such allegations, actions, or investigations will likely result in a materially significant diversion of management's attention and resources and significant defense costs and other professional fees.

In addition, various countries regulate the import of certain encryption technology, including through import permit and license requirements, and have enacted laws that could limit our ability to distribute our products or could limit our end-customers' ability to implement our products in those countries. Changes in our products or changes in export and import regulations in such countries may create delays in the introduction of our products into international markets, prevent our end-customers with international operations from deploying our products globally or, in some cases, prevent or delay the export or import of our products to certain countries, governments, or persons altogether. Any change in export or import laws or regulations, economic sanctions, or related legislation, shift in the enforcement or scope of existing export, import, or sanctions laws or regulations, or change in the countries, governments, persons, or technologies targeted by such export, import, or sanctions laws or regulations, could result in decreased use of our products by, or in our decreased ability to export or sell our products to, existing or potential end-customers with international operations. Any decreased use of our products or limitation on our ability to export to or sell our products in international markets could adversely affect our business, financial condition, and results of operations.

Tariffs could also have a material impact on our product costs and decrease our ability to sell our products and services to existing or potential customers as well as harm our ability to compete internationally. Currently, uncertainties concerning tariffs between the United States and Canada, and the United States and China are particularly high. The U.S. government has imposed significant tariffs on a variety of items imported from other countries, particularly China. China responded by imposing significant tariffs on a variety of items imported from the United States. These tariffs could materially and adversely affect our ability to compete internationally. Although the United States and China signed a preliminary trade agreement in early 2020, the tariffs remain in place and President Trump has proposed increasing them. The future of these tariffs, as well as the possibility for new tariffs, remains very uncertain. Other causes of uncertainty include the effects of new tariffs proposed by the President against Mexico and Canada. The macroeconomic effect of any such tariffs on major trading partners like Mexico or Canada could be significant, and our business and financial results could be negatively affected as a result.

Any changes in our product or in export or import regulations or legislation; shifts or changes in enforcement; or changes in the countries, persons or technologies targeted by these regulations could delay us introducing new



products in international markets, decrease use of our products by, or decrease our ability to export or sell our products to existing or potential customers with international operations, adversely affecting our business and results of operations.

***Though we have been granted priority review designation for certain drug candidates, such designation may not lead to a faster regulatory review or regulatory approval process, and we might not receive such designation for additional drug candidates in the future.***

If the FDA determines that a drug candidate offers a treatment for a serious condition and, if approved, the drug product would provide a significant improvement in safety or effectiveness, the FDA may designate the drug candidate for priority review. The FDA has broad discretion with respect to whether or not to grant priority review status to a drug candidate, so even if we believe a particular drug candidate is eligible for such designation or status, the FDA may decide not to grant it. While we have been granted priority review designation for REC-4881 for the potential treatment of FAP, a priority review designation does not necessarily result in an expedited regulatory review or regulatory approval process or necessarily confer any advantage with respect to regulatory approval compared to conventional FDA procedures. Receiving priority review from the FDA does not guarantee regulatory approval within the six-month review cycle or at all. We may request priority review for additional drug candidates from time to time.

***Breakthrough therapy designation and fast track designation by the FDA, even if granted for any of our drug candidates, may not lead to a faster development, regulatory review, or regulatory approval process, and each designation does not increase the likelihood that any of our drug candidates will receive marketing approval in the United States.***

We may seek a breakthrough therapy designation for some of our drug candidates. A breakthrough therapy is defined as a drug that is intended, 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 drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For drugs that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Drugs designated as breakthrough therapies by the FDA may also be eligible for priority review and accelerated approval. Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our drug candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of a breakthrough therapy designation for a drug candidate may not result in a faster development process, review or approval compared to therapies considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our drug candidates qualify as breakthrough therapies, the FDA may later decide that such drug candidates no longer meet the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

We may seek fast track designation for some of our drug candidates from time to time. If a drug candidate is intended for the treatment of a serious or life-threatening condition and the drug candidate demonstrates the potential to address unmet medical needs for this condition, the drug sponsor may apply for fast track designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular drug candidate is eligible for this designation, we cannot ensure that the FDA would decide to grant it. Even if we do receive fast track designation, we may not experience a faster development process, regulatory review or regulatory approval compared to conventional FDA procedures. The FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program. Fast track designation alone does not guarantee qualification for the FDA's priority review procedures.

***The FDA, EMA, and other regulatory authorities may implement amended or additional regulations or restrictions on the development and commercialization of our drug candidates.***

The FDA, other agencies at both the federal and state level, and U.S. Congressional committees have expressed interest in further regulating the small molecule pharmaceutical industry, as have the EMA and regulatory authorities in other countries. Such action may delay or prevent commercialization of some or all of our drug candidates. Adverse developments in clinical trials conducted by others may cause the FDA or other oversight bodies to change the requirements for regulatory approval of any of our drug candidates. These regulatory review agencies and committees, and any new requirements or guidelines they promulgate, may lengthen the regulatory review process, require us to perform additional studies or trials, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent regulatory approval and commercialization of our drug candidates, or lead to significant post-approval limitations or restrictions. As we advance our drug candidates, we will be required to consult with these regulatory authorities and comply with applicable regulatory requirements and guidelines. If we fail to do so, we may be required to delay or discontinue development of such drug candidates. These additional processes may result in a review and approval process that is longer than we otherwise would have expected. Delays as a result of a more stringent or lengthier regulatory approval process, or further restrictions on the development of our drug candidates, could be costly and could negatively impact our ability to complete clinical trials and commercialize our current and future drug candidates in a timely manner, if at all.

***Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of our product candidates in other jurisdictions.***

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain regulatory approval in any other jurisdiction. For example, even if the FDA or EMA grants marketing approval of a product candidate, comparable regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing and promotion and reimbursement of the product candidate in those countries. However, a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in others. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from those in the United States, including additional preclinical studies or clinical trials as clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In many jurisdictions outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for our products is also subject to approval.

Obtaining foreign regulatory approvals and establishing and maintaining compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. If we or any future collaborator fail to comply with the regulatory requirements in international markets or fail to receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our potential product candidates will be harmed.

***Even if our product candidates receive regulatory approval, they will be subject to significant post-marketing regulatory requirements and oversight.***

Any regulatory approvals that we may receive for our product candidates will require the submission of reports to regulatory authorities and on-going surveillance to monitor the safety and efficacy of the product candidate, may contain significant limitations related to use restrictions for specified age groups, warnings, precautions or contraindications, and may include burdensome post-approval study or risk management requirements and regulatory inspection. For example, the FDA may require a REMS in order to approve our product candidates, which could entail requirements for a medication guide, physician training and communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. If the FDA finds that the clinical data used to support approval do not sufficiently represent the diversity of the real-world patient population, the FDA may require additional data on underrepresented populations post-approval, including as a post-marketing requirement, or the FDA may enter into a written agreement with the applicant to collect additional data as a post-marketing commitment. In addition, if the FDA or foreign regulatory authorities approve our product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion, import, export and recordkeeping for our product candidates will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and

other post-marketing information and reports, registration, as well as on-going compliance with cGMPs and GCPs for any clinical trials that we conduct post-approval. In addition, manufacturers of drug products and their facilities are subject to continual review and periodic, unannounced inspections by the FDA and other regulatory authorities for compliance with cGMP regulations and standards. If we or a regulatory agency discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facilities where the product is manufactured, a regulatory agency may impose restrictions on that product, the manufacturing facility or us, including requiring recall or withdrawal of the product from the market or suspension of manufacturing. In addition, failure to comply with FDA, EMA and other comparable foreign regulatory requirements may subject our company to administrative or judicially imposed sanctions, including:

- delays in or the rejection of product approvals;
- restrictions on our ability to conduct clinical trials, including full or partial clinical holds on ongoing or planned trials;
- restrictions on the products, manufacturers or manufacturing process;
- warning or untitled letters;
- civil and criminal penalties;
- injunctions;
- suspension or withdrawal of regulatory approvals;
- product seizures, detentions or import bans;
- voluntary or mandatory product recalls and publicity requirements;
- total or partial suspension of production; and
- imposition of restrictions on operations, including costly new manufacturing requirements.

Moreover, the FDA strictly regulates the promotional claims that may be made about drug products. In particular, a product may not be promoted for uses that are not approved by the FDA as reflected in the product's approved labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant civil, criminal and administrative penalties. The occurrence of any event or penalty described above may inhibit our ability to commercialize our product candidates, if approved, and generate revenue.

***The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses.***

If any of our product candidates are approved and we are found to have improperly promoted off-label uses of those products, we may become subject to significant liability. The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about prescription products, such as our product candidates, if approved. In particular, a product may not be promoted for uses that are not approved by the FDA or such other regulatory agencies as reflected in the product's approved labeling. If we are found to have promoted such off-label uses, we may become subject to significant liability. The U.S. federal government has levied large civil and criminal fines against companies for alleged improper promotion of off-label use and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

***We may face difficulties from changes to current regulations and future legislation. Healthcare legislative reform measures in the U.S. and abroad, such as changes in healthcare spending and policy, may have a material adverse effect on our business, results of operations, and prospects.***

The policies of the FDA, the competent authorities of the E.U. Member States, the EMA, the European Commission and other comparable regulatory authorities responsible for clinical trials may change and additional government regulations may be enacted. In June 2024, the U.S. Supreme Court overruled the *Chevron* doctrine in *Loper Bright*, which gives deference to regulatory agencies' statutory interpretations in litigation against federal government agencies, such as the FDA, where the law is ambiguous. This landmark Supreme Court decision may invite various

stakeholders to bring lawsuits against the FDA and other federal agencies to challenge longstanding decisions and policies, which can lead to uncertainty in the industry and disrupt the agencies' normal operations. Further, changes in the leadership of the FDA and other federal agencies under the new Trump administration can result in changes in agency funding, operations, policies and regulatory actions, which may impact our clinical development plans and timelines.

We operate in a highly regulated industry, and new laws and regulations, or new interpretations of laws and regulations by regulatory authorities or the courts, related to healthcare availability and the method of delivery of, or payment for, healthcare products and services could negatively impact our business. The U.S. and many foreign jurisdictions have enacted or proposed legislative and regulatory changes affecting the healthcare system that could impact our clinical trials; prevent or delay marketing approval of our current or future drug candidates; restrict or regulate potential post-approval activities; and/or affect our ability to profitably sell a drug product for which we obtain marketing approval. For any of our drug candidates that receive marketing approval, such laws and regulations could require, for example, (i) changes to our manufacturing arrangements; (ii) additions or modifications to drug product labeling; (iii) the recall or discontinuation of our drug products; and/or (iv) additional record-keeping and data transfer requirements.

There have been, and likely will continue to be, legislative and regulatory proposals at the U.S. federal and state levels and abroad directed at increasing the availability of healthcare and containing or lowering healthcare costs. For example, the Affordable Care Act (ACA) substantially changed the way healthcare is financed by both governmental and private insurers in the U.S., and significantly impacted the pharmaceutical industry. Since its enactment, there have been legislative and judicial efforts to repeal, replace, or change some or all of the ACA. In June 2021, the United States Supreme Court held that Texas and other challengers had no legal standing to challenge the ACA, dismissing the case without specifically ruling on the constitutionality of the ACA. It is unclear how future litigation and healthcare measures promulgated by the new Trump administration will impact the implementation of the ACA, our business, financial condition and results of operations. Complying with any new legislation or reversing changes implemented under the ACA could be time-intensive and expensive, resulting in a material adverse effect on our business. In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. These changes included aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, effective April 1, 2013, which will stay in effect through 2032, unless Congress takes additional action. In January 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several providers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on customers for our drugs, if approved, and accordingly, our financial operations.

Moreover, there has been heightened governmental scrutiny recently over the manner in which drug manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. For example, the American Rescue Plan Act of 2021 eliminated the statutory cap on Medicaid Drug Rebate Program rebates that manufacturers pay to state Medicaid programs. Elimination of this cap may require pharmaceutical manufacturers to pay more in rebates than it receives on the sale of products, which could have a material impact on our business. In August 2022, Congress passed the Inflation Reduction Act of 2022 (IRA), which includes prescription drug provisions that have significant implications for the pharmaceutical industry and Medicare beneficiaries, including allowing the federal government to negotiate a maximum fair price for certain high-priced single-source Medicare drugs, imposing penalties and excise tax for manufacturers that fail to comply with the drug price negotiation requirements, requiring inflation rebates for all Medicare Part B and Part D drugs, with limited exceptions, if their drug prices increase faster than inflation, and redesigning Medicare Part D to reduce out-of-pocket prescription drug costs for beneficiaries, among other changes. Various industry stakeholders, including various pharmaceutical companies and the Pharmaceutical Research and Manufacturers of America, have initiated lawsuits against the federal government asserting that the price negotiation provisions of the IRA are unconstitutional. Further, uncertainties created by the IRA, including its long-term impact on drug pricing, may negatively impact investments, company valuation, royalty-based earnings, mergers, and acquisitions in the industry. The impact of these judicial challenges as well as other judicial challenges in view of the Supreme Court's overturn of the *Chevron* doctrine, future legislative, executive, and administrative actions and agency rules implemented by the new Trump administration on us and the pharmaceutical industry as a whole is unclear. The implementation of cost containment measures or other healthcare reforms may prevent us



from being able to generate revenue, attain profitability, or commercialize our product candidates if approved. Complying with any new legislation and regulatory changes could be time-intensive and expensive, resulting in a material adverse effect on our business, and expose us to greater liability.

At the state level, legislatures have increasingly passed legislation and implemented 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 are considering or have recently enacted state drug price transparency and reporting laws that could substantially increase our compliance burdens and expose us to greater liability under such state laws once we begin commercialization after obtaining regulatory approval for any of our products. In addition, the FDA has authorized the state of Florida to develop Section 804 Importation Programs to import certain prescription drugs from Canada for a limited period time to help reduce drug costs, provided that Florida's Agency for Health Care Administration meets the requirements set forth by the FDA. Other states may follow Florida. We are unable to predict the future course of federal or state healthcare legislation in the United States directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. These and any further changes in the law or regulatory framework that reduce our revenue or increase our costs could also have a material and adverse effect on our business, financial condition and results of operations.

***Our relationships with healthcare professionals, clinical investigators, CROs and third party payors in connection with our current and future business activities may be subject to federal and state healthcare fraud and abuse laws, false claims laws, transparency laws, government price reporting, and health information privacy and security laws, which could expose us to significant losses, including, among other things, criminal sanctions, civil penalties, contractual damages, exclusion from governmental healthcare programs, reputational harm, administrative burdens and diminished profits and future earnings.***

Healthcare providers and third-party payors play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our current and future arrangements with healthcare professionals, clinical investigators, CROs, third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we research, as well as market, sell and distribute our products for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations may include the following:

- the federal AKS prohibits, among other things, persons and entities 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 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 laws, including the civil FCA, which can be enforced by private citizens through civil whistleblower or qui tam actions, and civil monetary penalties laws, 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 or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal HIPAA, prohibits, among other things, 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 (HITECH) and their implementing regulations, also imposes obligations, including mandatory contractual terms, on covered entities, which are health plans, healthcare clearinghouses, and certain health care providers, as those terms are defined by HIPAA, and their respective business associates, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal Physician Payments Sunshine Act requires applicable manufacturers of covered drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to annually report to CMS

information regarding payments and other transfers of value to covered recipients, including physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain non-physician healthcare providers (such as physician assistants and nurse practitioners), and teaching hospitals, as well as information regarding ownership and investment interests held by physicians and their immediate family members; and

- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance regulations promulgated by the federal government and may require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers, marketing expenditures, or drug pricing; state and local laws that require the registration of pharmaceutical sales and medical representatives; state laws that govern the privacy and security of health information in some circumstances (such as Washington's My Health, My Data Act, which, among other things, provides for a private right of action), many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our current and future business arrangements with third parties will comply with applicable healthcare and data privacy laws and regulations will involve on-going substantial costs. 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 penalties, including civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from participation in government funded healthcare programs, such as Medicare and Medicaid, integrity oversight and reporting obligations, contractual damages, reputational harm, diminished profits and future earnings and the curtailment or restructuring of our operations. Defending against any such actions can be costly, time-consuming and may require significant financial and personnel resources. Therefore, even if we are successful in defending against any such actions that may be brought against us, our business may be impaired. 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 government funded healthcare programs.

***We are subject to U.S. and foreign laws regarding privacy, data protection, and cybersecurity that could entail substantial compliance costs, while the failure to comply could subject us to significant liability.***

Privacy, data protection, and cybersecurity have become significant issues in the U.S., Europe, and other jurisdictions where we conduct or may in the future conduct our operations. The regulatory framework for the collection, use, safeguarding, sharing, transfer, and other processing of health and other personal information is rapidly evolving worldwide and is likely to remain in flux for the foreseeable future. The scope and interpretation of the laws that are or may be applicable to us are often uncertain, subject to differing interpretations, and may be inconsistent among different jurisdictions.

In the U.S., HIPAA, as amended by the HITECH Act, imposes on covered entities certain requirements relating to the privacy, security, and transmission of individually identifiable health information. The legislation also increased the civil and criminal penalties that may be assessed for violations and gave state attorneys general the authority to file civil actions in federal courts to enforce the HIPAA rules. In addition, for clinical trials conducted in the U.S., any personal information that is collected is further regulated by the Federal Policy for the Protection of Human Subjects. Privacy laws are also being enacted or considered at the state level, including significant privacy legislation in California, the California Consumer Privacy Act, as amended and supplemented by the California Privacy Rights Act (the CCPA). Numerous other states have proposed, and in many cases enacted, laws and regulations addressing privacy and cybersecurity. Many of these are general privacy statutes similar to the CCPA. While these laws provide for certain exceptions for protected health information subject to HIPAA and clinical trial regulations, these and other state privacy laws may impact our business activities, and there continues to be uncertainty about how these laws will be interpreted and enforced. Other states have passed privacy legislation, including general privacy legislation similar to the CCPA, and legislation such as Washington's My Health, My Data Act, that also may impact our business activities, in the future and additional states are evaluating similar legislation.

In the event we enroll subjects in clinical trials in the European Union (EU) or other jurisdictions, or otherwise acquire or process personal data of individuals in those jurisdictions, we may be subject to additional restrictions and obligations relating to the collection, use, storage, transfer, and other processing of this data. In Europe, the EU and the United Kingdom General Data Protection Regulations (respectively, the GDPR and the UK GDPR, together the GDPR) each impose strict requirements around the processing of personal data: Under the GDPR, companies may face temporary or definitive bans on data processing and other corrective actions; fines of up to 20 million Euros under the E.U. GDPR, 17.5 million pounds sterling under the U.K. GDPR or, in each case, 4% of annual global revenue, whichever is greater; or private litigation related to processing of personal data brought by classes of data subjects or consumer protection organizations authorized at law to represent their interests. Other countries outside of Europe and the United Kingdom have enacted or are considering enacting similar comprehensive data privacy and security laws and regulations, which could increase the cost and complexity of operating our business.

In the ordinary course of business, we may transfer personal data from Europe and other jurisdictions to the U.S. or other countries. Europe and other jurisdictions have enacted laws requiring data to be localized or limiting the transfer of personal data to other countries. The European Economic Area (EEA) and the United Kingdom each restricts the transfer of personal data to the United States and other countries whose privacy laws it generally believes are inadequate. Other jurisdictions may adopt similarly stringent interpretations of their data localization and cross-border data transfer laws. Certain mechanisms may be used to transfer personal data from the EEA and United Kingdom to the United States in compliance with law, such as the European Commission's Standard Contractual Clauses, the United Kingdom's International Data Transfer Agreement and United Kingdom Transfer Addendum, and the E.U.-U.S. Data Privacy Framework and the United Kingdom's Extension to such framework (which allows for transfers for relevant U.S.-based organizations who self-certify compliance and participate in the relevant framework and/or extension), such mechanisms are subject to potential legal challenges, and there is no assurance that we can satisfy or rely on these measures to lawfully transfer personal data to the United States. If there is no lawful manner for us to transfer personal data from the EEA, the United Kingdom, or other jurisdictions to the United States, or if the requirements for a legally-compliant transfer are too onerous, we could face significant adverse consequences, including the interruption or degradation of our operations, the need to relocate business or data processing activities to other jurisdictions (such as Europe) at significant expense, increased exposure to regulatory actions, substantial fines and penalties, the inability to transfer data and work with partners, vendors and other third parties, and injunctions against our processing or transferring of personal data necessary to operate our business. Additionally, companies that transfer personal data out of the EEA and United Kingdom to other jurisdictions, particularly to the United States, are subject to increased scrutiny from regulators, individual litigants, and activist groups. Some European regulators have ordered certain companies to suspend or permanently cease certain transfers out of Europe for allegedly violating the GDPR's cross-border data transfer limitations.

We may need to take additional steps, such as new contractual negotiations or modifications to our policies or practices relating to cross-border transfers of personal data, to comply with these restrictions and obligations. More generally, laws and regulations governing privacy and data protection exist in many other countries around the world, and these laws (which are evolving and expanding) create complicated and potentially inconsistent obligations that may impact our business.

The increasing number, complexity, and potential inconsistency of current and future laws and regulations relating to privacy, data protection, and cybersecurity in the U.S. and other countries make our compliance obligations more difficult and costly. This is particularly true with respect to healthcare data or other personal information acquired as a result of our research activities and clinical trials. More recently, the Department of Justice recently issued a final rule which takes effect in April 2025 that places limitations, and in some cases prohibitions, on certain transfers of sensitive personal data to data to business partners located in China or with other specified links to China (and other designated countries). If we fail to comply with applicable laws, regulations, or other actual or asserted obligations relating to privacy, data protection or cybersecurity, or experience a security breach or incident – or if a third party with whom we share personal information or who processes such information for us fails to comply with applicable actual or asserted obligations or experiences a security breach or incident – or if any of these is reported or perceived to have occurred, it could lead to government investigations, enforcement actions, and other proceedings, as well as civil claims and litigation against us. We could incur substantial costs to defend against any such claims or proceedings and may also be held liable for significant fines, penalties, and monetary judgments. Any of the foregoing could have a material adverse effect on our business, results of operations, reputation, and prospects, including but not limited to: loss of customers; interruptions or stoppages in our business operations (including clinical trials); interruptions or stoppages of data collection needed to train our algorithms; inability to process personal data or to operate in certain jurisdictions; limited ability to develop or commercialize our products;

expenditure of time and resources to defend any claim or inquiry; adverse publicity; or substantial changes to our business model or operations.

***Regulatory and legislative developments related to the use of AI could adversely affect our use of such technologies in our products, services, and business.***

We use AI throughout our business, including in our drug discovery processes and technology. As the regulatory framework for AI (including generative AI) evolves, our business, financial condition and results of operations may be adversely affected. The regulatory framework for AI and similar technologies is changing rapidly. It is possible that new laws and regulations will be adopted in the United States and in non-U.S. jurisdictions, or that existing laws and regulations may be interpreted in ways that would affect the operation of our drug discovery platform and data analytics and the way in which we use AI and similar technologies. We may not be able to adequately anticipate or respond to these evolving laws and regulations, and we may need to expend additional resources to adjust our offerings in certain jurisdictions if applicable legal frameworks are inconsistent across jurisdictions. In addition, because these technologies are themselves highly complex and rapidly developing, it is not possible to predict all of the legal or regulatory risks that may arise relating to our use of such technologies. Further, the cost to comply with such laws or regulations could be significant and would increase our operating expenses, which could adversely affect our business, financial condition and results of operations.

For example, in Europe, the European Union's Artificial Intelligence Act (AI Act) entered into force on August 1, 2024. The AI Act establishes a risk-based governance framework for regulating high-risk AI systems operating in or being used by the EU market. The AI Act could impact our products, business, and use of AI, even if we do not have a direct presence in the EU. This framework categorizes AI systems based on the risks associated with such AI systems' intended purposes as creating "unacceptable", "high" or "limited" risks. While the AI Act has not yet been enforced, there is a risk that our current or future AI-powered software or applications may be categorized as "high" risk or "limited" risk, obligating us to comply with the applicable requirements of the AI Act, which may impose additional costs on us, increase our risk of liability, or adversely affect our business. For example, "high" risk AI systems are required, amongst other things, to implement and maintain certain risk and quality management systems, conduct certain conformity and risk assessments, use appropriate data governance and management practices, including in development and training, and meet certain standards related to testing, technical robustness, transparency, human oversight, and cybersecurity. Even if our AI systems are not categorized as "high" risk we may be subject to additional transparency and other obligations for "low" risk AI system providers. The AI Act sets forth certain penalties, including fines of the greater of EUR 35 million or 7% of worldwide annual turnover (as defined in the AI Act) for the prior year for violations related to offering prohibited AI-systems or data governance, fines of the greater of EUR 15 million or 3% of worldwide annual turnover for the prior year for violations related to the requirements for "high" risk AI systems, and fines of the greater of EUR 7.5 million or 1.5% of worldwide annual turnover for the prior year for violations related to supplying incorrect, incomplete or misleading information to the EU and member state authorities. The AI Act's regulatory framework is expected to have a material impact on the way AI is regulated in the EU and across the world. Other jurisdictions also have proposed, and in certain cases enacted, laws and regulations addressing the use and development of AI. For example, in the United States, numerous states have proposed or have enacted laws addressing these matters, and in the United Kingdom, the government has published a white paper calling for existing regulators to implement certain specific principles to guide and inform the responsible development and use of AI. The AI Act and other evolving laws and regulations addressing AI, together with developing guidance and/or decisions in this area, may affect our use of AI and our ability to provide and to improve our services, require additional compliance measures and changes to our operations and processes, result in increased compliance costs and potential increases in civil claims against us, and could adversely affect our business, financial condition and results of operations.

***Our employees, independent contractors, consultants, and vendors may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading laws, which could cause significant liability for us and harm our reputation.***

We are exposed to the risk of fraud or other misconduct by our employees, independent contractors, CROs, consultants, and vendors. Misconduct by these parties could include intentional, reckless, or negligent conduct that causes us to fail to comply with, among other things, FDA regulations or similar regulations of comparable foreign regulatory authorities, drug manufacturing standards, and healthcare fraud and abuse laws. Such misconduct could also involve the improper use of information obtained in the course of clinical trials, as well as violations of HIPAA and other laws relating to privacy, data protection and cybersecurity in the U.S and foreign jurisdictions, including



the GDPR. We are also exposed to risks in connection with potential insider trading violations by employees or others affiliated with us. It is not always possible to identify and deter employee or other individual misconduct. The precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses, or in protecting us from governmental investigations or other actions or lawsuits stemming from noncompliance with applicable laws, standards, regulations, or codes of conduct. If any such actions are instituted against us, whether with or without merit, and we are not successful in defending ourselves or asserting our rights, they may result in damages, fines, and other sanctions that could materially and adversely affect our business, results of operations, and reputation.

We are exposed to the risk of fraud or other misconduct by our employees, independent contractors, CROs, consultants, and vendors. Misconduct by these parties could include intentional, reckless, and/or negligent conduct that causes us to fail to comply with FDA regulations or similar regulations of comparable foreign regulatory authorities, provide accurate information to the FDA or comparable foreign regulatory authorities, comply with manufacturing standards, comply with federal and state healthcare fraud and abuse laws and regulations and similar laws and regulations established and enforced by comparable foreign regulatory authorities, report financial information or data accurately, or disclose unauthorized activities to us. 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 law, and requirements of foreign jurisdictions, including the GDPR. We are also exposed to risks in connection with any insider trading violations by employees or others affiliated with us, including inadvertent violations such as a sale of pledged shares by a lender when the pledgor is in possession of material nonpublic information.

It is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws, standards, regulations, guidance, or codes of conduct. Additionally, we are subject to the risk that a person could allege such fraud or other misconduct, even if none occurred and our employees may, from time to time, bring lawsuits against us for employment issues, including injury, discrimination, wage and hour disputes, sexual harassment, hostile work environment, or other employment issues. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, 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, and curtailment of our operations, any of which could adversely affect our ability to operate our business, results of operations, financial condition, reputation, and prospects.

***Climate change-related risks and uncertainties and legal or regulatory responses to climate change could negatively impact our results of operations, financial condition and/or reputation.***

We are subject to increasing climate-related risks and uncertainties, many of which are outside of our control. Climate change may result in more frequent severe weather events, potential changes in precipitation patterns, and extreme variability in weather patterns, which can disrupt our operations as well as those of our vendors, suppliers, and collaborators.

The transition to lower greenhouse gas emissions technology, the effects of carbon pricing, and changes in public sentiment, regulations, taxes, public mandates, or requirements and increases in climate-related lawsuits, insurance premiums, and implementation of more robust disaster recovery and business continuity plans could increase costs to maintain or resume our operations or achieve any sustainability commitments we make, which would negatively impact our results of operations.

We are reviewing our impact on climate change and determining if it is economically feasible for us to be carbon neutral by 2030. We are also working on other environmental, social and governance goals. Execution and achievement of any future commitments or goals are subject to risks and uncertainties. Given the focus on sustainable investing and corporate and social responsibility, if we fail to make a climate change commitment by 2030 and adopt policies and practices to enhance environmental, social and governance initiatives, our reputation and our customer and other stakeholder relationships could be negatively impacted and it may be more difficult for us to compete effectively or gain access to financing on acceptable terms when needed, which would have an adverse effect on our results of operations, financial condition, reputation and prospects.

## RISKS RELATED TO EMPLOYEE MATTERS AND MANAGING GROWTH

***Our future success depends on our ability to retain key executives and experienced scientists, and to attract, retain, and motivate qualified personnel.***

We are highly dependent on the research and development, clinical, and business development expertise of our executive, management, scientific, technological, and clinical teams. Although we have entered into employment agreements with our executive officers, certain officers have, and any of them may in the future terminate their employment with us at any time or may not be able to perform the services we need in the future. The loss of the services of any of our executive officers or other key employees could impede the achievement of our research, development and commercialization or other business objectives in our drug discovery business or harm our ability to successfully implement our business strategy. Replacing any executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals with the breadth of skills and experience required to successfully develop, gain regulatory approval of, and commercialize products in the life sciences industry.

Recruiting and retaining qualified scientific, clinical, manufacturing, and sales and marketing personnel is also critical to our success. For example, we rely on our employees to help operate and repair our equipment, and on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategies. Because of the specialized scientific nature of our business, we are highly dependent upon attracting and retaining qualified scientific, technical, and managerial personnel. While we strive to reduce the impact of the potential loss of existing employees by having an established organizational talent review process that identifies successors and potential talent needs, there is still significant competition for qualified personnel in the pharmaceutical and biotechnology fields. Therefore, we may not be able to attract and retain the qualified personnel necessary for the continued development of our business. The loss of the services of existing personnel, as well as the failure to recruit and train additional key scientific, technical, and managerial personnel in a timely manner, could harm our business, results of operations, financial condition, and prospects.

The loss of the services of our executive officers or other key employees or consultants could impede our ability to successfully implement our business strategy. Replacing executive officers and 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, gain regulatory approval of, and commercialize drug products, and because of the competition among numerous pharmaceutical and biotechnology companies for similar personnel. In addition, our consultants and advisors may have commitments or non-competition obligations under consulting or advisory contracts with other entities that may limit their availability to us. We may also experience difficulties recruiting scientific and clinical personnel from universities and research institutions. If one or more of our clinical trials are unsuccessful, it may become more challenging to recruit and retain qualified scientific personnel.

In addition, increases in salaries and wages, extensions of personal and other leave policies, other governmental regulations affecting labor costs, and a diminishing pool of potential qualified personnel when the unemployment rate falls could significantly increase our labor costs and make it more difficult to retain, attract, and motivate qualified personnel, which could materially adversely affect our business, financial performance, and cash reserves. As a result of inflationary pressures and other initiatives, our net losses may increase and we may need to raise capital sooner than otherwise anticipated. Because we employ a large workforce, any salary or wage increase and/or expansion of benefits mandates will have a particularly significant impact on our labor costs. Our vendors, contractors and business partners are similarly impacted by wage and benefit cost inflation, and many have or will increase their price for goods, construction and services in order to offset their increasing labor costs.

Some of the employees we may want to hire in the future may not reside in Salt Lake City, Utah or other areas where we have operations and may not want to relocate. In addition, many of the other pharmaceutical and biotechnology companies that we compete against for qualified personnel have greater financial and other resources, different risk profiles, and a longer history in the industry than we do. They also may provide more diverse opportunities and better chances for career advancement.

If we are unable to hire, retain, and motivate highly qualified senior executives and personnel, the rate and success with which we can discover and develop drug candidates, our ability to pursue our growth strategy, and our business may be adversely impacted.

***We expect to expand our development and regulatory capabilities and potentially implement sales, marketing, and distribution capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.***

We expect to experience growth in the number of employees and the scope of our operations. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational, and financial systems; expand our facilities; and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The 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. For example, after the business combination with Exscientia, Recursion experienced rapid headcount growth from 515 employees as of January 1, 2024, to approximately 800 employees as of December 31, 2024.

We may acquire additional businesses or products, form strategic alliances, or create joint ventures with third parties that we believe will complement or augment our existing business. If we acquire businesses with promising markets or technologies, we may not be able to realize the benefit of acquiring such businesses if we are unable to successfully integrate them with our existing operations and company culture. We may encounter numerous difficulties in developing, manufacturing, and marketing any new products resulting from a strategic alliance or acquisition that delay or prevent us from realizing their expected benefits or enhancing our business. We cannot ensure that, following any such acquisition, we will achieve the expected synergies to justify the transaction.

***Increased labor costs, potential organization of our workforce, employee strikes and other labor-related disruption may adversely affect our operations.***

None of our employees are represented by a labor union or, other than as set out below, subject to a collective bargaining agreement. We provide no assurance that our labor costs going forward will remain competitive for various reasons, such as: (i) our workforce may organize in the future and labor agreements may be put in place that have significantly higher labor rates and company obligations; (ii) our competitors may maintain significantly lower labor costs, thereby reducing or eliminating our comparative advantages vis-à-vis one or more of our competitors or the larger industry; and (iii) our labor costs may increase in connection with our growth.

## **RISKS RELATED TO THE SECURITIES MARKETS AND OWNERSHIP OF OUR CLASS A COMMON STOCK**

***The dual-class structure of our common stock affects the concentration of voting power, which limits our Class A common stockholders' ability to influence the outcome of matters submitted to our stockholders for approval, including the election of our board of directors, the adoption of amendments to our certificate of incorporation and bylaws, and the approval of any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transactions.***

Our Class A common stock, the class of our common stock listed on The Nasdaq Stock Market, has one vote per share, and our Class B common stock has 10 votes per share. As of December 31, 2024, Dr. Gibson, our CEO and a member of our board of directors, and his affiliates held 171,824 shares of our Class A common stock and all of the issued and outstanding shares of our Class B common stock, representing approximately 15% of the voting power of our outstanding capital stock, which voting power may increase over time as Dr. Gibson exercises or vests in equity awards. If all such equity awards held by Dr. Gibson had been exercised or vested and exchanged for shares of Class B common stock as of December 31, 2024, Dr. Gibson and his affiliates would hold approximately 16% of the voting power of our outstanding capital stock.

As a result, Dr. Gibson may be able to significantly influence any action requiring the approval of our stockholders, including the election of our board of directors, the adoption of amendments to our certificate of incorporation and bylaws, and the approval of any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction. Dr. Gibson may have interests that differ from our Class A common

stockholders and may vote in a way with which our Class A stockholders disagree and which may be adverse to our Class A stockholders' interests. The concentrated control of Dr. Gibson may have the effect of delaying, preventing, or deterring a change in control of our company, could deprive our stockholders of an opportunity to receive a premium for their capital stock as part of a sale in our company, and, thus, may affect the market price of our Class A common stock.

Future transfers by the holders of Class B common stock will generally result in those shares automatically converting into shares of Class A common stock, subject to limited exceptions, such as certain transfers for estate planning. Transfers or exchanges of shares of Class B common stock may result in the issuance of additional shares of Class A common stock and such issuances will be dilutive to holders of our Class A common stock. In addition, each share of Class B common stock will convert automatically into one share of Class A common stock upon the earliest of (i) April 16, 2028; (ii) the date specified by written consent or agreement of the holders of 66 2/3% of our then outstanding shares of Class B common stock; (iii) nine months after Dr. Gibson ceases to hold any positions as an officer or director with us; or (iv) nine months after the death or disability of Dr. Gibson. We refer to the date on which such final conversion of all outstanding shares of Class B common stock pursuant to the terms of amended and restated certificate of incorporation occurs as the Final Conversion Date.

***Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant influence over matters subject to stockholder approval.***

As of December 31, 2024, our executive officers, directors, holders of 5% or more of our capital stock, and their respective affiliates, including Dr. Gibson and his affiliates, beneficially owned shares representing more than 40% of our voting power. These stockholders, acting together, may be able to impact matters requiring stockholder approval, including the elections of directors; amendments of our organizational documents; and approval of any merger, sale of all or substantially all of our assets, or other major corporate transaction. This beneficial ownership concentration may also have the effect of deterring, delaying, or preventing unsolicited acquisition proposals or offers for our capital stock that other stockholders may feel are in their best interest. The interests of this group of stockholders may not always coincide with each other's interests or the interests of other stockholders, and this group may act in a manner that advances its best interests and not necessarily those of other stockholders generally, including seeking a premium value for their Class A common stock, which might therefore affect the market price for our Class A common stock.

***The price of our Class A common stock may be volatile and fluctuate substantially, which could result in substantial losses for holders of our common stock.***

The trading price of our Class A common stock has been volatile since our initial public offering and it is likely that the price will fluctuate substantially in the future. The stock price may be influenced by many factors, a number of which are beyond our control, which factors include but are not limited to the following:

- the success of competitive products or technologies;
- results of clinical trials of our drug candidates or those of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents, or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our drug candidates or clinical development programs;
- the results of our efforts to discover, develop, acquire, or in-license additional drug candidates or drug products;
- actual or anticipated changes in estimates as to financial results, development timelines, or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- inflation, general supply chain matters, global political instability, or warfare;
- performance of the overall stock market and shares of biotechnology companies in particular, as well as general economic conditions; and
- the other factors described in this "Risk Factors" section.



As a result of this volatility, holders of our Class A common stock may not be able to sell their stock at or above the price they originally paid for it, which could result in the loss of a part or all of their investment.

***Sales of a substantial number of shares of our Class A common stock in the public market could cause our stock price to fall.***

Sales of a substantial number of shares of our Class A common stock in the public market could occur at any time. These sales, or the perception in the market that one or more holders of a large number of shares intend to sell their shares, could cause the market price of our Class A common stock to decline.

Also, shares of Class A common stock that are either subject to outstanding equity awards or that are reserved for future issuance under our equity compensation plans are eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules and Rule 144 and Rule 701 under the Securities Act. Some holders of shares of our Class A common stock issued and issuable upon conversion of Class B common stock are entitled to rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates.

We have, and may in the future, issue additional securities in connection with any financings, investments, or acquisitions, and the number of shares issued could constitute a material portion of our then-outstanding common stock. For example, we issued shares of Class A common stock in private placement financings in October 2022 and July 2023. In June 2024, we issued 35.4 million shares of Class A common stock in an underwritten public offering, during fiscal 2024 we issued 9,915,218 shares of Class A common stock from time to time in “at-the-market” offerings, and in February 2025, we entered into a new Sales Agreement, that provides for the offering, issuance and sale of up to an aggregate amount of \$500.0 million of our Class A common stock from time to time in additional “at-the-market” offerings. In addition to capital raising issuances, in connection with the acquisitions of Cyclica and Valence in May 2023, we issued 12.4 million shares of our Class A common stock or securities convertible or exchangeable into Class A common stock and in November 2024, we issued approximately 102.1 million shares of our Class A common stock in connection with our business combination with Exscientia. We have also issued 6.7 million shares of our Class A common stock to Tempus in payment for license fees under the terms of the Tempus Agreement and may issue additional shares in the future under the Tempus Agreement.

The sale of a significant number of shares of our Class A common stock under any of the above circumstances, or otherwise, in the public market at any time, or the perception that they may be sold, could have a material adverse effect on the market price of our Class A common stock. In that event, holders of our Class A common stock may not be able to sell their stock at or above the price they originally paid for it, which could result in the loss of part or all of their investment.

***Our amended and restated certificate of incorporation and amended and restated bylaws designate 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, employees or agents.***

Our amended and restated bylaws provide that the Court of Chancery of the State of Delaware and the federal district courts of the United States of America is the exclusive forums for substantially all disputes between us and 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 amended and restated bylaws provide that the Court of Chancery of the State of Delaware or, if the Court of Chancery does not have jurisdiction, another State court in Delaware or the federal district court for the District of Delaware, is the exclusive forum for the following, except for any claim as to which such court determines that there

is an indispensable party not subject to the jurisdiction of such court, and the indispensable party does not consent to the personal jurisdiction of such court within 10 days following such determination, which is vested in the exclusive jurisdiction of a court or forum other than such court or for which such court does not have subject matter jurisdiction:

- any derivative action or proceeding brought on our behalf;
- any action asserting a claim of breach of fiduciary duty;
- any action asserting a claim against us arising under the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws; and
- any action asserting a claim against us that is governed by the internal-affairs doctrine.

This provision would not apply to suits brought to enforce a duty or liability created by the Securities Exchange Act of 1934, as amended (the "Exchange Act") or any other claim for which the U.S. federal courts have exclusive jurisdiction. Our amended and restated bylaws further provide that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

These exclusive-forum provisions 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, and may result in increased costs to stockholders of bringing a claim, each of which may discourage lawsuits against us and our directors, officers and other employees. Any person or entity purchasing or otherwise acquiring any interest in any of our securities shall be deemed to have notice of and consented to these provisions. There is uncertainty as to whether a court would enforce such provisions, and the enforceability of similar choice of forum provisions in other companies' charter documents has been challenged in legal proceedings. It is possible that a court could find these types of provisions to be inapplicable or unenforceable, and if a court were to find either exclusive-forum provision in our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could seriously harm our business.

***Provisions in our amended and restated certificate of incorporation and amended and restated bylaws and Delaware law might discourage, delay, or prevent a change in control of our company or changes in our management and, therefore, depress the market prices of our Class A common stock.***

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could depress the market prices of our Class A common stock by acting to discourage, delay or prevent a change in control of our company or changes in our management that the stockholders of our company may deem advantageous. These provisions, among other things:

- establish a classified board of directors so that not all members of our board are elected at one time;
- permit only the board of directors to establish the number of directors and fill vacancies on the board;
- authorize the issuance of "blank check" preferred stock that our board could use to implement a stockholder rights plan (also known as a "poison pill");
- eliminate the ability of our stockholders to call special meetings of stockholders;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- prohibit cumulative voting;
- authorize our board of directors to amend the bylaws;
- establish advance notice requirements for nominations for election to our board or for proposing matters that can be acted upon by stockholders at annual stockholder meetings; and
- require a super-majority vote of stockholders to amend some provisions described above.

In addition, Section 203 of the General Corporation Law of the State of Delaware (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.

Any provision of our amended and restated certificate of incorporation, amended and restated bylaws, or DGCL that has the effect of delaying or preventing a change in control could limit the opportunity for our stockholders to

receive a premium for their shares of Class A common stock and could also affect the price that some investors are willing to pay for our stock.

***Our actual operating results may differ significantly from any guidance that we provide.***

From time to time, we may provide guidance in our quarterly earnings releases, or otherwise, regarding our future performance that represents our management's estimates as of the date of release. This guidance, which would include forward-looking statements, would be based on projections prepared by our management. Neither our registered public accountants nor any other independent expert or outside party would compile or examine the projections. Accordingly, no such person would express any opinion or any other form of assurance with respect to the projections.

Projections are based upon a number of assumptions and estimates that, while presented with numerical specificity, are inherently subject to significant business, economic, and competitive uncertainties and contingencies, many of which are beyond our control and are based upon specific assumptions with respect to future business decisions, some of which will change. The principal reason that we would release guidance is to provide a basis for our management to discuss our business outlook with analysts and investors. We do not accept any responsibility for any projections or reports published by any such third parties. Guidance is necessarily speculative in nature, and it can be expected that some or all of the assumptions underlying any guidance furnished by us will not materialize or will vary significantly from actual results. Accordingly, our guidance would be only an estimate of what management believes is realizable as of the date of release. Actual results may vary from our guidance and the variations may be material.

***As a public company, we are obligated to develop and maintain a proper and effective system of disclosure controls and internal controls over financial reporting. Any failure to maintain the adequacy of this system and these internal controls may adversely affect investor confidence in our company and, as a result, the value of our Class A common stock.***

We are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act and the rules and regulations of the applicable listing standards of The Nasdaq Stock Market. We expect that the requirements of these rules and regulations will continue to increase our legal, accounting, and financial compliance costs; make some activities more difficult, time-consuming, and costly; and place significant strain on our personnel, systems, and resources.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are continuing to develop and refine our disclosure controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we will file with the SEC is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms and that information required to be disclosed in reports under the Exchange Act is accumulated and communicated to our principal executive and financial officers. We are also continuing to improve our internal control over financial reporting. In order to maintain and improve the effectiveness of our disclosure controls and procedures and internal control over financial reporting, we have expended, and anticipate that we will continue to expend, significant resources, including accounting-related costs and significant management oversight.

Our current controls and any new controls that we develop may become inadequate because of changes in conditions in our business. In addition, changes in accounting principles or interpretations could also challenge our internal controls and require that we establish new business processes, systems, and controls to accommodate such changes. We have limited experience with implementing the systems and controls that are necessary to operate as a public company, as well as adopting changes in accounting principles or interpretations mandated by the relevant regulatory bodies. Our chief financial officer has only been the chief financial officer of a publicly traded company since our initial public offering and our chief executive officer has only been the chief executive officer of a publicly traded company since our initial public offering. Neither has been involved in the long-term operations of a public company. Additionally, if these new systems, controls, or standards and the associated process changes do not give rise to the benefits that we expect or do not operate as intended, it could adversely affect our financial reporting systems and processes, our ability to produce timely and accurate financial reports, or the effectiveness of internal control over financial reporting. Moreover, our business may be harmed if we experience problems with any new systems and controls that result in delays in their implementation or increased costs to correct any post-implementation issues that may arise.

Pursuant to Section 404 of the Sarbanes-Oxley Act, we are required to furnish a report by our management on our internal control over financial reporting. This assessment must include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. If we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal control over financial reporting is effective. For example, in connection with the audit of our consolidated financial statements as of and for the year ended December 31, 2023, our management and auditors identified a material weakness related to the Company's processes to estimate costs used to calculate revenue related to its revenue license agreement, which remains unremediated as of December 31, 2024. See "—We have identified material weaknesses in our internal control over financial reporting. If we fail to maintain effective internal controls, we may be unable to produce timely and accurate financial statements, and we may conclude that our internal control over financial reporting is not effective, which could adversely impact our investors' confidence and our stock price." We cannot assure you that we will be able to remediate such material weakness or that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future.

Any failure to maintain effective disclosure controls and internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, or results of operations. If at any time we are unable to conclude that our disclosure controls and internal control over financial reporting are effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting, or if we are unable to remediate any existing weaknesses or deficiencies in a timely manner or at all, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of shares of our Class A common stock could decline, and we could be subject to sanctions or investigations by the Nasdaq Stock Market, the SEC, or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

***We have identified a material weakness in our internal control over financial reporting. If we are unable to remediate this material weakness, or if we identify additional material weakness in the future or otherwise fail to maintain effective internal controls, we may be unable to produce timely and accurate financial statements, which could adversely impact our investors' confidence and our stock price.***

In connection with the audit of our consolidated financial statements as of and for the year ended December 31, 2023, management identified a material weakness related to the Company's management review process over the estimated costs and time to completion and controls to validate completeness and accuracy of information used to calculate revenue and unearned revenue related to our license agreement, which remains unremediated as of December 31, 2024. Additionally, prior to the business combination with Recursion and in connection with the preparation and audits of our financial statements as of and for the years ended December 31, 2022 and 2023, material weaknesses were identified in Exscientia's internal control over financial reporting. Each material weakness identified remains unremediated as of December 31, 2024. 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.

Although we are taking steps to improve our internal control over financial reporting and remediate these material weaknesses, we cannot assure you that the measures we have taken to date will be sufficient to avoid potential future material weaknesses.

The identification of material weaknesses in our internal control over financial reporting, the inability to comply with the requirements of Section 404 of the Sarbanes-Oxley Act, the inability to conclude that our internal control over financial reporting is effective, or the inability of our independent registered public accounting firm to express an opinion that our internal control over financial reporting is effective, could cause investors lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could be negatively affected. As a result of such failures, we could also become subject to investigations by Nasdaq, the SEC or other regulatory authorities, and become subject to litigation from investors and stockholders, which could harm our reputation and financial condition or divert financial and management resources from our regular business activities.



## GENERAL RISKS

### ***Unfavorable global economic conditions could adversely affect our business.***

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. For example, global political instability, supply chain issues, and inflation have caused significant volatility and uncertainty in U.S. and international markets. Uncertainty in the U.S. regarding the federal government's debt ceiling and related budgetary matters may also cause volatility and uncertainty in the global markets. A severe or prolonged economic downturn could result in a variety of risks to our business, including weakened demand for our drug candidates and impaired ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our suppliers or result in supply disruption. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business, results of operations, financial condition, and prospects.

### ***We are subject to the risks of litigation that may arise in the ordinary course of our business, which could be costly and time-consuming to pursue or defend.***

We periodically are, and in the future may be, involved in legal proceedings or claims that arise in the ordinary course of business, such as those regarding commercial or contractual disputes, intellectual property rights, employment matters, product liability, or data privacy.

As a public company, we and our directors and officers are also subject to potential securities class action litigation, particularly if the market price of our Class A common stock is volatile. The stock market in general, and Nasdaq-listed and biotechnology companies in particular, experience significant price and volume fluctuations from time to time that often are unrelated or disproportionate to the operating performance of these companies. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action lawsuits, and we may be the target of such litigation in the future.

Litigation, whether with or without merit, may be expensive to pursue or defend; divert management's attention; result in adverse judgments for damages, injunctive relief, penalties, and fines; and harm our business and reputation. Some third parties may be able to sustain the costs of litigation more effectively than we can because they have substantially greater resources. Insurance may not cover all claims or may cover only a portion of our expenses and losses, and may not continue to be available on terms acceptable to us.

### ***If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline.***

The trading market for our Class A common stock relies, in part, on the research and reports that industry or financial analysts publish about us or our business. If only a small number of analysts maintain coverage of us, the trading price of our stock would likely decrease. If an analyst covering our stock downgrade their evaluations of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline.

## **Item 1B. Unresolved Staff Comments.**

None.

## **Item 1C. Cybersecurity.**

We believe cybersecurity is a critical component of our enterprise risk management function. Our strategy regarding Information Security ("InfoSec") includes a comprehensive, proactive, and sustainable risk-based approach, assessing the risk posed to the Company at the strategic, operational, financial, and reputational levels. We take appropriate preventive, detective, and response measures to mitigate these risks on a continuing basis.

### **Risk Management Process**

Recursion's approach to InfoSec is informed by the National Institute of Standards and Technology ("NIST") Cybersecurity Framework ("CSF"), which is a broad standards framework that provides direction and guidance to assess the Company's InfoSec risk and implement InfoSec capabilities, and also provides measures of progress in areas that are relevant for the organization's business objectives.

#### *Risk Identification and Assessment*

As part of our overall risk management system, we have a dedicated InfoSec team to oversee management's process for effectively monitoring and mitigating risk. The InfoSec team regularly reviews threat intelligence from various sources, including third-party InfoSec consultants, assesses the applicability of known threats and threat actor behavior and tactics to the Company, and assesses whether these threats pose risks to the Company. The InfoSec team then evaluates potentially appropriate administrative, technical, and physical controls to mitigate and reduce these risks within the appropriate business context and applies such controls where appropriate. We also have implemented a process to identify and mitigate risks from cybersecurity threats related to our use of third-party service providers.

These mitigation measures are detailed in the Company's InfoSec Roadmap. Progress against this Roadmap and potential incidents are reviewed with management and the Company's Audit Committee.

#### *Risk Assurance*

Our InfoSec team tests relevant controls and maintains industry standard attestations, including reports prepared by an independent AICPA-accredited auditor.

We also run regular cybersecurity exercises, such as penetration tests, to test the effectiveness of our controls. We use the results of these exercises to identify, evaluate, and prioritize potential areas of improvement through the InfoSec Roadmap.

#### *Consequence Mitigation*

We also test the Company's InfoSec's Incident Response control effectiveness through tabletop exercises facilitated by a third party. These exercises test the Company's ability to detect and respond to cybersecurity incidents in a timely manner with a goal to reduce the impact of cybersecurity incidents. Our InfoSec policies, processes and procedures are tested for completion and accuracy through these exercises. We use the results of these exercises to identify, evaluate, and prioritize potential areas of improvement identified through the InfoSec Roadmap.

We, like any technology company in the current environment, have experienced cybersecurity incidents in the past, but we have not experienced a cybersecurity incident which has been determined to be material. For additional information regarding whether any risks from cybersecurity threats are reasonably likely to materially affect our company, including our business strategy, results of operations, or financial condition, please refer to Item 1A, "Risk Factors," in this annual report on Form 10-K, including the risk factors entitled "Risks Related to Our Platform and Data."

## Cybersecurity Governance

Our cybersecurity processes are overseen by the Audit Committee of the Board of Directors. The Audit Committee, through its charter, has express oversight of the Company's cybersecurity processes, controls, and procedures and is responsible for monitoring and reviewing the Company's mitigation efforts. The Audit Committee receives quarterly briefings from senior leadership, including our Chief Information Security Officer, regarding information security risk, strategy, and effectiveness and progress of the InfoSec program. The Audit Committee also reviews with management significant information security incidents for the period and associated remediation plans, and new or emerging information security risks. The Board of Directors is also provided an update quarterly on the Company's cybersecurity risk, processes, and mitigation efforts.

The execution of the Company's cybersecurity processes is overseen by a committee that includes our Chief Information Security Officer ("CISO", Chief Financial Officer, Chief Operating Officer, General Counsel and Chief Technology Officer ("CTO". This committee is responsible for the overall cybersecurity strategy and approving the cybersecurity processes, policies, and procedures, including the InfoSec Roadmap. The committee receives regular reports on the InfoSec strategy, risks, and mitigation efforts. It is also informed of any potential reportable information security incidents and is responsible for assessing the impact and approving remediation plans, as well as escalating to the Audit Committee or Board of Directors. Overall implementation of the cybersecurity strategy is executed across the enterprise by Recursion's InfoSec team, which is supervised by the CISO.

Our CISO has held various Information Security Leadership and Technology roles over the past 25 years in the biopharmaceutical, life sciences industry, including roles at Genentech (USA, Roche Farma S.A. (Spain, Hoffman - La Roche (Switzerland and most recently at Jazz Pharmaceuticals (USA as their Global CISO before joining Recursion in 2021. Our CISO brings extensive risk management experience including developing cybersecurity strategy, implementing effective information and cybersecurity programs, and secure architecture.

Our General Counsel was a corporate and securities lawyer at Wilson Sonsini Goodrich & Rosati, P.C., where he represented venture-backed technology and life sciences companies through all stages of growth. Additionally, he has played a critical role in building Recursion's public company compliance and corporate governance structure.

Our CTO has a versatile background in computer science, machine learning, software engineering and data science with over 15 years of industry experience, building automated machine learning systems and solutions in the ad tech, customer service, and healthcare industries. Prior to joining Recursion, our CTO held various leadership roles providing strategic leadership for the company's IT organization.

Given the importance of information security to our stakeholders, our Board of Directors receives regular updates from our CISO on cybersecurity-related matters, including the status of projects to strengthen our security systems and to improve our cyber threat readiness.

## Item 2. Properties.

Recursion's corporate headquarters are located at 41 S Rio Grande Street, Salt Lake City, Utah 84101 where we lease 99,172 square feet of office, dry and wet laboratory space. The laboratories include both traditional and automated laboratories for drug research. The current term of our lease expires in May 2028. We have entered into a lease for an additional 103,634 square feet of office, research and laboratory space adjacent to our corporate headquarters under a lease that expires in May 2032.

Recursion's United Kingdom operations are headquartered at 3 Pancras Sq, London N1C 4AG, UK where we lease 6,792 square feet of office space through January 2029. In addition to our London office, we also have laboratory space in Milton Park, Oxfordshire, for our automation chemistry laboratory with approximately 20,151 square feet. The Milton Park lease expires in 2031.

In addition to our headquarters in both Salt Lake City, UT and London, UK, Recursion operates several core satellite offices and a vivarium laboratory in key talent markets in Toronto, Montreal, New York City and Milpitas.

Recursion's Toronto office is located at 336 Queen Street West, Toronto CA M5V 2A2, where we lease 28,110 square feet of office space. The current term expires in November 2032. In addition to our office in Toronto, we also

have two leases in Montreal that house our semi-autonomous artificial intelligence engine, Valence Labs. Valence Labs leases an 8,367 square foot office and dry laboratory space located at 6666 Rue Saint-Urbain, Montreal CA H2S3H1 that expires in March 2029. Valence also has a research lounge located in the world-renowned artificial intelligence and machine learning hub MILA. This 2,256 square foot office space hosts academic researchers and expires in September 2025.

Recursion's New York City office is located at 66 Hudson Boulevard E, New York, NY 10001, where we lease 11,655 square feet of office with a term that expires December 2028.

In Milpitas, CA, we lease 25,557 square feet of research vivarium and office space with a term that expires in May 2028.

We believe our facilities are adequate and suitable for our current needs and that, should it be needed, suitable additional or alternative space will be available to accommodate our operations.

### **Item 3. Legal Proceedings.**

The Company is, and may in the future from time to time be, involved in various legal proceedings arising in the normal course of business. An unfavorable resolution of any such matter could materially affect the Company's future financial position, results of operations or cash flows. For more information pertaining to our legal proceedings, see the information set forth under the heading "Legal Matters" in Part II, Item 8, Note 7, "Commitments and Contingencies," which is incorporated herein by reference.

### **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.

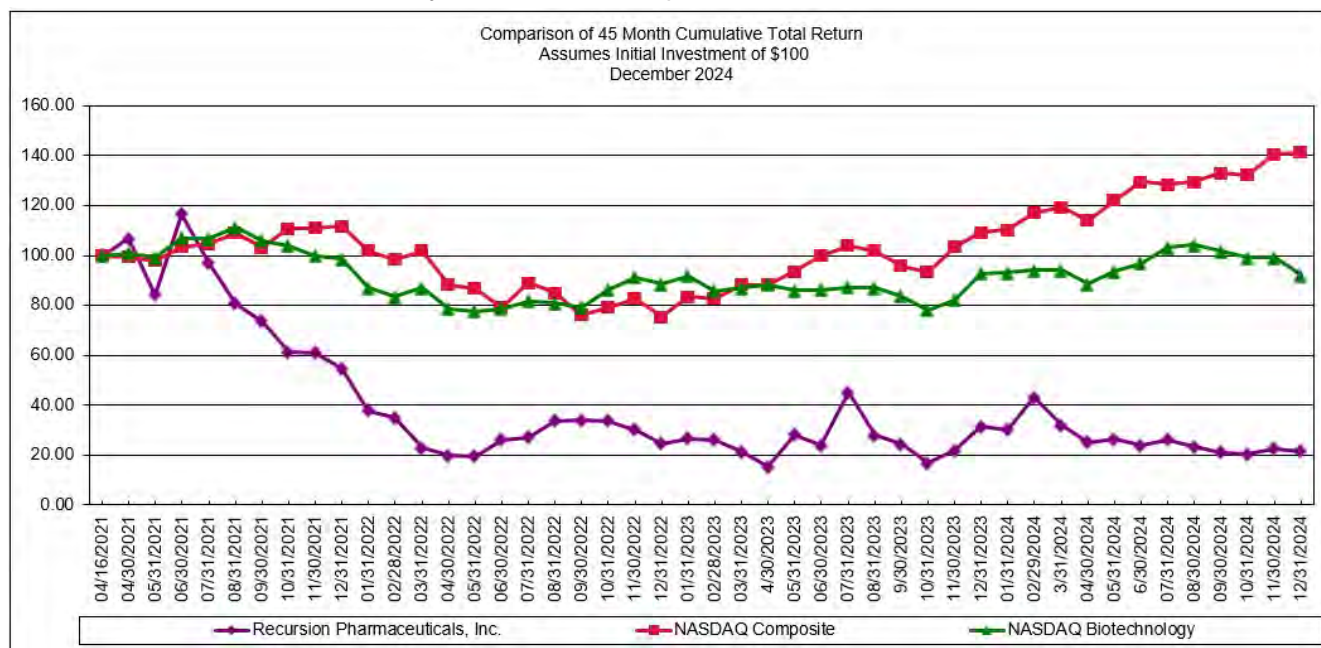
#### Principal market

The principal market for Recursion's Class A common stock is the Nasdaq Global Select Market (Symbol: RXXR). Our Class A common stock began trading on April 16, 2021. Prior to that date, there was no public market for our Class A common stock.

Recursion's Class B and Exchangeable common stock are not listed on any stock exchange nor traded on any public market.

#### Stock performance graph

The following graph compares the cumulative total returns of Recursion, the Nasdaq Composite Index and the Nasdaq Biotechnology Index from our April 16, 2021 closing stock price (the date on which our common stock first began trading on the Nasdaq Global Select Market through December 31, 2024. This graph assumes \$100 was invested and the reinvestment of dividends, if any. The comparisons shown in the graph below are based upon historical data and are not necessarily indicative of future performance.



This performance graph is furnished pursuant to Item 201(e) of Regulation S-K and shall not be deemed "filed" with the SEC or subject to Regulation 14A or 14C, other than as provided in Item 201(e), or to the liabilities of Section 18 of the Securities Exchange Act of 1934, as amended, nor shall it be deemed incorporated by reference in any of Recursion's filings under the Securities Act of 1933, as amended.

#### Stockholders

There were 149 stockholders of record of Recursion Class A common stock as of January 31, 2025. The actual number of stockholders of our Class A common stock is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees.

#### Dividend policy

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any future determination to declare cash

dividends will be made at the discretion of our Board of Directors, subject to applicable laws, and will depend on a number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, general business conditions, and other factors that our Board of Directors may deem relevant, including restrictions in our current and future debt instruments, our future earnings, capital requirements, financial condition, prospects, and applicable Delaware law, which provides that dividends are only payable out of surplus or current net profits.

### **Securities authorized for issuance under equity compensation plans**

Information about our equity compensation plans in Item 12 of Part III of this Annual Report on Form 10-K is incorporated herein by reference.

### **Recent sales of unregistered securities**

#### ***(a) Sales of Unregistered Securities***

##### Tempus Private Placement

In November 2023, the Company entered into a Master Agreement (the “Tempus Agreement”) with Tempus pursuant to which Tempus will provide certain services and deliverables to the Company and/or license certain data to the Company. Pursuant to the Tempus Agreement, on December 2, 2024, the Company issued to Tempus an aggregate of 3.5 million shares of the Company’s Class A Common Stock, (the “Tempus Shares”), in lieu of a cash payment of \$22.0 million for the annual license fee owed to Tempus in exchange for the rights granted to the Company under the Tempus Agreement (the “Tempus Private Placement”). The sale was made pursuant to the exemption from registration contained in Section 4(a)(2) of the Securities Act. Pursuant to the terms of the Tempus Agreement, the Company subsequently filed a prospectus supplement to a registration statement (File No. 333-264845) pursuant to Rule 424(b) on December 17, 2024, to register the resale of the Tempus Shares by Tempus.

##### Stock Option Exercises

For the year ended December 31, 2024, we issued 111,776 shares of our Class A common stock to our employees, advisors and consultants upon the exercise of stock options under our Key Personnel Incentive Stock Plans for aggregate consideration of approximately \$37,525, in reliance on the exemption provided by Rule 701(b)(2) promulgated under the Securities Act, or pursuant to Section 4(a)(2) under the Securities Act, relative to transactions by an issuer not involving any public offering, to the extent an exemption from such registration was required.

#### ***(b) Issuer Purchases of Equity Securities***

None.

### **Item 6. [Reserved]**

ITEM 7

# MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITIONAL AND RESULT OF OPERATIONS



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

*The following is a discussion and analysis of the financial condition of Recursion Pharmaceuticals, Inc. (Recursion, the Company, we, us or our) and the results of our operations. This commentary should be read in conjunction with the Consolidated Financial Statements and accompanying notes appearing in Item 8, "Financial Statements." This discussion, particularly information with respect to our future results of operations or financial condition, business strategy and plans and objectives of management for future operations, includes forward-looking statements that involve risks and uncertainties as described under the heading "Note About Forward-Looking Statements" in this Annual Report on Form 10-K. You should review the disclosure under the heading "Risk Factors" in our Annual Report on Form 10-K for a discussion of important factors that could cause our actual results to differ materially from those anticipated in these forward-looking statements.*

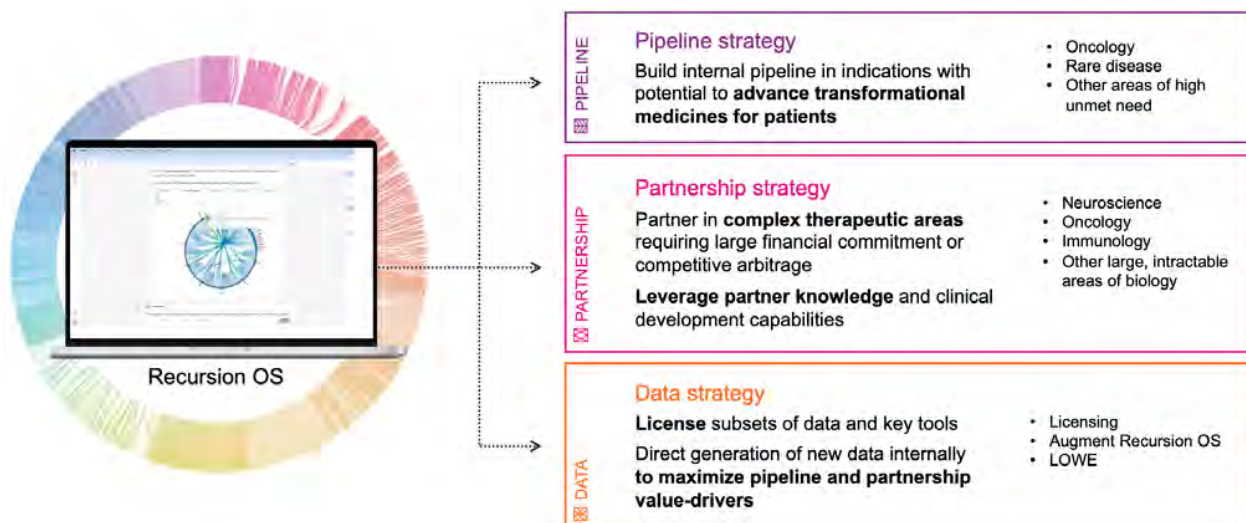
### Overview

Recursion is a leading clinical stage TechBio company with a mission to decode biology to radically improve lives. We aim to achieve our mission by industrializing drug discovery using the Recursion Operating System (OS), a vertical platform of diverse technologies that enables us to map and navigate trillions of biological, chemical, and patient-centric relationships utilizing approximately 65 petabytes of proprietary data. The Recursion OS integrates 'Real World' data generated in our own wet-laboratories or by select partners and a 'World Model' which is a collection of AI computational models we also build in-house. Today, our scaled 'wet-lab' biology, chemistry, and patient-centric experimental data feed our 'dry-lab' computational tools to identify, validate, and translate therapeutic insights, which we can then validate in our wet-lab to both advance drug discovery programs and to generate data to further refine our world model.

There are a few key factors that differentiate Recursion from other technology-enabled drug discovery companies.

1. Recursion has built a full-stack platform utilizing many biology, chemistry, and patient-centric proprietary datasets and modular tools to industrialize drug discovery, while most other competitor companies rely on a point solution to solve one important step in drug discovery. We recognize that drug discovery is made up of many steps, and a point solution is insufficient to generate efficiencies across the entire process. To decode biology, we must construct a full-stack technology platform capable of integrating and industrializing many complex workflows.
2. Recursion integrates wet-lab and dry-lab capabilities in-house to create a virtuous cycle of iteration. Fit-for-purpose wet-lab experimental data are translated by dry-lab digital tools into in silico hypotheses and testable predictions, which in turn generates more wet-lab data from which improved predictions can be made. Recursion is well positioned compared to companies of a similar stage either focused more specifically on the wet-lab only (traditional biotech or pharma companies) or dry-lab only (companies facing rapidly commoditized algorithms and a challenge differentiating on non-proprietary data).
3. Recursion has achieved a significant scale with respect to its scientific, technological, and business endeavors. With eight clinical-stage programs, an exciting preclinical pipeline, four of the largest discovery partnerships in the biopharma industry with Roche-Genentech, Sanofi, Bayer and Merck KGaA, and four technology-focused partnerships, Recursion has achieved a scale, level of integration, and stage that few other TechBio companies have.





We leverage the Recursion OS to deliver value in three ways: 1) our own pipeline of clinical and preclinical potential medicines focused in precision oncology, rare disease and other niche areas of unmet need; 2) by discovering new medicines with large biopharmaceutical companies in some of the biggest areas of unmet need in medicine like neuroscience and inflammation; and 3) by leveraging our tools, technology and data for the benefit of other partners in targeted and limited ways.

We are actively advancing key catalysts in our clinical pipeline while demonstrating significant progress in addressing high unmet medical needs. At the same time, we continue to validate various components of the Recursion OS, which has played a role in advancing every program in our portfolio, reinforcing its potential to accelerate drug discovery and development.

|                                                           | Candidate           | Target             | Indication                                         | Preclinical | IND-Enabling | Phase 1/2 | Pivotal / Phase 3 |
|-----------------------------------------------------------|---------------------|--------------------|----------------------------------------------------|-------------|--------------|-----------|-------------------|
| ONCOLOGY                                                  | REC-617             | <b>CDK7</b>        | Advanced solid tumors <sup>1</sup>                 | ELUCIDATE   |              |           |                   |
|                                                           | REC-1245            | <b>RBM39</b>       | Biomarker-enriched solid tumors & lymphoma         | DAHLIA      |              |           |                   |
|                                                           | REC-3565            | <b>MALT1</b>       | B-cell malignancies                                | EXCELERIZE  |              |           |                   |
|                                                           | REC-4539            | <b>LSD1</b>        | Small-cell lung cancer (SCLC)                      | ENLYGHT     |              |           |                   |
| RARE                                                      | REC-994             | <b>Superoxide</b>  | Cerebral cavernous malformations (CCM)             | SYCAMORE    |              |           |                   |
|                                                           | REC-4881            | <b>MEK1/2</b>      | Familial adenomatous polyposis (FAP)               | TUPELO      |              |           |                   |
|                                                           | REC-2282            | <b>HDAC</b>        | Neurofibromatosis type 2 (NF2)                     | POPLAR      |              |           |                   |
|                                                           | REV102 <sup>2</sup> | <b>ENPP1</b>       | Hypophosphatasia (HPP)                             |             |              |           |                   |
| OTHER                                                     | REC-3964            | <b>TcdB</b>        | Prevention of recurrent <i>C. difficile</i> (rCDI) | ALDER       |              |           |                   |
|                                                           | REC-4209            | <b>Undisclosed</b> | Idiopathic pulmonary fibrosis (IPF)                |             |              |           |                   |
| ~10 advanced discovery programs including a PI3Kα H1047RI |                     |                    |                                                    |             |              |           |                   |

## 2024 Highlights and Progress

In 2024, we accelerated the next wave of AI-driven drug discovery and development, delivering key milestones across multiple clinical programs, advancing our transformative partnerships, unveiling major breakthroughs in foundation models and by consolidating some of the best tools, technologies and talent into what we believe is the leading company in the burgeoning field of TechBio.

### Advancements in the Pipeline:

- **REC-617:** A potential best-in-class CDK7 inhibitor optimized using our AI platform, delivered early Phase 1/2 results demonstrating promising safety and preliminary efficacy, including a durable partial response in a late-stage metastatic ovarian cancer patient and stable disease across four other patients with solid tumors (e.g. CRC, NSCLC)
- **REC-994:** A potential first-in-disease oral superoxide scavenger for symptomatic CCM, confirmed safety and tolerability of chronic dosing in a Phase 2 study, with exploratory analyses suggesting lesion volume reduction on MRI and symptom stabilization as evaluated by change in mRS scores
- **Clinical Advancements and Regulatory Milestones:** Initiated three clinical studies: DAHLIA (Phase 1/2, REC-1245 for solid tumors and lymphoma), TUPELO (Phase 1b/2, REC-4881 for FAP), and ALDER (Phase 2, REC-3964 for recurrent *C. difficile* infection), received IND clearance for REC-4539 (small cell lung cancer), CTA approval for REC-3565 (b-cell malignancies), and progressed REC-4209 (idiopathic pulmonary fibrosis) to IND-enabling studies

### Advancements in Partnerships:

- **Roche and Genentech:** Generated whole-genome and chemical perturbation maps in a gastrointestinal oncology indication and a whole genome neuroscience phenomap. The neuro phenomap resulted in the exercise of a \$30M milestone
- **Sanofi:** Achieved \$15M in milestones, advancing multiple targets in immunology and oncology into lead optimization
- **Bayer:** Completed 25 multimodal oncology data packages and delivery of LOWE, our LLM-orchestrated workflow software, to enhance research capabilities
- **Merck KGaA (Darmstadt, Germany):** Advanced alliance to identify first-in-class or best-in-class targets across oncology and immunology

### Advancements in Platform:

- **Full Stack AI Powered Platform:** Our constantly evolving Recursion OS spans target discovery through clinical development, enabling efficient molecule design and testing for both first-in-class and best-in-class opportunities
- **Breakthroughs in Foundation Models:** We've developed both unimodal and multimodal AI models like Phenom, MolPhenix, and MolGPS that accelerate our ability to make high-confidence predictions in our therapeutics programs
- **Advancement in Causal AI Models:** Through collaborations with Tempus and Helix, we integrate real-world, scaled patient datasets with our proprietary internal data to deepen biological insights and better match our therapeutic candidates with target populations
- **Emerging Focus on ClinTech:** We are using AI and machine learning to optimize clinical trial design, accelerate patient enrollment, and enhance evidence generation through data-driven methodologies

## Financing and Operations

We were incorporated in November 2013. In April 2021, we closed our Initial Public Offering (IPO) and issued 27.9 million shares of Class A common stock at a price of \$18.00 per share, raising net proceeds of \$462.4 million. Prior to our IPO, we had raised \$448.9 million in equity financing from investors in addition to \$30.0 million in an upfront payment from our collaboration with Bayer AG (Bayer). In January 2022, we received an upfront payment of \$150.0 million from our collaboration with Roche. See Note 9, "Collaborative Development Contracts" to the Consolidated Financial Statements for additional information on the collaboration with Roche. In October 2022, we issued 15.3 million shares of our Class A common stock at a purchase price of \$9.80 per share in the 2022 private placement to qualified institutional buyers and institutional accredited investors for net proceeds of \$143.7 million, after deducting

fees and offering costs of \$6.6 million. In July 2023, we issued an aggregate of 7.7 million shares of our Class A common stock at a purchase price of \$6.49 per share in the 2023 Private Placement with NVIDIA Corporation for net proceeds of approximately \$49.9 million. In August 2023, Recursion entered into an Open Market Sales Agreement with Jefferies LLC to provide for the offering, issuance and sale of up to an aggregate amount of \$300.0 million of its Class A common stock of which \$132.8 million remain available for future sales. The Company has sold approximately 9.9 million shares and received net proceeds of \$84.0 million under the agreement. In June 2024, we issued an aggregate of 35.4 million shares of our Class A Common stock at a purchase price of \$6.50 per share and received net proceeds of \$216.4 million, after deducting transaction costs of \$13.6 million. See Note 8, "Common Stock" to the Consolidated Financial Statements for additional information on the public offering. In September 2024, we received a Phenomap acceptance fee of \$30.0 million from our collaboration with Roche.

We use the capital we have raised to fund operating and investing activities across platform research operations, drug discovery, clinical development, digital and other infrastructure, creation of our portfolio of intellectual property and administrative support. We do not have any products approved for commercial sale and have not generated any revenues from product sales. We had cash and cash equivalents of \$594.3 million as of December 31, 2024. Based on our current operating plan, we believe that our cash and cash equivalents will be sufficient to fund our operations for at least the next twelve months.

Since inception, we have incurred significant operating losses. Our net losses were \$463.7 million, \$328.1 million and \$239.5 million during the years ended December 31, 2024, 2023 and 2022, respectively. As of December 31, 2024, our accumulated deficit was \$1.4 billion.

We anticipate that we will need to raise additional financing in the future to fund our operations, including the potential commercialization of any approved product candidates. Until such time, if ever, as we can generate significant product revenue, we expect to finance our operations with our existing cash and cash equivalents, any future equity or debt financings and upfront, milestone and royalty payments, if any, received under current or future license or collaboration agreements. We may not be able to raise additional capital on terms acceptable to us or at all. If we are unable to raise additional capital when desired, our business, results of operations and financial condition may be adversely affected.

## Results of Operations

The following table summarizes our results of operations:

| (in thousands, except percentages)        | Years ended December 31, |                     |                     | 2024 compared to 2023 |               | 2023 compared to 2022 |               |
|-------------------------------------------|--------------------------|---------------------|---------------------|-----------------------|---------------|-----------------------|---------------|
|                                           | 2024                     | 2023                | 2022                | \$                    | %             | \$                    | %             |
| <b>Revenue</b>                            |                          |                     |                     |                       |               |                       |               |
| Operating revenue                         | \$ 58,488                | \$ 43,876           | \$ 39,681           | \$ 14,612             | 33.3 %        | \$ 4,195              | 10.6 %        |
| Grant revenue                             | 351                      | 699                 | 162                 | (348)                 | (49.8)%       | 537                   | >100%         |
| <b>Total revenue</b>                      | <b>58,839</b>            | <b>44,575</b>       | <b>39,843</b>       | <b>14,264</b>         | <b>32.0 %</b> | <b>4,732</b>          | <b>11.9 %</b> |
| <b>Operating costs and expenses</b>       |                          |                     |                     |                       |               |                       |               |
| Cost of revenue                           | 45,238                   | 42,587              | 48,275              | 2,651                 | 6.2 %         | (5,688)               | (11.8)%       |
| Research and development                  | 314,421                  | 241,226             | 155,696             | 73,195                | 30.3 %        | 85,530                | 54.9 %        |
| General and administrative                | 178,184                  | 110,822             | 81,599              | 67,362                | 60.8 %        | 29,223                | 35.8 %        |
| <b>Total operating costs and expenses</b> | <b>537,843</b>           | <b>394,635</b>      | <b>285,570</b>      | <b>143,208</b>        | <b>36.3 %</b> | <b>109,065</b>        | <b>38.2 %</b> |
| <b>Loss from operations</b>               | <b>(479,004)</b>         | <b>(350,060)</b>    | <b>(245,727)</b>    | <b>(128,944)</b>      | <b>36.8 %</b> | <b>(104,333)</b>      | <b>42.5 %</b> |
| Other income, net                         | 14,216                   | 17,932              | 6,251               | (3,716)               | (20.7)%       | 11,681                | n/m           |
| <b>Loss before income tax benefit</b>     | <b>(464,788)</b>         | <b>(332,128)</b>    | <b>(239,476)</b>    | <b>(132,660)</b>      | <b>39.9 %</b> | <b>(92,652)</b>       | <b>38.7 %</b> |
| Income tax benefit                        | 1,127                    | 4,062               | —                   | (2,935)               | (72.3)%       | 4,062                 | n/m           |
| <b>Net loss</b>                           | <b>\$ (463,661)</b>      | <b>\$ (328,066)</b> | <b>\$ (239,476)</b> | <b>\$ (135,595)</b>   | <b>41.3 %</b> | <b>\$ (88,590)</b>    | <b>37.0 %</b> |

n/m = Not meaningful

## Revenue

The following table summarizes our components of revenue:

| (in thousands, except percentages) | Years ended December 31, |           |           | 2024 compared to 2023 |         | 2023 compared to 2022 |        |
|------------------------------------|--------------------------|-----------|-----------|-----------------------|---------|-----------------------|--------|
|                                    | 2024                     | 2023      | 2022      | \$                    | %       | \$                    | %      |
| Revenue                            |                          |           |           |                       |         |                       |        |
| Operating revenue                  | \$ 58,488                | \$ 43,876 | \$ 39,681 | \$ 14,612             | 33.3 %  | \$ 4,195              | 10.6 % |
| Grant revenue                      | 351                      | 699       | 162       | (348)                 | (49.8)% | 537                   | >100%  |
| Total revenue                      | \$ 58,839                | \$ 44,575 | \$ 39,843 | \$ 14,264             | 32.0 %  | \$ 4,732              | 11.9 % |

Operating revenue is generated through research and development agreements derived from strategic alliances. We are entitled to receive variable consideration as certain milestones are achieved. The timing of revenue recognition is not directly correlated to the timing of cash receipts.

For the year ended December 31, 2024, the increase in revenue compared to the prior year was due to revenue recognized from our strategic partnership with Roche. We recognized revenue related to the acceptance fee for the completion of a Phenomap for one of our neuroscience performance obligations. Prior to September 2024, the \$30.0 million acceptance fee had been fully constrained. For the year ended December 31, 2023, the increase in revenue compared to the prior year was due to revenue recognized from our partnership with Roche, which had progressed from primarily cell type evaluation work to inference-based Phenomap building and additional cell type evaluation work.

## Cost of Revenue

The following table summarizes our cost of revenue:

| (in thousands, except percentages) | Years ended December 31, |           |           | 2024 compared to 2023 |       | 2023 compared to 2022 |         |
|------------------------------------|--------------------------|-----------|-----------|-----------------------|-------|-----------------------|---------|
|                                    | 2024                     | 2023      | 2022      | \$                    | %     | \$                    | %       |
| Total cost of revenue              | \$ 45,238                | \$ 42,587 | \$ 48,275 | \$ 2,651              | 6.2 % | \$ (5,688)            | (11.8)% |

Cost of revenue consists of the Company's costs to provide services for drug discovery required under performance obligations with partnership customers. These primarily include materials costs, service hours performed by our employees and depreciation of property and equipment.

For the year ended December 31, 2024, the increase in cost of revenue compared to the prior year was due to our Exscientia acquisition for which our results now also include additional customers. For the year ended December 31, 2023, the decrease in cost of revenue compared to the prior year was due to our partnership with Bayer, for which less brute-force work was required. For the year ended December 31, 2022, the increase in cost of revenue compared to the prior year was due to our strategic partnerships.



## Research and Development

The following table summarizes our components of research and development expense:

| (in thousands, except percentages)      | Years ended December 31, |            |            | 2024 compared to 2023 |         | 2023 compared to 2022 |         |
|-----------------------------------------|--------------------------|------------|------------|-----------------------|---------|-----------------------|---------|
|                                         | 2024                     | 2023       | 2022       | \$                    | %       | \$                    | %       |
| Research and development expenses       |                          |            |            |                       |         |                       |         |
| Platform                                | \$ 142,644               | \$ 96,796  | \$ 41,765  | \$ 45,848             | 47.4 %  | \$ 55,031             | >100%   |
| Discovery                               | 69,957                   | 62,142     | 52,358     | 7,815                 | 12.6 %  | 9,784                 | 18.7 %  |
| Clinical                                | 62,916                   | 57,564     | 46,820     | 5,352                 | 9.3 %   | 10,744                | 22.9 %  |
| Stock based compensation                | 37,331                   | 22,761     | 10,524     | 14,570                | 64.0 %  | 12,237                | >100%   |
| Other                                   | 1,573                    | 1,963      | 4,229      | (390)                 | (19.9)% | (2,266)               | (53.6)% |
| Total research and development expenses | \$ 314,421               | \$ 241,226 | \$ 155,696 | \$ 73,195             | 30.3 %  | \$ 85,530             | 54.9 %  |

Research and development expenses account for a significant portion of our operating expenses. We recognize research and development expenses as they are incurred. Research and development expenses consist of costs incurred in performing activities including:

- costs to develop and operate our platform;
- costs of discovery efforts which may lead to development candidates, including research materials and external research;
- costs for clinical development of our investigational products;
- costs for materials and supplies associated with the manufacture of active pharmaceutical ingredients, investigational products for preclinical testing and clinical trials;
- personnel-related expenses, including salaries, benefits, bonuses and stock-based compensation for employees engaged in research and development functions;
- costs associated with operating our digital infrastructure; and
- other direct and allocated expenses incurred as a result of research and development activities, including those for facilities, depreciation, amortization and insurance.

We recognize expenses associated with third-party contracted services as they are incurred. Upon termination of contracts with third parties, our financial obligations are generally limited to costs incurred or committed to date. Any advance payments for goods or services to be used or rendered in future research and product development activities pursuant to a contractual arrangement are classified as prepaid expenses until such goods or services are rendered.

Significant components of research and development expense include the following allocated by development phase: Platform, which refers primarily to expenses related to screening of product candidates through hit identification; Discovery, which refers primarily to expenses related to hit identification through development of candidates; and Clinical, which refers primarily to expenses related to development of candidates and beyond.

For the year ended December 31, 2024, the increase in research and development expenses compared to the prior year was driven by our platform and personnel costs as we continue to expand and upgrade our platform, including our chemical technology, machine learning and transcriptomics platform.

For the year ended December 31, 2023, the increase in research and development expenses compared to the prior year was primarily due to increased platform costs as we have expanded and upgraded our capabilities in platform including our chemical technology, machine learning and transcriptomics platform.

## General and Administrative Expense

The following table summarizes our general and administrative expense:

| (in thousands, except percentages)        | Years ended December 31, |            |           | 2024 compared to 2023 |        | 2023 compared to 2022 |       |
|-------------------------------------------|--------------------------|------------|-----------|-----------------------|--------|-----------------------|-------|
|                                           | 2024                     | 2023       | 2022      | \$                    | %      | \$                    | %     |
| Total general and administrative expenses | \$ 178,184               | \$ 110,822 | \$ 81,599 | \$ 67,362             | 60.8 % | \$ 29,223             | 35.8% |

We expense general and administrative costs as incurred. General and administrative expenses consist primarily of salaries; including employee benefits and stock-based compensation. General and administrative expenses also include facilities, depreciation, information technology, professional fees for auditing and tax, legal fees for corporate and patent matters and insurance costs.

For the year ended December 31, 2024, the increase in general and administrative expense compared to the prior year was primarily driven by increases in salaries and wages of \$21.1 million, transaction costs of \$20.5 million and the inclusion of Exscientia's results of \$11.3 million. We also had increases in software and lease expense.

For the year ended December 31, 2023, the increase in general and administrative expense compared to the prior year was primarily driven by an increase in salaries and wages of \$12.4 million and increases in legal, software and depreciation expense.

## Other Income, Net

The following table summarizes our components of other income, net:

| (in thousands, except percentages) | Years ended December 31, |           |          | 2024 compared to 2023 |         | 2023 compared to 2022 |        |
|------------------------------------|--------------------------|-----------|----------|-----------------------|---------|-----------------------|--------|
|                                    | 2024                     | 2023      | 2022     | \$                    | %       | \$                    | %      |
| Interest income                    | \$ 15,758                | \$ 19,116 | \$ 6,254 | \$ (3,358)            | (17.6)% | \$ 12,862             | >100%  |
| Interest expense                   | (1,572)                  | (97)      | (55)     | (1,475)               | >100%   | (42)                  | 78.4 % |
| Other                              | 30                       | (1,087)   | 52       | 1,117                 | n/m     | (1,139)               | n/m    |
| Other income, net                  | \$ 14,216                | \$ 17,932 | \$ 6,251 | \$ (3,716)            | (20.7)% | \$ 11,681             | >100%  |

n/m = Not meaningful

For the year ended December 31, 2024, the decrease in interest income compared to the prior year related to a decrease in earnings on cash and cash equivalents in money market funds.

For the year ended December 31, 2023, the increase in other income compared to the prior year was driven by an increase in interest income related to earnings on cash and cash equivalents in money market funds.

## Liquidity and Capital Resources

### Sources of Liquidity

We have not yet commercialized any products and do not expect to generate revenue from the sales of any product candidates for at least several years. Cash and cash equivalents totaled \$594.3 million and \$391.6 million as of December 31, 2024 and 2023, respectively.

We have incurred operating losses and experienced negative operating cash flows and we anticipate that the Company will continue to incur losses for at least the foreseeable future. Our net loss was \$463.7 million, \$328.1 million and \$239.5 million during the years ended December 31, 2024, 2023 and 2022, respectively. As of December 31, 2024, we had an accumulated deficit of \$1.4 billion.

We have financed our operations through the private placements of preferred stock and Class A common stock issuances. As of December 31, 2024, we have received net proceeds of \$448.9 million from the sale of preferred

stock and \$1.0 billion from Class A common stock issuances. See Note 8, “Common Stock” to the Consolidated Financial Statements for additional details on Class A common stock issuances. Additionally, as of December 31, 2024, we have received proceeds of \$217.0 million from our strategic partnerships. See Note 9, “Collaborative Development Contracts” to the Consolidated Financial Statements for additional details on our partnerships.

We noted the change in Exscientia plc’s (Exscientia cash, cash equivalents and short term bank deposits from December 31, 2023 to November 20, 2024, the date of the close of the acquisition, was \$184 million. There were no material financings during this period.

| (in thousands)            | November 20, 2024 |         | December 31, 2023 |         | Change       |
|---------------------------|-------------------|---------|-------------------|---------|--------------|
| Cash and cash equivalents | \$                | 277,104 | £                 | 259,463 |              |
| Short term bank deposits  |                   | —       |                   | 103,586 |              |
| Total - GBP               |                   | N/A     | £                 | 363,049 |              |
| GBP to USD rate           |                   | N/A     |                   | 1.27    |              |
| Total - USD               | \$                | 277,104 | \$                | 461,072 | \$ (183,968) |

The December 31, 2023 amounts from the above table are from Exscientia’s 20-F Annual Filing. We noted that Exscientia reported their results using International Financial Reporting Standards (IFRS) but that there are no IFRS to U.S. GAAP differences that would impact the measurement of Exscientia’s December 31, 2023 cash and cash equivalents and short term bank deposits amounts. We believe this information is useful to investors as it helps provide additional information on Exscientia’s liquidity prior and up-to the acquisition. We believe that it may provide a more complete understanding of the Company’s liquidity and can facilitate analysis of the Company’s results.

## Cash Flows

The following table is a summary of the Consolidated Statements of Cash Flows:

| (in thousands)                                  | Years ended December 31, |              |             |
|-------------------------------------------------|--------------------------|--------------|-------------|
|                                                 | 2024                     | 2023         | 2022        |
| Cash used in operating activities               | \$ (359,174)             | \$ (287,780) | \$ (83,524) |
| Cash provided by (used in) investing activities | 260,059                  | (10,228)     | 193,249     |
| Cash provided by financing activities           | 304,120                  | 140,133      | 154,345     |

### Operating Activities

Cash used by operating activities increased during the year ended December 31, 2024 as a result of higher costs incurred for research and development and general and administrative due to the Company’s expansion and upgraded capabilities. Additionally, cash used increased as a result of our acquisition of Exscientia. See Note 4, “Acquisitions” to the Consolidated Financial Statements for additional details.

Cash used by operating activities increased during the year ended December 31, 2023 as a result of an upfront payment of \$150.0 million from our strategic partnership with Roche received during the year ended December 31, 2022.

Cash used by operating activities during the year ended December 31, 2022 included an upfront payment of \$150.0 million from our strategic partnership with Roche. That cash inflow was offset by cash used for cost of revenue, research and development and general and administrative expenses.

### Investing Activities

Cash provided by investing activities during the year ended December 31, 2024 consisted of \$277.1 million as part of the Exscientia acquisition. This was partially offset by property and equipment purchases of \$13.7 million, which included \$2.9 million to upgrade the BioHive-2 supercomputer and lab equipment purchases. Additionally, investing activities included the purchase of an intangible asset of \$3.0 million from Helix.

Cash used by investing activities during the year ended December 31, 2023 consisted primarily of purchases of property and equipment of \$12.0 million, which includes \$1.7 million for a project to upgrade the BioHive supercomputer and lab equipment purchases. The cash used was partially offset by \$1.8 million of net cash acquired in the acquisition of a business.

Cash provided by investing activities during the year ended December 31, 2022 was driven by sales and maturities of investments of \$230.6 million, partially offset by the purchases of property and equipment of \$37.1 million.

#### Financing Activities

Cash provided by financing activities during the year ended December 31, 2024 primarily included proceeds of \$300.4 million from Class A common stock issuances related to our June 2024 public offering of Class A common stock and our at-the-market offering (ATM). Financing inflows also included proceeds from equity incentive plans of \$8.1 million.

Cash provided by financing activities during the year ended December 31, 2023 primarily included proceeds of \$128.1 million from common stock issuances. Financing inflows also included proceeds from equity incentive plans of \$12.8 million.

Cash provided by financing activities during the year ended December 31, 2022 primarily included \$143.7 million of net proceeds from the 2022 Private Placement. Financing cash flows also included proceeds from equity incentive plans of \$10.7 million.

### **Critical Accounting Estimates and Policies**

Our management's discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles (GAAP). The preparation of our consolidated financial statements and related disclosures requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and expenses in our financial statements. We base our estimates on historical experience, known trends and events and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in the notes to our consolidated financial statements, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our consolidated financial statements.

#### **Revenue Recognition**

We have generated revenue from our contracts with partners. Our partnerships often contain multiple components, including research and development services, licenses, options to obtain development and commercialization rights and options to obtain additional research and development services. Such arrangements may provide for various types of payments to us, including upfront fees, technical, development, regulatory and commercial milestone payments, licensing fees, option exercise fees and royalty and milestone payments on product sales. Determining how to recognize revenue from these partnerships involves judgment about whether promised goods and services are distinct from one another or should be accounted for as combined performance obligations, how to estimate and allocate various payment streams to performance obligations and how to measure performance on each performance obligation. Because of these judgments, payments are often not commensurate with the timing of revenue recognition.

Our operating revenue has primarily been generated through research and development agreements. Revenue from research and development agreements is recognized as we satisfy the performance obligation by transferring the promised services to the customer. We recognize revenue over time by measuring the progress toward complete satisfaction of the relevant performance obligation using an appropriate input or output method based on the services promised to the customer. This method of recognizing revenue requires us to make estimates to determine the progress towards completion. A significant change in these estimates could have a material effect on the timing and amount of revenue recognized in future periods.



## ***Valuation of Goodwill and Intangible Assets***

We have acquired and may continue to acquire significant intangible assets and goodwill in connection with business combinations. Amounts allocated to intangible assets and goodwill are based upon fair value estimates. We make estimates of fair value based upon assumptions believed to be reasonable and that of a market participant. These estimates are based on available historical information as well as future expectations and the estimates are inherently uncertain. The use of alternative estimates and assumptions could increase or decrease the estimated fair values, the amounts allocated to identifiable intangible assets acquired, future amortization expense and the value of goodwill.

## ***Accrued Research and Development Expenses***

As part of the process of preparing our financial statements, we are required to estimate our expenses resulting from our obligations under contracts with vendors and clinical research organizations. The financial terms of these contracts are subject to negotiations, which vary from contract to contract and may result in payment terms that do not match the periods over which materials or services are provided under such contracts. Our objective is to reflect the appropriate expenses in our financial statements by matching those expenses with the period in which services are performed and efforts are expended. We account for these expenses according to the timing of various aspects of the expenses and determine accrual estimates by taking into account discussions with applicable personnel and outside service providers as to the progress of clinical trials, or the services completed. During the course of a clinical trial, we adjust our clinical expense recognition if actual results differ from estimates. We make estimates of our accrued expenses as of each balance sheet date based on the facts and circumstances known to us at that time. Our clinical trial accruals are dependent upon the timely and accurate reporting of contract research organizations and other third-party vendors. Although we do not expect estimates to be materially different from amounts actually incurred, our understanding of the anticipated status and timing of services performed relative to the actual status and timing of services performed may vary and may result in reporting amounts that are too high or too low for any particular period.

## ***Stock-Based Compensation***

We measure stock options and other stock-based awards granted to employees, directors and non-employees based on their fair value on the date of grant and recognize the compensation expense over the requisite service period. We recognize the impact of forfeitures on stock-based compensation expenses as forfeitures occur. We generally apply the straight-line method of expense recognition to awards.

The grant date fair value of stock options is estimated using the Black-Scholes option-pricing model, which requires inputs for the expected term, stock price volatility, dividend yield and the risk-free interest rate of the options. If any assumptions used in the Black-Scholes option-pricing model change significantly, stock-compensation for future awards may differ materially compared with the awards granted previously.

## ***Contractual Obligations***

The Company's material cash requirements include the following contractual obligations:

As of December 31, 2024, the Company had \$27.4 million of debt outstanding. This balance is related to notes payable for tenant improvement allowances and the financing agreement for the supercomputer upgrade project. See Note 5, "Leases" to the Consolidated Financial Statements for additional details on the supercomputer lease.

As of December 31, 2024, the Company had \$101.2 million of future lease commitments. See Note 5 "Leases" to the Consolidated Financial Statements for additional detail on the Company's leases.

As of December 31, 2024, the Company had \$297.5 million of future purchase obligations, \$149.9 million of which are expected to be payable within the next year. These commitments primarily related to third-party research services, materials and supplies for research and development activities.

As of December 31, 2024, the Company had \$53.7 million remaining of its Gates Foundation Private Placement Commitment. Concurrent with the Exscientia's IPO on October 5, 2021, the Company completed a private

placement to the Gates Foundation for the sale of 1,590,909 ADSs at the initial offering price of \$22.00 per ADS, for gross proceeds of approximately \$35.0 million. Under the terms of the Company's agreement with the Gates Foundation, the Group is committed to spending \$70.0 million over a multi-year period to the research, discovery, and development of small molecule anti-infective therapeutics for future pandemic preparedness, with a specific focus on developing therapeutics that can be applied against multiple species of coronaviridae, influenza, and paramyxoviridae (the "Pandemic Preparedness Program"). The Group had incurred \$16.3 million relating to the Pandemic Preparedness Program as at December 31, 2024, with a total outstanding commitment of \$53.7 million.

### **Recently Issued and Adopted Accounting Pronouncements**

See Note 2, "Summary of Significant Accounting Policies" to the Consolidated Financial Statements for information regarding recently issued and adopted accounting pronouncements.

### **Item 7a. Quantitative and Qualitative Disclosures About Market Risk.**

#### ***Interest rate risk***

We are exposed to market risk related to changes in interest rates on our investment portfolio of cash and cash equivalents. As of December 31, 2024, our cash and cash equivalents consisted of money market funds and bank deposits. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in interest rates. A hypothetical 100 basis point decrease in interest rates as of December 31, 2024 would have an insignificant effect on net loss in the ensuing year.

#### ***Foreign currency exchange risk***

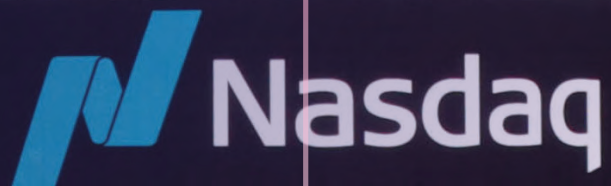
Our employees and our operations are primarily located in the United States, United Kingdom and Canada and our expenses are primarily denominated in U.S. dollars, Great British pounds and Canadian dollars. We also have entered into a limited number of contracts with vendors for research and development services that have underlying payment obligations denominated in foreign currencies. We are subject to foreign currency transaction gains or losses on our contracts denominated in foreign currencies. To date, foreign currency transaction gains and losses have not been material to our financial statements, and we do not have a formal hedging program with respect to foreign currency. A 10% increase or decrease in current exchange rates would not have had a material effect on our financial results during the years ended December 31, 2024, 2023 and 2022.



Recursion.

ITEM 8

# FINANCIALS





**Item 8. Financial Statements and Supplementary Data.**



## **Report of Independent Registered Public Accounting Firm**

To the Board of Directors and Stockholders of Recursion Pharmaceuticals, Inc.

### ***Opinions on the Financial Statements and Internal Control over Financial Reporting***

We have audited the accompanying consolidated balance sheet of Recursion Pharmaceuticals, Inc. and its subsidiaries (the "Company" as of December 31, 2024, and the related consolidated statements of operations, of comprehensive loss, of stockholders' equity and of cash flows for the year then ended, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control - Integrated Framework* (2013 issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2024, and the results of its operations and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company did not maintain, in all material respects, effective internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control - Integrated Framework* (2013 issued by the COSO because a material weakness in internal control over financial reporting existed as of that date related to the Company not designing and maintaining effective controls over the estimated costs and time to completion and controls to validate the completeness and accuracy of data used to calculate revenue and unearned revenue related to its license agreement.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis. The material weakness referred to above is described in Management's Annual Report on Internal Control Over Financial Reporting appearing under Item 9A. We considered this material weakness in determining the nature, timing, and extent of audit tests applied in our audit of the 2024 consolidated financial statements, and our opinion regarding the effectiveness of the Company's internal control over financial reporting does not affect our opinion on those consolidated financial statements.

### ***Basis for Opinions***

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in management's report referred to above. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our 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 the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audit of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinions.

As described in Management's Annual Report on Internal Control Over Financial Reporting, management has excluded Exscientia plc from its assessment of internal control over financial reporting as of December 31, 2024 because it was acquired by the Company in a purchase business combination during 2024. We have also excluded Exscientia plc from our audit of internal control over financial reporting. Exscientia plc is a wholly-owned subsidiary whose total assets and total net loss excluded from management's assessment and our audit of internal control over financial reporting represent 27% and 4%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2024.

### ***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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

### ***Critical Audit Matters***

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

#### ***Acquisition of Exscientia plc – Valuation of Platform Technology and In-Process Research and Development***

As described in Note 4 to the consolidated financial statements, on November 20, 2024, the Company acquired all of the equity interests of Exscientia plc for \$630.1 million. Of the acquired intangible assets, \$182.0 million of platform technology and \$129.0 million of in-process research and development (IPR&D) were recorded. The fair value of each intangible asset was based on the present value of future discounted cash flows prepared under the multi-period excess earnings method, with the significant inputs being the estimates of future revenues, future expenses, discount rate, and probabilities of technological and regulatory success.

The principal considerations for our determination that performing procedures relating to the valuation of platform technology and IPR&D acquired in the acquisition of Exscientia plc is a critical audit matter are (i) the significant judgment by management when developing the fair value estimate of platform technology and IPR&D acquired; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to (a) future revenues, future expenses, and discount rate for platform technology and (b) future revenues, future expenses, discount rate, and probabilities of technological and regulatory success for IPR&D; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the acquisition accounting, including controls over management's valuation of platform technology and IPR&D acquired. These procedures also included, among others (i) reading the purchase agreement; (ii) testing management's process for developing the fair value estimate of platform technology and

IPR&D acquired; (iii) evaluating the appropriateness of the multi-period excess earnings methods used by management; (iv) testing the completeness and accuracy of the underlying data used in the multi-period excess earnings methods; and (v) evaluating the reasonableness of the significant assumptions used by management related to (a) future revenues, future expenses, and discount rate for platform technology and (b) future revenues, future expenses, discount rate, and probabilities of technological and regulatory success for IPR&D. Evaluating management's assumptions related to (a) future revenues and future expenses for platform technology and (b) future revenues, future expenses, and probabilities of technological and regulatory success for IPR&D involved considering (i) the current and past performance of the Exscientia plc business; (ii) the consistency with external market and industry data; and (iii) whether the assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in evaluating (i) the appropriateness of the multi-period excess earnings methods and (ii) the reasonableness of the discount rate assumptions for platform technology and IPR&D.

/s/ PricewaterhouseCoopers LLP

Seattle, Washington  
February 28, 2025

We have served as the Company's auditor since 2024.

## **Report of Independent Registered Public Accounting Firm**

To the Shareholders and the Board of Directors of Recursion Pharmaceuticals, Inc.

### **Opinion on the Financial Statements**

We have audited the accompanying consolidated balance sheet of Recursion Pharmaceuticals, Inc. (the Company) as of December 31, 2023, the related consolidated statements of operations, comprehensive loss, stockholders' 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 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.

### **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 Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits 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.

/s/ Ernst & Young LLP

We served as the Company's auditor from 2017 to 2024.

Salt Lake City, Utah

February 29, 2024

except for Note 15, as to which the date is

February 28, 2025



**Recursion Pharmaceuticals, Inc.**  
**Consolidated Balance Sheets**  
*(in thousands, except share and per share amounts)*

|                                                                                                                                                                                                                                                                                                                                                                                                                               | December 31,        |                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                               | 2024                | 2023              |
| <b>Assets</b>                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                   |
| <b>Current assets</b>                                                                                                                                                                                                                                                                                                                                                                                                         |                     |                   |
| Cash and cash equivalents                                                                                                                                                                                                                                                                                                                                                                                                     | \$ 594,350          | \$ 391,565        |
| Restricted cash                                                                                                                                                                                                                                                                                                                                                                                                               | 3,045               | 3,231             |
| Other receivables                                                                                                                                                                                                                                                                                                                                                                                                             | 49,166              | 3,094             |
| Other current assets                                                                                                                                                                                                                                                                                                                                                                                                          | 67,708              | 40,247            |
| <b>Total current assets</b>                                                                                                                                                                                                                                                                                                                                                                                                   | 714,269             | 438,137           |
| Restricted cash, non-current                                                                                                                                                                                                                                                                                                                                                                                                  | 5,629               | 6,629             |
| Property and equipment, net                                                                                                                                                                                                                                                                                                                                                                                                   | 141,063             | 86,510            |
| Operating lease right-of-use assets                                                                                                                                                                                                                                                                                                                                                                                           | 65,877              | 33,663            |
| Financing lease right-of-use assets                                                                                                                                                                                                                                                                                                                                                                                           | 26,273              | —                 |
| Intangible assets, net                                                                                                                                                                                                                                                                                                                                                                                                        | 335,855             | 36,443            |
| Goodwill                                                                                                                                                                                                                                                                                                                                                                                                                      | 148,873             | 52,056            |
| Deferred tax assets                                                                                                                                                                                                                                                                                                                                                                                                           | 1,934               | —                 |
| Other assets, non-current                                                                                                                                                                                                                                                                                                                                                                                                     | 8,825               | 261               |
| <b>Total assets</b>                                                                                                                                                                                                                                                                                                                                                                                                           | <b>\$ 1,448,598</b> | <b>\$ 653,699</b> |
| <b>Liabilities and stockholders' equity</b>                                                                                                                                                                                                                                                                                                                                                                                   |                     |                   |
| <b>Current liabilities</b>                                                                                                                                                                                                                                                                                                                                                                                                    |                     |                   |
| Accounts payable                                                                                                                                                                                                                                                                                                                                                                                                              | \$ 21,613           | \$ 3,953          |
| Accrued expenses and other liabilities                                                                                                                                                                                                                                                                                                                                                                                        | 81,872              | 46,635            |
| Unearned revenue                                                                                                                                                                                                                                                                                                                                                                                                              | 61,767              | 36,426            |
| Operating lease liabilities                                                                                                                                                                                                                                                                                                                                                                                                   | 13,795              | 6,116             |
| Notes payable and financing lease liabilities                                                                                                                                                                                                                                                                                                                                                                                 | 8,425               | 41                |
| <b>Total current liabilities</b>                                                                                                                                                                                                                                                                                                                                                                                              | 187,472             | 93,171            |
| Unearned revenue, non-current                                                                                                                                                                                                                                                                                                                                                                                                 | 118,765             | 51,238            |
| Operating lease liabilities, non-current                                                                                                                                                                                                                                                                                                                                                                                      | 67,250              | 43,414            |
| Notes payable and financing lease liabilities, non-current                                                                                                                                                                                                                                                                                                                                                                    | 19,022              | 1,101             |
| Deferred tax liabilities                                                                                                                                                                                                                                                                                                                                                                                                      | 16,575              | 1,339             |
| Other liabilities, non-current                                                                                                                                                                                                                                                                                                                                                                                                | 4,732               | —                 |
| <b>Total liabilities</b>                                                                                                                                                                                                                                                                                                                                                                                                      | 413,816             | 190,263           |
| Commitments and contingencies (Note 7)                                                                                                                                                                                                                                                                                                                                                                                        |                     |                   |
| <b>Stockholders' equity</b>                                                                                                                                                                                                                                                                                                                                                                                                   |                     |                   |
| Common stock, \$0.00001 par value; 2,000,000,000 shares (Class A 1,989,032,117 and Class B 10,967,883) authorized as of December 31, 2024 and December 31, 2023; 396,802,394 shares (Class A 389,547,223, Class B 6,958,575 and Exchangeable 296,596) and 234,270,384 (Class A 226,264,764 and Class B 7,544,871 and Exchangeable 460,749) issued and outstanding as of December 31, 2024 and December 31, 2023, respectively |                     |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                               | 4                   | 2                 |
| Additional paid-in capital                                                                                                                                                                                                                                                                                                                                                                                                    | 2,473,698           | 1,431,056         |
| Accumulated deficit                                                                                                                                                                                                                                                                                                                                                                                                           | (1,431,283)         | (967,622)         |
| Accumulated other comprehensive loss                                                                                                                                                                                                                                                                                                                                                                                          | (7,637)             | —                 |
| <b>Total stockholders' equity</b>                                                                                                                                                                                                                                                                                                                                                                                             | 1,034,782           | 463,436           |
| <b>Total liabilities and stockholders' equity</b>                                                                                                                                                                                                                                                                                                                                                                             | <b>\$ 1,448,598</b> | <b>\$ 653,699</b> |

See the accompanying notes to these consolidated financial statements.

**Recursion Pharmaceuticals, Inc.**  
**Consolidated Statements of Operations**  
*(in thousands, except share and per share amounts)*

|                                                                                             | Years ended December 31, |                     |                     |
|---------------------------------------------------------------------------------------------|--------------------------|---------------------|---------------------|
|                                                                                             | 2024                     | 2023                | 2022                |
| <b>Revenue</b>                                                                              |                          |                     |                     |
| Operating revenue                                                                           | \$ 58,488                | \$ 43,876           | \$ 39,681           |
| Grant revenue                                                                               | 351                      | 699                 | 162                 |
| <b>Total revenue</b>                                                                        | <b>58,839</b>            | <b>44,575</b>       | <b>39,843</b>       |
| <b>Operating costs and expenses</b>                                                         |                          |                     |                     |
| Cost of revenue                                                                             | 45,238                   | 42,587              | 48,275              |
| Research and development                                                                    | 314,421                  | 241,226             | 155,696             |
| General and administrative                                                                  | 178,184                  | 110,822             | 81,599              |
| <b>Total operating costs and expenses</b>                                                   | <b>537,843</b>           | <b>394,635</b>      | <b>285,570</b>      |
| <b>Loss from operations</b>                                                                 | <b>(479,004)</b>         | <b>(350,060)</b>    | <b>(245,727)</b>    |
| Other income, net                                                                           | 14,216                   | 17,932              | 6,251               |
| <b>Loss before income tax benefit</b>                                                       | <b>(464,788)</b>         | <b>(332,128)</b>    | <b>(239,476)</b>    |
| Income tax benefit                                                                          | 1,127                    | 4,062               | —                   |
| <b>Net loss</b>                                                                             | <b>\$ (463,661)</b>      | <b>\$ (328,066)</b> | <b>\$ (239,476)</b> |
| <b>Per share data</b>                                                                       |                          |                     |                     |
| <b>Net loss per share of Class A, B and Exchangeable common stock, basic and diluted</b>    | <b>\$ (1.69)</b>         | <b>\$ (1.58)</b>    | <b>\$ (1.36)</b>    |
| <b>Weighted-average shares (Class A, B and Exchangeable) outstanding, basic and diluted</b> | <b>274,207,146</b>       | <b>207,853,702</b>  | <b>175,537,487</b>  |

See the accompanying notes to these consolidated financial statements.

**Recursion Pharmaceuticals, Inc.**  
**Consolidated Statements of Comprehensive Loss**  
*(in thousands)*

|                                                             | Years ended December 31, |              |              |
|-------------------------------------------------------------|--------------------------|--------------|--------------|
|                                                             | 2024                     | 2023         | 2022         |
| <b>Net loss</b>                                             | \$ (463,661)             | \$ (328,066) | \$ (239,476) |
| <b>Other comprehensive loss:</b>                            |                          |              |              |
| Currency translation adjustments                            | (7,637)                  | —            | —            |
| Unrealized gain on investments                              | —                        | —            | 87           |
| Net realized loss on investments reclassified into net loss | —                        | —            | 39           |
| <b>Other comprehensive income (loss)</b>                    | (7,637)                  | —            | 126          |
| <b>Comprehensive loss</b>                                   | \$ (471,298)             | \$ (328,066) | \$ (239,350) |

See the accompanying notes to these consolidated financial statements.

**Recursion Pharmaceuticals, Inc.**  
**Consolidated Statements of Stockholders' Equity**  
*(in thousands, except share amounts)*

|                                                                    | Common Stock<br>(Class A, B and<br>Exchangeable) |        | Additional<br>Paid-in-<br>Capital | Accumulated<br>Deficit | Accumulated<br>other<br>comprehensive<br>loss | Stockholders'<br>Equity |
|--------------------------------------------------------------------|--------------------------------------------------|--------|-----------------------------------|------------------------|-----------------------------------------------|-------------------------|
|                                                                    | Shares                                           | Amount |                                   |                        |                                               |                         |
| <b>Balance as of December 31, 2021</b>                             | 170,272,462                                      | 2      | \$ 943,142                        | \$ (400,080)           | \$ (126)                                      | 542,938                 |
| Net loss                                                           | —                                                | —      | —                                 | (239,476)              | —                                             | (239,476)               |
| Other comprehensive income                                         | —                                                | —      | —                                 | —                      | 126                                           | 126                     |
| Common stock issuance for private placement, net of issuance costs | 15,336,734                                       | —      | 143,711                           | —                      | —                                             | 143,711                 |
| Stock option exercises and other                                   | 5,413,668                                        | —      | 10,598                            | —                      | —                                             | 10,598                  |
| Stock based compensation                                           | —                                                | —      | 27,909                            | —                      | —                                             | 27,909                  |
| <b>Balance as of December 31, 2022</b>                             | 191,022,864                                      | 2      | 1,125,360                         | (639,556)              | —                                             | 485,806                 |
| Net loss                                                           | —                                                | —      | —                                 | (328,066)              | —                                             | (328,066)               |
| Stock option exercises and other                                   | 9,058,817                                        | —      | 12,831                            | —                      | —                                             | 12,831                  |
| Stock-based compensation                                           | —                                                | —      | 53,503                            | —                      | —                                             | 53,503                  |
| Common stock sales issuances, net of issuance costs                | 19,658,963                                       | —      | 128,093                           | —                      | —                                             | 128,093                 |
| Class A shares and stock options issued for acquisitions           | 11,303,838                                       | —      | 89,269                            | —                      | —                                             | 89,269                  |
| Common stock issued for Tempus agreement                           | 3,225,902                                        | —      | 22,000                            | —                      | —                                             | 22,000                  |
| <b>Balance as of December 31, 2023</b>                             | 234,270,384                                      | 2      | 1,431,056                         | (967,622)              | —                                             | 463,436                 |
| Net loss                                                           | —                                                | —      | —                                 | (463,661)              | —                                             | (463,661)               |
| Other comprehensive loss                                           | —                                                | —      | —                                 | —                      | (7,637)                                       | (7,637)                 |
| Stock option exercises and other                                   | 11,359,808                                       | —      | 8,299                             | —                      | —                                             | 8,299                   |
| Stock-based compensation                                           | —                                                | —      | 81,688                            | —                      | —                                             | 81,688                  |
| Common stock sales issuances, net of issuance costs                | 45,535,390                                       | 1      | 300,532                           | —                      | —                                             | 300,533                 |
| Class A shares and stock compensation issued for acquisitions      | 102,138,419                                      | 1      | 630,123                           | —                      | —                                             | 630,124                 |
| Common stock issued for Tempus agreement                           | 3,498,393                                        | —      | 22,000                            | —                      | —                                             | 22,000                  |
| <b>Balance as of December 31, 2024</b>                             | 396,802,394                                      | 4      | \$ 2,473,698                      | \$ (1,431,283)         | \$ (7,637)                                    | \$ 1,034,782            |

See the accompanying notes to these consolidated financial statements.



**Recursion Pharmaceuticals, Inc.**  
**Consolidated Statements of Cash Flows**  
*(in thousands)*

|                                                                                      | Years ended December 31, |                   |                   |
|--------------------------------------------------------------------------------------|--------------------------|-------------------|-------------------|
|                                                                                      | 2024                     | 2023              | 2022              |
| <b>Cash flows from operating activities</b>                                          |                          |                   |                   |
| Net loss                                                                             | \$ (463,661)             | \$ (328,066)      | \$ (239,476)      |
| Adjustments to reconcile net loss to net cash used in operating activities:          |                          |                   |                   |
| Depreciation and amortization                                                        | 36,494                   | 24,402            | 11,756            |
| Stock-based compensation                                                             | 81,688                   | 53,503            | 27,909            |
| Asset impairment                                                                     | 108                      | 1,188             | 2,806             |
| Lease expense                                                                        | 16,616                   | 8,063             | 7,730             |
| Other, net                                                                           | 7,582                    | 3,387             | 830               |
| Changes in operating assets and liabilities:                                         |                          |                   |                   |
| Other receivables and assets                                                         | (6,071)                  | (7,756)           | (2)               |
| Unearned revenue                                                                     | (28,038)                 | (41,076)          | 110,320           |
| Accounts payable                                                                     | 6,435                    | (987)             | 1,767             |
| Accrued development expense                                                          | (264)                    | 2,705             | 522               |
| Accrued expenses and other current liabilities                                       | 5,519                    | 6,719             | (576)             |
| Lease liabilities                                                                    | (15,582)                 | (9,862)           | (7,110)           |
| <b>Net cash used in operating activities</b>                                         | <b>(359,174)</b>         | <b>(287,780)</b>  | <b>(83,524)</b>   |
| <b>Cash flows from investing activities</b>                                          |                          |                   |                   |
| Net cash acquired in the acquisition of a business                                   | 277,104                  | 1,844             | —                 |
| Purchases of property and equipment                                                  | (13,695)                 | (11,955)          | (37,059)          |
| Purchases of intangible assets                                                       | (3,350)                  | (597)             | (300)             |
| Sales and maturities of investments                                                  | —                        | 480               | 230,608           |
| <b>Net cash provided by (used in) investing activities</b>                           | <b>260,059</b>           | <b>(10,228)</b>   | <b>193,249</b>    |
| <b>Cash flows from financing activities</b>                                          |                          |                   |                   |
| Proceeds from issuance of common shares, net of issuance costs                       | 300,417                  | 128,093           | 143,711           |
| Proceeds from equity incentive plans                                                 | 8,143                    | 12,806            | 10,724            |
| Repayment of long-term debt and finance lease liabilities                            | (4,440)                  | (766)             | (90)              |
| <b>Net cash provided by financing activities</b>                                     | <b>304,120</b>           | <b>140,133</b>    | <b>154,345</b>    |
| <b>Effect of exchange rate changes on cash, cash equivalents and restricted cash</b> | <b>(3,406)</b>           | <b>188</b>        | <b>(307)</b>      |
| <b>Net change in cash, cash equivalents and restricted cash</b>                      | <b>201,599</b>           | <b>(157,687)</b>  | <b>263,763</b>    |
| Cash, cash equivalents and restricted cash, beginning of period                      | 401,425                  | 559,112           | 295,349           |
| <b>Cash, cash equivalents and restricted cash, end of period</b>                     | <b>\$ 603,024</b>        | <b>\$ 401,425</b> | <b>\$ 559,112</b> |
| <b>Supplemental disclosure of non-cash investing and financing information</b>       |                          |                   |                   |
| Issuance of shares for the acquisitions of businesses                                | \$ 630,124               | \$ 89,269         | \$ —              |
| Issuance of shares for Tempus agreement                                              | 22,000                   | 22,000            | —                 |
| Accrued property and equipment                                                       | 439                      | 2,439             | 591               |
| Purchase of an intangible asset                                                      | 6,000                    | —                 | —                 |

See the accompanying notes to these consolidated financial statements.

**Recursion Pharmaceuticals, Inc.**  
**Notes to Consolidated Financial Statements**

**Note 1. Description of the Business**

Recursion Pharmaceutical, Inc. (Recursion, the Company, we or our) is a clinical stage TechBio company decoding biology and chemistry to industrialize drug discovery. The Recursion Operating System (OS), a platform built across diverse technologies, enables the Company to map and navigate trillions of biological and chemical relationships within the Recursion Data Universe, one of the world's largest proprietary biological and chemical datasets. The Company integrates physical and digital components as iterative loops of atoms and bits scaling wet lab biology and chemistry data organized into virtuous cycles with computational tools to rapidly translate *in silico* hypotheses into validated insights and novel chemistry.

As of December 31, 2024, the Company had an accumulated deficit of \$1.4 billion. The Company expects to incur substantial operating losses in future periods and will require additional capital to advance its drug candidates. The Company does not expect to generate significant revenue until the Company successfully completes significant drug development milestones or in collaboration with third parties, which the Company expects will take a number of years. In order to commercialize its drug candidates, the Company or its partners need to complete clinical development and comply with comprehensive regulatory requirements. The Company is subject to a number of risks and uncertainties similar to those of other companies of the same size within the biotechnology industry, such as the uncertainty of clinical trial outcomes, uncertainty of additional funding and a history of operating losses.

The Company has funded its operations to date primarily through the issuance of Class A common stock (see Note 8, "Common Stock" for additional details). Additionally, the Company has received payments from its strategic partnerships (see Note 9, "Collaborative Development Contracts" for additional details). Recursion will likely be required to raise additional capital. As of December 31, 2024, the Company did not have any unconditional outstanding commitments for additional funding. If the Company is unable to access additional funds when needed, it may not be able to continue the development of its products or the Company could be required to delay, scale back or abandon some or all of its development programs and other operations. The Company's ability to access capital when needed is not assured and, if not achieved on a timely basis, could materially harm its business, financial condition and results of operations.

Recursion believes that the Company's existing cash and cash equivalents will be sufficient to fund the Company's operating expenses and capital expenditures for at least the next 12 months.

**Note 2. Summary of Significant Accounting Policies**

***Use of Estimates***

The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (GAAP), which requires the Company to make estimates and assumptions that affect reported amounts and related disclosures. Actual results could differ from those amounts. Significant estimates and assumptions include the estimated progress towards the satisfaction of performance obligations to record revenue, the valuation of goodwill and intangible assets, accrued research and development expenses and the fair value of stock-based awards issued.

***Basis of Presentation***

The consolidated financial statements include the accounts of Recursion and its wholly-owned subsidiaries that the Company controls. Intercompany balances and transactions have been eliminated in consolidation.

## **Segment Information**

Recursion operates and is managed as a single operating segment. The Company's chief operating decision maker is its Chief Executive Officer, who allocates resources and assesses performance at the consolidated level.

## **Concentration of Credit Risk**

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash and cash equivalents. These financial instruments are primarily held at several financial institutions that management believes are of high credit quality. Recursion's primary bank accounts significantly exceed the federally insured limits.

The Company is dependent on third-party suppliers for certain research and development activities including preclinical and clinical testing. In particular, the Company relies on and expects to continue to rely on a small number of these suppliers. These activities could be adversely affected by a significant interruption to Recursion's third-party suppliers including a delay in the Company's preclinical and clinical testing and the supply of certain consumable products and compounds.

## **Cash, Cash Equivalents and Restricted Cash**

Cash and cash equivalents includes bank deposits held in checking accounts and money market funds. Short-term highly liquid investments with maturities of three months or less at the time of purchase are classified as cash and cash equivalents.

The Company is required to maintain a cash balance in a collateralized account to secure the Company's credit cards. Additionally, the Company holds restricted cash related to an outstanding letter of credit issued by J.P. Morgan, which was obtained to secure certain Company obligations relating to tenant improvements. Recursion also holds restricted cash as required by a lease agreement.

## **Property and Equipment**

Property and equipment is carried at acquisition cost less accumulated depreciation. The cost of normal, recurring or periodic repairs and maintenance activities related to property and equipment are expensed as incurred. Depreciation is computed using the straight-line method based on the estimated useful lives of the assets. The estimated useful lives by asset classification are generally as follows:

|                               |                                                  |
|-------------------------------|--------------------------------------------------|
| Computer and Office Equipment | 5 years                                          |
| Lab Equipment                 | 7 years                                          |
| Leasehold Improvements        | Lesser of 15 years or the remainder of the lease |

Property and equipment are reviewed for impairment as discussed below under Long-Lived Assets Impairment.

## **Long-Lived Assets Impairment**

The Company reviews the carrying amounts of long-lived assets, including property and equipment, intangible assets and right-of-use leased assets for potential impairment when events or changes in circumstances indicate the carrying amount of an asset group may not be recoverable. In evaluating recoverability, Recursion groups assets and liabilities at the lowest level such that the identifiable cash flows relating to the group are largely independent of the cash flows of other assets and liabilities. The Company then compares the carrying amount of the asset group with the projected undiscounted future cash flows to be generated by the asset group. If the undiscounted cash flows of the asset group is lower than its respective carrying value, an impairment charge is recorded as the amount by which the carrying amount of the asset group exceeds the fair value.

## **Goodwill and Indefinite Intangible Assets Impairment**

Goodwill represents the excess of the aggregate fair value of the consideration transferred in a business combination over the fair value of the assets acquired, net of liabilities assumed. Indefinite-lived intangible assets

primarily include in-process research and development (IPR&D) acquired in business combinations with indefinite lives.

The Company performs its annual goodwill and indefinite-lived intangible assets impairment test in the fourth quarter, or more frequently if an interim triggering event occurs that may indicate potential impairment. The Company has the option to first assess qualitative factors to determine whether it is more likely than not that the fair value is less than its carrying amount. Some of the factors considered in the qualitative assessment include general macro-economic conditions, conditions specific to the industry and market, cost factors, the overall financial performance and whether there have been sustained declines in the Company's share price. If the Company concludes it is more likely than not that the fair value of the reporting unit or IPR&D is less than its carrying amount, a quantitative impairment test is performed.

For its quantitative impairment tests, the Company uses an estimated future cash flow approach that requires significant judgment with respect to future volume, revenue and expense growth rates, changes in working capital use, the selection of an appropriate discount rate and other assumptions and estimates. The estimates and assumptions used are consistent with the Company's business plans and a market participant's views. The use of alternative estimates and assumptions could increase or decrease projected cash flows and the estimated fair value.

### ***Business Combinations***

Results of operations of acquired companies are included in the Recursion results of operations as of the respective acquisition dates. The purchase price of each acquisition is allocated to the net assets acquired based on estimates of their fair values at the date of acquisition. Any purchase price in excess of these net assets is recorded as goodwill. The allocation of purchase price in certain cases may be subject to revision based on the final determination of fair values during the measurement period, which may be up to one year from the acquisition date. Legal costs, due diligence costs, business valuation costs and all other business acquisition costs are expensed when incurred.

### ***Accruals for Research and Development Expenses and Clinical Trials***

As part of the process of preparing its financial statements, the Company is required to estimate its expenses resulting from obligations under contracts with vendors and clinical research organizations. The financial terms of these contracts are subject to negotiations, which vary from contract to contract and may result in payment terms that do not match the periods over which materials or services are provided for under such contracts. The Company's policy is to record these expenses during the period in which services are performed and efforts are expended. The Company determines accrual estimates by taking into account discussions with applicable personnel and outside service providers as to the progress of clinical trials, or the services completed. During the course of a clinical trial, the Company adjusts its clinical expense recognition if actual results differ from its estimates. The Company makes estimates of its accrued expenses as of each Consolidated Balance Sheet date based on the facts and circumstances known to it at that time. The actual expenses could be different from the amounts accrued.

### ***Leases***

The Company rents facilities under operating lease agreements and recognizes rent expense on a straight-line basis over the term of the lease. Certain lease agreements contain tenant improvement allowances, rent holidays, scheduled rent increases and renewal options. Rent holidays and scheduled rent increases are included in the determination of rent expense. Certain leases also include provisions for variable lease payments which are based on, but not limited to, maintenance, insurance, taxes and usage-based amounts. Recursion recognizes these costs as they are incurred.

Right-of-use assets and lease liabilities are recognized based on the present value of lease payments over the lease term at the lease commencement date. Present value is determined using an incremental borrowing rate when the rate implicit in the lease is not readily determinable. The incremental borrowing rate is equal to the rate of interest that Recursion would have to pay to borrow on a collateralized basis over a similar term in an amount equal to the lease payments in a similar economic environment. Renewals are not included in the determination of the lease term unless they are determined to be reasonably certain to be exercised at the commencement date of the



lease. The Company recognizes rent expense beginning on the date the Company obtains the legal right to use and control the leased space. Recursion classifies leases as operating or finance at the lease commencement date.

The Company has elected to apply the practical expedient for short-term leases whereby Recursion does not recognize a lease liability and right-of-use asset for leases with a term of less than 12 months. The Company has also elected to not separate consideration in the contract between lease and non-lease components of a contract that contains a lease. Right-of-use assets and lease liabilities are remeasured upon certain remeasurement events using the present value of remaining lease payments and estimated incremental borrowing rate upon lease modification. For operating leases that commenced prior to the Company's adoption of Topic 842, Recursion measured the lease liabilities and right-of-use assets using the incremental borrowing rate as of January 1, 2022.

### ***Revenue Recognition***

Operating revenue has primarily been generated through research and development agreements (see Note 9, "Collaborative Development Contracts" for additional details). Revenue for research and development agreements is recognized as the Company satisfies a performance obligation by transferring the promised services to the customer. The Company recognizes revenue over time by measuring the progress toward complete satisfaction of the relevant performance obligation using an appropriate input or output method based on the services promised to the customer. This method of recognizing revenue requires the Company to make estimates of the work required to complete the performance obligation in order to determine the progress towards completion. A significant change in these estimates could have a material effect on the timing and amount of revenue recognized in future periods.

The Company may also provide options in its agreements under which a partner could request that Recursion provide additional services in the future. Recursion evaluates whether these options are material rights at the inception of the agreement. If the Company determines an option is a material right, Recursion will consider the option a separate performance obligation.

### ***Cost of Revenue***

Cost of revenue consists of the Company's costs to provide services for drug discovery required under performance obligations with partnership customers. These primarily include materials costs, service hours performed by the Company's employees, costs from third party contract research organizations and depreciation of property and equipment. Consumables purchased to be used in the future to satisfy performance obligations are recognized on the Consolidated Balance Sheet until consumed.

### ***Research and Development***

Research and development expenses comprise of costs incurred in performing research and development activities other than those performed pursuant to contracts with customers, including drug discovery and development studies, external research and the purchase of laboratory supplies. The Company recognizes expenses associated with third-party contracted services based on the completion of activities as specified in the applicable contracts. Upon the termination of contracts with third-parties, the Company's financial obligations are generally limited to costs incurred or committed to date. Any advance payments for goods or services to be used or rendered in future research and product development activities are classified as prepaid expenses until the goods or services are rendered.

### ***Stock-Based Compensation***

The Company issues stock-based awards to employees and non-employees, generally in the form of stock options and restricted stock units (RSUs). Most of the Company's stock-based awards have been made to employees. Recursion measures compensation expense for equity awards at their grant-date fair value and recognizes compensation expense over the requisite service period, generally on a straight-line basis. For stock-based awards with a performance condition, Recursion recognizes stock-based compensation expense based on the probable outcome of the performance condition. Awards generally vest over four years for employees. Recursion recognizes the impact of forfeitures on stock-based compensation expense as they occur.

The grant date fair value of stock options is estimated using the Black-Scholes option pricing model, which requires inputs for the expected term, stock price volatility, dividend yield and the risk-free interest rate of the options. The

expected term is based on the simplified method since the Company does not have sufficient historical exercise data to estimate the expected term. The volatility is based on an average peer historical volatility over the expected term of the option. The expected dividend yield is assumed to be zero as Recursion has never paid dividends and does not have current plans to pay dividends. The risk-free interest rate is based on the rates available at the time of the grant for zero-coupon U.S. government issues with a remaining term equal to the option's expected term.

The grant date fair value of RSUs is determined using the market price of the Company's common stock at grant date. For stock-based awards with a market condition, the grant date fair value is determined using a Monte Carlo simulation and stock-based compensation expense is recognized using the accelerated attribution method over the implied service period. When a market condition is satisfied in a period before the end of the implied service period, any remaining unrecognized compensation cost is recognized. Stock-based compensation is recorded in cost of revenue, research and development expense and general and administrative expense based on the role of the employee.

## ***Income Taxes***

Income taxes are accounted for under the asset and liability method. Provisions for federal, state and foreign income taxes are calculated on reported pretax losses based on current tax laws. Deferred taxes are recognized using enacted tax rates on the future tax consequences of temporary differences, which are the differences between the financial statement carrying amounts of assets and liabilities and their respective tax bases and the tax benefits of carryforwards. A valuation allowance is established or maintained when, based on currently available information, it is more likely than not that all or a portion of a deferred tax asset will not be realized.

For uncertain tax positions, Recursion determines whether the position is more-likely-than-not to be sustained upon examination based on the technical merits of the position. Any tax position that meets the more-likely-than-not recognition threshold is measured and recognized in the Consolidated Financial Statements at the largest amount that is greater than 50% likely of being realized upon ultimate settlement.

Recursion receives certain cash refundable research and development tax credits including the research and development expenditure credit (RDEC) in the United Kingdom. The Company records these as "Research and Development" in the Consolidated Statements of Operations as the credit is earned. The amount included in the Consolidated Statements of Operations for the year ended December 31, 2024 was insignificant. The Company records the amount receivable in "Other receivables" on the Consolidated Balance Sheet.

## ***Foreign Currency***

The functional currency for several of Recursion's foreign subsidiaries is the applicable local currency. Revenues and expenses for non-U.S. dollar functional currency entities are translated into U.S. dollars using average currency exchange rates for the period. Assets and liabilities for such entities are translated using exchange rates at the balance sheet date. Foreign currency translation adjustments are reflected in stockholders' equity as a component of other comprehensive loss. Foreign currency transaction gains and losses on transactions not denominated in functional currency are recorded in "Other income, net" in the Consolidated Statements of Operations.

## ***Recent Accounting Pronouncements***

### ***Recently Adopted Accounting Pronouncements***

In November 2023, the FASB issued ASU No. 2023-7, *Segment Reporting (Topic 280)*. The standard requires new disclosures related to ASC 280 including: disclosing significant segment expenses by category, requiring all the ASC 280 disclosures for companies with a single reportable segment and requiring ASC 280 disclosures for interim financial statements. Recursion adopted the standard for the annual period ending December 31, 2024. Recursion applied the amendments retrospectively to each prior reporting period presented. The adoption of this standard did not impact Recursion's consolidated balance sheet and statement of operations.

### ***Recent Accounting Pronouncements Not Yet Adopted***

In November 2024, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2024-03, *Disaggregation of Income Statement Expenses (Topic 220)*. The standard requires new disclosures in

the notes to the financial statements about certain caption expenses presented on the face of the Income Statement including information on: purchases of inventory; employee compensation; depreciation and intangible asset amortization. Recursion must also disclose a qualitative description of the amounts remaining in expense captions that are not separately disaggregated. This standard will be effective for Recursion starting the annual period ending December 31, 2027. Early adoption is permitted. The amendments can be applied on a prospective or retrospective basis. Recursion is currently assessing the impact of adopting this guidance on its consolidated financial statements.

In March 2024, the SEC issued rule 33-11275, *The Enhancement and Standardization of Climate-Related Disclosures for Investors*. The new rule requires Recursion to provide certain disclosures in the footnotes to the financial statements of climate-related information. These disclosures include the impact of severe weather and other natural conditions on the Company's consolidated balance sheet and statement of operations, to the extent they are material. Recursion will also need to disclose a rollforward of the beginning and ending balances of its carbon offsets and renewable energy credits or certificates (RECs), if they are a material component of meeting the Company's climate-related targets and goals. Additionally, the Company will need to disclose whether and, if so, how severe weather events and other natural conditions and disclosed climate-related targets or transition plans materially affected estimates and assumptions in the financial statements. The final rule's effective dates, if adopted, will be phased in depending on the disclosure requirement starting the annual period ending December 31, 2025. In April 2024, the SEC voluntarily stayed implementation of the new climate-related disclosure requirements pending judicial review. The Company is currently evaluating the impact this rule will have on its consolidated financial statements and related disclosures.

In December 2023, the FASB issued ASU No. 2023-9, *Income Taxes (Topic 740)*. The new standard updates disclosure requirements for Accounting Standards Codification (ASC) 740 primarily by requiring additional information in the income tax rate reconciliation and additional disclosures about income taxes paid. This standard will be effective for Recursion starting the annual period ending December 31, 2025. The amendments can be applied on a prospective or retrospective basis. The adoption of this standard will not impact Recursion's consolidated balance sheet and statement of operations.

### **Note 3. Supplemental Financial Information**

#### ***Tempus agreement***

In November 2023, Recursion entered into a five-year agreement (the Tempus Agreement) with Tempus Labs, Inc. ("Tempus") to purchase access to their records of patient-centric multimodal oncology data and use rights for therapeutic development purposes. This data will be used to improve the training of Recursion's artificial intelligence and machine learning models and is expected to accelerate Recursion's drug discovery process. Recursion is making annual payments, ranging between \$22.0 million and \$42.0 million, up to \$160.0 million in aggregate, to Tempus in cash or equity at the Company's option. The equity value is determined by using the seven-trading day period dollar volume-weighted average price (VWAP) for Recursion Class A common stock ending on the day immediately preceding the date that is five business days prior to the payment date.

Recursion is expensing the record purchases based on a contractually agreed price as "Research and Development" expenses in the Consolidated Statements of Operations as the records are downloaded. To the extent that the Recursion payments to Tempus are greater than or less than the records purchased amount, Recursion records the applicable amount to "Other Current Assets" or "Accrued Expenses and Other Liabilities" on the Consolidated Balance Sheet, respectively. As of December 31, 2024, Recursion had recorded \$29.6 million within "Other Current Assets" on the Consolidated Balance Sheet related to the Tempus agreement.

**Property and Equipment, net**

| (in thousands)                 | December 31, |           |
|--------------------------------|--------------|-----------|
|                                | 2024         | 2023      |
| Lab equipment                  | \$ 100,928   | \$ 60,096 |
| Leasehold improvements         | 72,727       | 45,929    |
| Computer and Office equipment  | 27,365       | 22,126    |
| Construction in progress       | 2,714        | 3,231     |
| Property and equipment, gross  | 203,734      | 131,382   |
| Less: Accumulated depreciation | (62,671)     | (44,872)  |
| Property and equipment, net    | \$ 141,063   | \$ 86,510 |

Depreciation expense on property and equipment was \$18.3 million, \$15.9 million and \$11.4 million during the years ended December 31, 2024, 2023 and 2022, respectively. The Company recorded an impairment of \$1.2 million during the year ended December 31, 2023, related to construction projects for leasehold improvements as the Company no longer intended to use them. The impairments were recorded in “General and Administrative” in the Consolidated Statements of Operations. The increase in each category of property and equipment from the prior year was primarily driven by the Exscientia acquisition. See Note 4, “Acquisitions” for additional information.

**Accrued Expenses and Other Liabilities**

| (in thousands)                        | December 31, |           |
|---------------------------------------|--------------|-----------|
|                                       | 2024         | 2023      |
| Accrued compensation                  | \$ 50,853    | \$ 22,888 |
| Accrued development expenses          | 5,812        | 6,077     |
| Accrued early discovery expenses      | 3,095        | 2,570     |
| Accrued professional fees             | 787          | 1,582     |
| Accrued construction                  | —            | 2,439     |
| Materials received not invoiced       | 1,590        | 2,432     |
| Accrued Helix fee                     | 3,000        | —         |
| Accrued other expenses                | 16,735       | 8,647     |
| Accrued expense and other liabilities | \$ 81,872    | \$ 46,635 |

For the year ended December 31, 2024, the increase in accrued compensation from the prior year was driven by the Company’s acquisition of Exscientia. See Note 4, “Acquisitions” for additional information on the acquisition.

**Interest Income, net**

| (in thousands)       | Years ended December 31, |           |          |
|----------------------|--------------------------|-----------|----------|
|                      | 2024                     | 2023      | 2022     |
| Interest income      | \$ 15,758                | \$ 19,116 | \$ 6,254 |
| Interest expense     | (1,572)                  | (97)      | (55)     |
| Interest income, net | \$ 14,186                | \$ 19,019 | \$ 6,199 |

For the years ended December 31, 2024, 2023 and 2022, interest income primarily related to earnings on cash and cash equivalents in money market funds. Interest expense primarily related to the Company’s supercomputer



financing lease. Interest income, net was included in “Other income, net” on the Consolidated Statements of Operations.

#### Note 4. Acquisitions

##### *Exscientia plc*

On November 20, 2024, Recursion acquired all of the outstanding equity interests of Exscientia plc (“Exscientia”), a United Kingdom based public company that was registered on the Nasdaq Global Select Market. Exscientia is a drug design company utilizing its artificial intelligence platform to efficiently design and develop differentiated medicines for diseases with high unmet patient needs. Their focus is on utilizing their platform to develop best in class molecules with improvements to known or likely points of failure to improve the probability of developmental success. The Company believes the combination of the Recursion and Exscientia platforms and pipelines will position it to be a leader of the AI-enabled drug discovery and development space.

The acquisition of Exscientia was accounted for as a business combination using the acquisition method of accounting. The consideration transferred of approximately \$630.1 million consisted of \$616.9 million in Recursion Class A shares and \$13.2 million related to the portion of Exscientia share based awards that were replaced with Recursion share based awards that is attributable to pre-combination service. Approximately 102.1 million Recursion Class A shares were issued in exchange for Exscientia ordinary shares using a fixed exchange ratio of one Exscientia ordinary share converts to 0.7729 Recursion Class A shares (the “Exchange Ratio”). In addition, Recursion replaced all outstanding Exscientia share based awards with Recursion share based awards wherein the vesting schedule and other applicable terms were carried over except for the exercise price of share options which were adjusted using the 0.7729 exchange ratio. This included Exscientia’s stock options and restricted stock units. Recursion used \$6.04, the Company’s share price on November 20, 2024 to calculate the consideration transferred. See Note 10, “Stock-Based Compensation” for additional information on the Exscientia share based awards.

The following table summarizes the fair value of assets acquired and liabilities assumed as of the acquisition date:

| (in thousands)                                       |           |                |
|------------------------------------------------------|-----------|----------------|
| Cash and cash equivalents                            | \$        | 277,104        |
| Other receivables                                    |           | 48,408         |
| Other current assets                                 |           | 12,843         |
| Property and equipment                               |           | 61,961         |
| Operating lease right-of-use assets                  |           | 20,271         |
| Intangible assets, technology                        |           | 182,000        |
| Intangible assets, indefinite-lived                  |           | 129,000        |
| Deferred tax assets                                  |           | 1,934          |
| Other assets, non-current                            |           | 930            |
| Accounts payable and accrued liabilities             |           | (40,780)       |
| Lease liabilities                                    |           | (21,679)       |
| Deferred Revenue                                     |           | (120,905)      |
| Other liabilities                                    |           | (18,698)       |
| Total identifiable net assets                        | \$        | 532,389        |
| Goodwill                                             |           | 97,735         |
| <b>Total assets acquired and liabilities assumed</b> | <b>\$</b> | <b>630,124</b> |

Acquired contract liabilities in the scope of ASC 606 are an exception to the ASC 805 fair value measurement principle and were measured as if Recursion had originated the acquired contract. Two acquired customer contracts had contract liabilities and for each contract Recursion reassessed the identification of performance obligations, determination of transaction price, allocation of transaction price, and measure of progress for each performance

obligation as if Recursion has been party to the original contract and recognized the resulting contract liability as a liability assumed. No contract assets in the scope of ASC 606 were acquired.

The intangible assets of Exscientia consist of the Exscientia artificial intelligence platform and four clinical stage oncology in process research and development (IPR&D) assets. The operating system is a critical tool used for both designing molecules for fulfilling collaboration agreements and Exscientia's own research and development projects. The fair value of each intangible asset was valued based on the present value of future discounted cash flows prepared under the multi-period excess earnings method with the significant inputs being the estimates of future revenues, future expenses, the discount rate of 10.5% and probabilities of technological and regulatory success. The platform asset is being amortized on a straight line basis over a six year useful life. The IPR&D assets have been assigned an indefinite useful life and will be tested for impairment prospectively and, if regulatory approval is achieved, will be assigned a useful life and amortization will commence.

Goodwill was calculated based on the excess of the consideration transferred over net assets acquired. The goodwill recognized represents the assembled workforce, future research and development projects enabled by the platform that do not yet have sufficient substance to meet the definition of in-process research and development assets and expected synergies such as the integration of Recursion and Exscientia platforms. The goodwill is not deductible for tax purposes.

As the business combination occurred in November 2024, Recursion is still finalizing the allocation of the purchase price to assets acquired and liabilities assumed. The preliminary purchase price allocation reflected in the December 31, 2024 balance sheet is based on the current best estimate of management and subject to change. The Company will finalize the amounts recognized as the information necessary to complete the analysis is obtained and management estimates are further refined. The primary areas subject to finalization are the valuation of intangible assets, right-of-use assets, property and equipment and the valuation of tax assets and liabilities. The Company expects to finalize the purchase price allocation soon but will do so no later than one year from the acquisition date. External specialists have been engaged to assist with certain elements of applying the acquisition method of accounting.

Recursion's consolidated statement of operations for the year ended December 31, 2024 includes \$1.1 million of revenue and \$29.3 million of operating loss from Exscientia operations. The following unaudited pro forma summary presents consolidated revenue and earnings of Recursion as if the Exscientia business combination had occurred on January 1, 2023.

| (in thousands) | Year ended December 31, |           |
|----------------|-------------------------|-----------|
|                | 2024                    | 2023      |
| Revenue        | \$ 82,643               | \$ 72,504 |
| Operating loss | 678,717                 | 548,716   |

The unaudited pro forma amounts have been calculated after converting the Exscientia financial information to U.S. GAAP, applying Recursion accounting policies, and applying the acquisition method of accounting at January 1, 2023.

Recursion incurred approximately \$20.5 million of transaction costs which are presented in general and administrative expenses in the statement of operations for the year ended December 31, 2024 and are reflected in the pro forma operating loss for the year ended December 31, 2023. Recursion did not have any material, nonrecurring pro forma adjustments directly attributable to the Exscientia business combination that are included in the pro forma information.

#### ***Valence Discovery Inc.***

On May 16, 2023, Recursion acquired all of the outstanding equity interests in Valence Discovery Inc. (Valence), a privately-held machine learning (ML) / artificial intelligence (AI) digital chemistry company. The integration of Valence's AI-based chemistry engine into Recursion's operating system will allow Recursion to expand its technology-enabled drug discovery process. This will accelerate Recursion's digital chemistry capabilities and its drug discovery process.

The acquisition of Valence was accounted for as a business combination using the acquisition method of accounting. The aggregate upfront consideration for the acquisition of Valence consisted of 2.2 million shares of Recursion Class A common stock, 4.4 million shares of a subsidiary of Recursion, exchangeable for shares of Recursion's Class A common stock, 792 thousand shares issuable upon exercise of stock options held by Valence equity award holders and deferred liabilities for additional consideration.

The following table summarizes total consideration:

|                                                                    |           |               |
|--------------------------------------------------------------------|-----------|---------------|
| <b>(in thousands)</b>                                              |           |               |
| Fair value of Recursion Class A common stock                       | \$        | 11,096        |
| Fair value of Exchangeable stock                                   |           | 22,473        |
| Fair value of equity awards issued to Valence equity award holders |           | 1,933         |
| Deferred liabilities for additional consideration                  |           | 396           |
| <b>Total consideration</b>                                         | <b>\$</b> | <b>35,898</b> |

The following table summarizes the fair value of assets acquired and liabilities assumed as of the acquisition date:

|                                                      |           |               |
|------------------------------------------------------|-----------|---------------|
| <b>(in thousands)</b>                                |           |               |
| Cash                                                 | \$        | 4,235         |
| Other receivables                                    |           | 536           |
| Intangible asset - technology                        |           | 15,000        |
| Accounts payable and accrued liabilities             |           | (872)         |
| Deferred income taxes                                |           | (3,265)       |
| Total identifiable net assets                        | \$        | 15,634        |
| Goodwill                                             |           | 20,264        |
| <b>Total assets acquired and liabilities assumed</b> | <b>\$</b> | <b>35,898</b> |

The intangible asset is related to Valence's ML and AI digital chemistry platform. The estimated fair value of the intangible asset was determined using a cost approach. This valuation technique provides the fair value of an asset based on estimates of the total costs to develop the technology. Significant inputs used to determine the total cost includes the length of time required and service hours performed by Company employees. The technology intangible asset is being amortized on a straight-line basis over its four year useful life.

Goodwill was calculated as the excess of the consideration transferred over the net assets recognized. The goodwill recognized represents the assembled workforce and expected synergies, including the ability to: (i) leverage Valence's digital chemistry platform across Recursion's business; (ii) leverage Valence's ML and AI capabilities; (iii) integrate Recursion's data and operating system into Valence's platform; and (iv) accelerate Recursion's pipeline. Goodwill was also impacted by the establishment of a deferred tax liability for the acquired identifiable intangible assets which have no tax basis. The goodwill is not deductible for tax purposes.

Recursion's consolidated statement of operations does not include significant revenue generated from Valence's operations for the years ended December 31, 2024 and 2023. Operating losses associated with Valence's operations were \$12.4 million and \$6.8 million for the years ended December 31, 2024 and 2023, respectively. The Company has finalized the amounts recognized disclosed in the above tables.

### ***Cyclica Inc.***

On May 25, 2023, Recursion acquired all of the outstanding equity interests in Cyclica Inc. (Cyclica), a privately-held Company that has built a digital chemistry software suite which enables mechanism of action deconvolution and generative chemistry suggestions based on desired targets. Cyclica's platform is expected to enhance the optimization of Recursion's compounds for efficacy while minimizing liabilities through generative machine learning approaches.

The acquisition of Cyclica was accounted for as a business combination using the acquisition method of accounting. The aggregate upfront consideration for the acquisition of Cyclica consisted of 5.8 million shares of Recursion Class A common stock, cash payments, 1.0 million shares issuable upon exercise of stock options held by Cyclica equity award holders and deferred liabilities for additional consideration. Approximately 167 thousand of the aforementioned shares of Class A common stock consideration had not yet been issued as of December 31, 2024.

The following table summarizes total consideration:

|                                                                    |           |               |
|--------------------------------------------------------------------|-----------|---------------|
| (in thousands)                                                     |           |               |
| Fair value of Recursion Class A common stock                       | \$        | 49,915        |
| Cash                                                               |           | 6,505         |
| Fair value of equity awards issued to Cyclica equity award holders |           | 3,852         |
| Deferred liabilities for additional consideration                  |           | 345           |
| <b>Total consideration</b>                                         | <b>\$</b> | <b>60,617</b> |

The following table summarizes the fair value of assets acquired and liabilities assumed as of the acquisition date:

|                                               |    |         |
|-----------------------------------------------|----|---------|
| (in thousands)                                |    |         |
| Cash                                          | \$ | 2,429   |
| Restricted cash                               |    | 1,685   |
| Other receivables                             |    | 741     |
| Investments                                   |    | 1,000   |
| Other current assets                          |    | 385     |
| Intangible assets - technology                |    | 28,000  |
| Accounts payable and accrued liabilities      |    | (579)   |
| Unearned revenue                              |    | (1,754) |
| Deferred income taxes                         |    | (2,075) |
| Other liabilities, current                    |    | (66)    |
| Other liabilities, non-current                |    | (139)   |
| Total identifiable net assets                 | \$ | 29,627  |
| Goodwill                                      |    | 30,990  |
| Total assets acquired and liabilities assumed | \$ | 60,617  |

The intangible assets are related to Cyclica's digital chemistry platforms. The estimated fair value of the intangible assets was determined using a cost approach. This valuation technique provides the fair value of an asset based on estimates of the total costs to develop the technology. Significant inputs used to determine the total cost includes the length of time required and service hours performed by Company employees. The technology intangible assets are being amortized on a straight-line basis over their three-year useful lives.

Goodwill was calculated as the excess of the consideration transferred over the net assets recognized. The goodwill recognized represents the assembled workforce and expected synergies, including the ability to: (i) leverage Cyclica's digital chemistry platform across Recursion's business; (ii) leverage Cyclica's ML and AI capabilities; (iii) integrate Recursion's data and operating system into Cyclica's platform; and (iv) accelerate Recursion's pipeline. Goodwill was also impacted by the establishment of a deferred tax liability for the acquired identifiable intangible assets. The goodwill is not deductible for tax purposes.

Recursion's consolidated statement of operations included \$0.3 million net revenue and \$14.7 million operating losses associated with Cyclica's operations for the year ended December 31, 2024. Recursion's consolidated statement of operations included immaterial net revenue and \$9.6 million operating losses for the year ended December 31, 2023. The Company has finalized the amounts recognized disclosed in the above tables.



### **Pro forma financial information**

The following table presents the unaudited pro forma combined results of operations of Recursion, Valence and Cyclica as if the acquisitions had occurred on January 1, 2022:

| (in thousands) | Years ended December 31, |           |
|----------------|--------------------------|-----------|
|                | 2023                     | 2022      |
| Net revenue    | \$ 44,861                | \$ 40,517 |
| Net loss       | (336,603)                | (273,889) |

The unaudited pro forma financial information was prepared using the acquisition method of accounting and was based on the historical financial information of Recursion, Valence and Cyclica. In order to reflect the occurrence of the acquisitions on January 1, 2022 as required, the unaudited pro forma financial information includes adjustments to reflect the incremental amortization expense to be incurred based on the fair values of the identifiable intangible assets acquired and the additional stock compensation expense associated with the issuance of equity compensation related to the acquisitions. The unaudited pro forma financial information is not necessarily indicative of what the consolidated results of operations would have been had the acquisitions been completed on January 1, 2022. In addition, the unaudited pro forma financial information is not a projection of the future results of operations of the combined company nor does it reflect the expected realization of any cost savings or synergies associated with the acquisitions.

### **Note 5. Leases**

The Company has entered into various long-term real estate operating leases primarily related to office, research and development, operating activities and an equipment financing lease related to the supercomputer. The Company's leases have remaining terms from under one year to eight years and some of those leases include options that provide Recursion with the ability to extend the lease term, generally for five years. The options are included in the lease term when it is reasonably certain that the option will be exercised.

For the year ended December 31, 2024, Recursion entered into lease modifications resulting in a decrease to the right-of-use asset and lease liability of \$3.1 million. The modifications had no impact to the Consolidated Statements of Operations. For the year ended December 31, 2023, Recursion entered into lease modifications resulting in a decrease to the right-of-use assets and lease liabilities of \$3.4 million. The modifications resulted in an insignificant impact to the Consolidated Statements of Operations.

### **Exscientia Acquisition**

In November 2024, Recursion acquired Exscientia as part of a business combination. As part of that transaction Recursion obtained several new leases as discussed below. Each lease was recognized and measured at fair value on the acquisition date as if the acquired leases were new leases by applying ASC 842 - Leases. See Note 4, "Acquisitions" for additional information on the acquisition.

The Company has an operating lease agreement for lab space at Milton Park in Oxfordshire, England with approximately 20,151 square feet (the "Milton Park Lease"). The right of use began in November 2024, when control of the asset was obtained. The Milton Park Lease remaining term is seven years with a five year renewal option. Total fixed payments are expected to be approximately \$3.8 million with additional variable expenses including building service charges.

The Company has an operating lease agreement for lab and office space at The Schrödinger Building in Oxford, England with approximately 36,632 square feet (the "Schrödinger Building Lease"). The right of use began in November 2024, when control of the asset was obtained. The Schrödinger Building lease was separated into multiple leases. For some of those components the remaining term is three years. For the other components, the remaining term is four years. Total fixed payments are expected to be approximately \$6.3 million with additional variable expenses including building service charges.

The Company has an operating lease agreement for lab and office space in Vienna, Austria with approximately 54,992 square feet (the "Vienna Lease"). The right of use began in November 2024, when control of the asset was obtained. The Vienna lease remaining term is five years. Total fixed payments are expected to be approximately \$6.3 million with additional variable expenses including building service charges.

The Company has an operating lease agreement for office space in Dundee, Scotland with approximately 8,876 square feet (the "Dundee Lease"). The right of use began in November 2024, when control of the asset was obtained. The Dundee lease remaining term is two years. Total fixed payments are expected to be approximately \$0.3 million with additional variable expenses including building service charges.

The Company has an operating lease agreement for office space in Boston, Massachusetts with approximately 9,662 square feet (the "Boston Lease"). The right of use began in November 2024, when control of the asset was obtained. The Boston lease remaining term is five years with a five year renewal option. Total fixed payments are expected to be approximately \$4.0 million with additional variable expenses including building service charges.

The Company has an operating lease agreement for office space in Miami, Florida with approximately 7,680 square feet (the "Strata Miami Lease"). The right of use began in November 2024, when control of the asset was obtained. The Strata Miami lease remaining term is seven years with two five year renewal options. Total fixed payments are expected to be approximately \$3.6 million with additional variable expenses including building service charges.

The Company has an operating lease agreement for office space in Miami, Florida with approximately 2,707 square feet (the "Biscayne Miami Lease"). The right of use began in November 2024, when control of the asset was obtained. The Biscayne Miami lease remaining term is four years with two five year renewal options. Total fixed payments are expected to be approximately \$0.7 million with additional variable expenses including building service charges.

### **New Leases**

In September 2024, the Company entered into an operating lease agreement for office space in New York, New York with approximately 11,655 square feet (the "New York Lease"). The right of use began in September 2024, when control of the asset was obtained. The New York Lease term is four years with a potential for a three or six year renewal option. Total fixed payments are expected to be approximately \$6.9 million with additional variable expenses, including building expenses.

In May 2024, the Company entered into a financing lease agreement for the supercomputer equipment (the "Supercomputer Lease"). The right of use began in May 2024, when control of the asset was obtained and the lease term is three years with two additional renewal options for a one or two year period. Total fixed payments are expected to be approximately \$34.0 million.

In February 2024, the Company entered into an operating lease agreement related to the supercomputer for the exclusive use of physical space in a data center of approximately 1,851 square feet (the "Data Center Lease"). The right of use began in April 2024 and the lease term is five years with a five year renewal option. The lease includes provisions for escalating rent payments. Total fixed lease payments are expected to be approximately \$13.0 million with additional variable expenses, including utilities and tax expenses.

In January 2024, the Company entered into an operating lease agreement for office space in London, England with approximately 6,792 square feet (the "London Lease"). The right of use began in January 2024, when control of the asset was obtained. The London Lease term is five years with a five year renewal option. The London Lease includes provisions for escalating rent payments. Total fixed payments are expected to be approximately \$7.9 million, additionally there will be variable expenses including building service charges related to the lease.

The components of the lease cost were as follows:

| (in thousands)                | Years ended December 31, |           |          |
|-------------------------------|--------------------------|-----------|----------|
|                               | 2024                     | 2023      | 2022     |
| Operating lease cost          | \$ 12,078                | \$ 8,144  | \$ 7,793 |
| Finance lease cost:           |                          |           |          |
| Amortization of leased assets | 4,042                    | —         | —        |
| Interest on lease liabilities | 1,487                    | —         | —        |
| Variable lease cost           | 3,330                    | 2,116     | 1,070    |
| Short-term lease cost         | 208                      | 139       | —        |
| Total lease cost              | \$ 21,145                | \$ 10,399 | \$ 8,863 |

Supplemental balance sheet information related to leases were:

| (in thousands)                           | December 31, 2024 | December 31, 2023 |
|------------------------------------------|-------------------|-------------------|
| <b>Assets</b>                            |                   |                   |
| Operating lease right-of-use assets      | \$ 65,877         | \$ 33,663         |
| Financing lease right-of-use assets      | 26,273            | —                 |
| Total lease right-of-use assets          | \$ 92,150         | \$ 33,663         |
| <b>Liabilities</b>                       |                   |                   |
| Current liabilities                      |                   |                   |
| Financing lease liabilities              | \$ 8,311          | \$ —              |
| Operating lease liabilities              | 13,795            | 6,116             |
| Total current lease liabilities          | 22,106            | 6,116             |
| Non-current liabilities                  |                   |                   |
| Financing lease liabilities, non-current | 18,338            | —                 |
| Operating lease liabilities, non-current | 67,250            | 43,414            |
| Total non-current lease liabilities      | 85,588            | 43,414            |
| Total lease liabilities                  | \$ 107,694        | \$ 49,530         |

Supplemental cash flow information related to leases were:

| (in thousands)                                                         | Years ended December 31, |          |          |
|------------------------------------------------------------------------|--------------------------|----------|----------|
|                                                                        | 2024                     | 2023     | 2022     |
| Cash paid for amount included in the measurement of lease liabilities: |                          |          |          |
| Operating cash flows from operating leases                             | \$ 14,095                | \$ 9,862 | \$ 7,110 |
| Operating cash flows from financing leases                             | 1,487                    | —        | —        |
| Financing cash flows from financing leases                             | 3,666                    | —        | —        |
| Right-of-use assets additions and modifications:                       |                          |          |          |
| Operating leases                                                       | \$ 19,455                | \$ 4,968 | \$ 3,950 |
| Financing leases                                                       | 30,315                   | —        | —        |

Lease term and discount rates were:

| (in thousands)                                | Years ended December 31, |      |
|-----------------------------------------------|--------------------------|------|
|                                               | 2024                     | 2023 |
| <b>Operating leases</b>                       |                          |      |
| Weighted-average remaining lease term (years) | 5.3                      | 6.7  |
| Weighted-average discount rate                | 7.7%                     | 7.8% |
| <b>Finance leases</b>                         |                          |      |
| Weighted-average remaining lease term (years) | 2.6                      | 0.0  |
| Weighted-average discount rate                | 7.6 %                    | — %  |

Maturities of operating lease liabilities as of December 31, 2024 were:

| (in thousands)                     | Operating leases | Finance leases |
|------------------------------------|------------------|----------------|
| 2025                               | \$ 19,389        | \$ 10,055      |
| 2026                               | 20,450           | 10,055         |
| 2027                               | 20,810           | 9,707          |
| 2028                               | 16,790           | —              |
| 2029                               | 9,254            | —              |
| Thereafter                         | 14,501           | —              |
| Total lease payments               | 101,194          | 29,817         |
| Less: imputed interest             | (20,149)         | (3,168)        |
| Present value of lease liabilities | \$ 81,045        | \$ 26,649      |

## Note 6. Goodwill and Intangible Assets

### Goodwill

The following table summarizes the changes in the carrying amount of goodwill:

|                                          |            |
|------------------------------------------|------------|
| (in thousands)                           |            |
| Balance as of December 31, 2022          | \$ 801     |
| Additions from acquisitions              | 51,255     |
| Balance as of December 31, 2023          | 52,056     |
| Additions from acquisitions              | 97,735     |
| Foreign currency translation adjustments | (918)      |
| Balance as of December 31, 2024          | \$ 148,873 |

The addition to goodwill relates to the acquisition of Exscientia during the year ended December 31, 2024. The additions to goodwill relate to the acquisitions of Cyclica and Valence during the year ended December 31, 2023. See Note 4, "Acquisitions" for additional details. No goodwill impairment was recorded during the years ended December 31, 2024, 2023 and 2022.



## Intangible Assets, Net

The following table summarizes intangible assets:

| (in thousands)                              | December 31, 2024     |                          |                     | December 31, 2023     |                          |                     |
|---------------------------------------------|-----------------------|--------------------------|---------------------|-----------------------|--------------------------|---------------------|
|                                             | Gross carrying amount | Accumulated Amortization | Net carrying amount | Gross carrying amount | Accumulated Amortization | Net carrying amount |
| Definite-lived technology intangible assets | \$ 224,362            | \$ (24,544)              | \$ 199,818          | \$ 44,076             | \$ (8,882)               | \$ 35,194           |
| Definite-lived licensed intangible assets   | 9,350                 | (2,088)                  | 7,262               | 350                   | (87)                     | 263                 |
| Indefinite-lived intangible assets          | 128,775               | —                        | 128,775             | 986                   | —                        | 986                 |
| Total intangible assets                     | \$ 362,487            | \$ (26,632)              | \$ 335,855          | \$ 45,412             | \$ (8,969)               | \$ 36,443           |

The definite-lived intangible assets balance primarily increased during the year ended December 31, 2024 due to the Company's acquisition. See Note 4, "Acquisitions" for additional details on the intangible assets acquired.

For the year ended December 31, 2024, the Company entered into a three year licensing agreement with Helix for access to their patient data and use rights for therapeutics development purposes. This data will be used to improve the training of Recursion's artificial intelligence and machine learning models and is expected to accelerate Recursion's drug discovery process. Recursion is making annual payments of \$3.0 million for a total of \$9.0 million, which was recorded in "Intangible Assets, net" on the Consolidated Balance Sheet and included as a licensed intangible asset in the above table. Recursion made the first payment during the year ended December 31, 2024 and recorded the two remaining \$3.0 million payments in "Accrued expenses and other liabilities" and "Other liabilities, non-current" on the Consolidated Balance Sheet, respectively. The licensed intangible asset is being amortized on a straight-line basis over its three year useful life.

Amortization expense was \$18.8 million, \$8.5 million and \$379 thousand during the years ended December 31, 2024, 2023 and 2022, respectively. Amortization expense was primarily included in "Research and Development" in the Consolidated Statements of Operations. Amortization expense for the definite-lived intangible assets will be recognized over approximately the next five years.

The estimated annual amortization expense for the definite-lived intangible assets recorded as of December 31, 2024 is as follows:

| (in thousands)                        | 2025      | 2026      | 2027      | 2028      | 2029      |
|---------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Estimated annual amortization expense | \$ 46,712 | \$ 41,005 | \$ 32,616 | \$ 30,340 | \$ 30,333 |

The indefinite-lived intangible assets primarily represent in-process research and development (IPR&D) intangible projects acquired in business combinations. See Note 4, "Acquisitions" for additional details on the intangible assets acquired. No indefinite-lived intangible asset impairment charges were recorded during the years ended December 31, 2024, 2023 and 2022.

## Note 7. Commitments and Contingencies

### Indemnification

The Company has agreed to indemnify its officers and directors for certain events or occurrences, while the officer or director is or was serving at the Company's request in such capacity. The Company purchases directors and officers liability insurance coverage that provides for reimbursement to the Company for covered obligations and this is intended to limit the Company's exposure and enable it to recover a portion of any amounts it pays under its indemnification obligations. The Company had no liabilities recorded for these agreements as of December 31, 2024 and December 31, 2023, as no amounts were probable.

## **Employee Agreements**

The Company has signed employment agreements with certain key employees pursuant to which, if their employment is terminated following a change of control of the Company, the employees are entitled to receive certain benefits, including accelerated vesting of equity incentives.

## **Legal Matters**

The Company may, from time to time, be involved in various legal proceedings arising in the normal course of business. An unfavorable resolution of any such matter could materially affect the Company's future financial position, results of operations or cash flows.

In April 2024, a putative class action complaint was filed in the U.S. District Court for the District of New Jersey against Exscientia plc, Andrew Hopkins, Ben R. Taylor and David Nicholson (*Campanile v. Exscientia plc*, Case No. 1:24-cv-05692). In June 2024, a separate complaint was filed against the same defendants in the U.S. District Court for the District of New Jersey (Case 1:24-cv-07181). Both complaints allege that the defendants violated federal securities laws by, among other things, making materially false and misleading statements regarding Exscientia's business, operations, and prospects. The complaints seek unspecified compensatory damages, as well as an award of reasonable attorneys' fees and other costs, on behalf of persons and/or entities which purchased Exscientia securities between March 2022 and February 2024. The cases were consolidated and plaintiffs filed an amended complaint on November 11, 2024 against Exscientia plc, Andrew Hopkins, and David Nicholson, and the Company moved to dismiss on January 21, 2025. That motion remains pending. As of December 31, 2024, the Company had no liability recorded for these events as an unfavorable outcome was not probable.

In February 2021, the Company entered into a lease agreement for laboratory and office space (the Industry Lease) with Industry Office SLC, LLC (the landlord). In March 2023, the Company sent a letter to the landlord detailing numerous construction delays and irregularities, deficiencies and deviations from applicable structural drawings and/or non-conforming conditions with applicable building codes. On June 23, 2023, the landlord filed a lawsuit against the Company (*Industry Office SLC, LLC v. Recursion Pharmaceuticals, Inc.*, Case No. 230904627), amended in October 2023, in the Third District Court for Salt Lake County, State of Utah (the Court), alleging anticipatory repudiation, breach of contract, and breach of the implied covenant of good faith and fair dealing, and seeks monetary damages and attorney's fees. As of December 31, 2024, the Company had no liability recorded for these events as an unfavorable outcome was not probable.

In connection with the Industry Lease, in September 2023, the Company filed claims in the Court against the landlord alleging, among other things, breach of contract and fraudulent misrepresentation (the Counterclaims). In October 2023, the landlord filed an answer and denied the Company's allegations asserted in the Counterclaims. The Company and the landlord are currently engaged in discovery. The Company is unable to estimate the possible amount or range of amounts associated with the Counterclaims.

## **Pledged Assets**

As of December 31, 2024, assets pledged as collateral against finance leases totaled \$24.1 million. Assets pledged as collateral are Lab Equipment reported in "Property and Equipment, net" on the Consolidated Balance Sheet. As of December 31, 2024, the liabilities associated with collateral pledged were solely comprised of a finance lease and had a carrying value of \$26.6 million. The collateral pledged under the lease agreement may only be operated by the Company within the continental United States and must maintain a good title. The assets cannot be sold, disposed of or repledged by the Company.

## **Note 8. Common Stock**

Each share of Class A common stock entitles the holder to one vote per share and each share of Class B common stock entitles the holder to 10 votes per share on all matters submitted to a vote of the Company's stockholders. Common stockholders are entitled to receive dividends, as may be declared by the Company's Board of Directors. As of December 31, 2024 and December 31, 2023, no dividends had been declared.

### ***Public Offering of Common Stock***

In June 2024, the Company closed its public offering of Class A common stock and issued 35.4 million shares at a price of \$6.50 per share for net proceeds of approximately \$216.4 million, after deducting transaction costs of \$13.6 million. In connection with the public offering of Class A common stock, the Company entered into an underwriting agreement for the offering and sale of 30.8 million shares. The Company also granted the Underwriters a 30 day option from the date of the underwriting agreement to purchase up to an additional 4.6 million shares of Class A Common Stock, which was exercised in full. The public offering was made pursuant to the Company's effective registration statement on Form S-3 (File No. 333-264845) and a related prospectus supplement and accompanying prospectus dated June 26, 2024.

### ***At-The-Market Offering***

In August 2023, the Company entered into an Open Market Sales Agreement (the "Sales Agreement") with Jefferies LLC (the "Sales Agent"), to provide for the offering, issuance and sale of up to an aggregate amount of \$300.0 million of its Class A common stock from time to time in "at-the-market (ATM)" offerings. As of December 31, 2024, an amount of \$132.8 million remained available for future sales under the Sales Agreement. For the year ended December 31, 2024, the Company has sold 9.9 million shares and received net proceeds of \$84.0 million under the agreement. Recursion is not required to sell additional shares under the Sales Agreement. The Company pays the Sales Agent a commission of up to 3% of the aggregate gross proceeds received from all sales of Class A common stock. The Sales Agreement continues until the earlier of selling all shares available under the Sales Agreement or terminated by written notice from either of the parties. The ATM Offering is being made under a prospectus supplement dated August 8, 2023, and related prospectus filed with the Securities and Exchange Commission pursuant to the Company's automatically effective shelf registration statement on Form S-3ASR (Registration No. 333-264845).

### ***NVIDIA Private Placement***

In July 2023, Recursion entered into a Stock Purchase Agreement for a private placement with NVIDIA Corporation (2023 Private Placement), pursuant to which the Company sold an aggregate of 7.7 million shares of the Company's Class A common stock at a price of \$6.49 per share for net proceeds of approximately \$49.9 million.

### ***Valence Acquisition Exchangeable Shares***

In May 2023, in connection with the acquisition of Valence, the Company entered into an agreement to issue up to 5.9 million shares of Class A common stock (the "Exchangeable Shares"), that may be issued upon exchange, retraction or redemption of exchangeable shares of a subsidiary of Recursion. Each exchangeable share of the subsidiary of Recursion entitles the holder to exchange those shares on a one-for-one basis for Recursion's Class A common stock. The shares are entitled to receive dividends economically equivalent to dividends declared by Recursion, are non-voting and are subject to customary adjustments for stock splits or other reorganizations. In addition, the Company may require all outstanding exchangeable shares to be exchanged into an equal number of Class A common stock upon the occurrence of certain events and at any time following the seventh anniversary of the closing of the Valence acquisition. The exchangeable shares are substantially the economic equivalent of the Class A shares and classified as common stock within the Company's stockholders' equity. The Company's calculation of weighted-average shares outstanding includes the exchangeable shares. As of December 31, 2024, 4.9 million Exchangeable shares have been redeemed for Class A shares.

### ***2022 Private Placement***

In October 2022, Recursion issued 15.3 million shares of the Company's Class A common stock at a purchase price of \$9.80 per share in a private placement (the 2022 Private Placement) to qualified institutional buyers and institutional accredited investors (the Purchasers) for net proceeds of \$143.7 million, after deducting fees and offering costs of \$6.6 million.

## **Registration Rights Agreements**

### Tempus agreement

In November 2023, in connection with the Tempus Agreement, the Company agreed to prepare and file a registration statement (or a prospectus supplement to an effective registration statement on Form S-3ASR that will become automatically effective upon filing with the SEC pursuant to Rule 462(e)) with the SEC, for resale of the shares of Class A common stock issued or issuable under the Tempus Agreement. A prospectus supplement to a registration statement (File No. 333-264845) was subsequently filed in December 2023 to register shares issued to Tempus for the initial license fee under the Tempus Agreement for resale. In December 2024, a prospectus supplement to a registration statement (File No. 333-264845) was filed to register shares issued to Tempus in payment for the 2024 annual fee.

After registration of any shares issued to Tempus under the Tempus Agreement, the Company has agreed to use commercially reasonable efforts to keep such registration statement effective until such date that all shares issued to Tempus covered by such registration statement have been sold or are able to be publicly sold by relying on Rule 144 of the Securities Act without registration.

### NVIDIA Private Placement

In July 2023, in connection with the 2023 Private Placement with NVIDIA, the Company entered into a Registration Rights Agreement providing for the registration for resale of the shares of Class A common stock issued in such transaction. A prospectus supplement to a registration statement (File No. 333-264845) was subsequently filed in August 2023 to register the resale of the shares of Class A common stock issued to NVIDIA. The Company has agreed to use commercially reasonable efforts to keep the registration statement continuously effective until such date that all registrable securities under the agreement have been sold. In the event the holders cannot sell their shares due to certain circumstances causing the registration statement to be ineffective, the Company must pay each holder of shares outstanding on the date and each month thereafter 1% of the aggregate purchase price with the maximum payable amount of 5% of the aggregate purchase price. As of December 31, 2024, there was no accrued liability related to this agreement, as it was not probable that a payment would be required.

### Acquisitions

In November 2024, in connection with the acquisition of Exscientia, the Company entered into a Registration Agreement providing for the registration for resale of the shares of Class A common stock issued for Recursion stock options and RSUs under the assumed Exscientia plans and the Inducement awards. A registration statement on Form S-8 (File No. 333-283347) was filed to register the shares for resale by the holders. The registration statement must remain effective as long as such Recursion stock options and RSUs remain outstanding.

In May 2023, in connection with the acquisition of Valence, the Company entered into a Registration Agreement providing for the registration for resale of the shares of Class A common stock and Exchange Shares issued or issuable in such transaction. A registration statement on Form S-3ASR (File No. 333-272281) was filed to register the shares for resale by the holders. The registration statement must remain effective for a period of not less than three years.

In May 2023, in connection with the acquisition of Cyclica, the Company entered into a Registration Agreement providing for the registration for resale of the shares of Class A common stock issued in such transaction. A prospectus supplement to a registration statement (File No. 333-264845) was subsequently filed in June 2023 to register the shares for resale by the holders. The registration statement must be continuously effective until the earlier of the date that all shares have been sold thereunder or are able to be publicly sold by relying on Rule 144 of the Securities Act without registration.

### 2022 Private Placement

In October 2022, in connection with the 2022 Private Placement, the Company entered into a Registration Rights Agreement providing for the registration for resale of the shares of Class A common stock issued in such transaction. A prospectus supplement to a registration statement (File No. 333-264845) was subsequently filed in October 2022 to register the resale of the shares of Class A common stock by the Purchasers. The agreement must remain effective until registrable securities covered by the agreement have been publicly sold by the holders or all shares cease to be registrable securities. In the event the holders cannot sell their shares due to certain circumstances causing the agreement to be ineffective, the Company must pay each holder of shares outstanding on the date and each month thereafter 1% of the aggregate purchase price paid by the holder without limit until the



agreement is cured. As of December 31, 2024, there was no accrued liability related to this agreement, as it was not probable that a payment would be required.

### ***Class A and B Common Shares Authorization***

In April 2021, the Company's Board of Directors authorized two classes of common stock, Class A and Class B. The rights of the holders of Class A and B common stock are identical, except with respect to voting and conversion. Each share of Class A common stock is entitled to one vote per share. Each share of Class B common stock is entitled to 10 votes per share and is convertible at any time into one share of Class A common stock.

All Class B common stock is held by Christopher Gibson, Ph.D., the Company's Chief Executive Officer (CEO), or his affiliates. As of December 31, 2024, Dr. Gibson and his affiliates held outstanding shares of Class B common stock representing approximately 15% of the voting power of the Company's outstanding shares. This voting power may increase over time as Dr. Gibson vests in and exercises equity awards outstanding. If all the exchangeable equity awards held by Dr. Gibson had been fully vested, exercised and exchanged for shares of Class B common stock as of December 31, 2024, Dr. Gibson and his affiliates would hold approximately 16% of the voting power of the Company's outstanding shares. As a result, Dr. Gibson will be able to significantly influence any action requiring the approval of Recursion stockholders, including the election of the Board of Directors; the adoption of amendments to the Company's certificate of incorporation and bylaws; and the approval of any merger, consolidation, sale of all or substantially all of the Company's assets, or other major corporate transaction.

## **Note 9. Collaborative Development Contracts**

### ***Sanofi***

#### *Description*

In January 2022, the Company and Sanofi entered into a collaboration agreement to develop an AI-driven pipeline of precision-engineered medicines. The research is focused on up to 15 novel small molecule candidates across oncology and immunology and utilizes the Company's AI platform. The Company is leading small molecule drug design and lead optimization activities with Sanofi assuming responsibility for preclinical and clinical development, manufacturing and commercialization.

#### *Pricing*

The Company received a \$100.0 million non-refundable upfront payment. The Company has also received multiple milestone payments related to this agreement of approximately \$23.0 million. These related to the advancement of several of the discovery programs within the collaboration and the addition of an existing Company program into the collaboration. Recursion is eligible for additional milestone payments based on performance progress of the collaboration and tiered royalties ranging from high-single-digits to mid-teens. Recursion could earn a maximum of \$555.0 million from all research milestones and \$1.8 billion from all development and regulatory milestones.

#### *Accounting*

In November 2024, Recursion acquired Exscientia as part of an acquisition. See Note 4, "Acquisitions" for additional information. As such, the initial Recursion accounting analysis for this transaction was done as of the business combination date as if Recursion had originated the contract. This agreement represents a transaction with a customer and therefore is accounted for in accordance with ASC 606. Recursion has determined that it has at least eight performance obligations related to the small molecule projects. These performance obligations are for performing research and development services for Sanofi to design small molecules and perform lead optimization activities. The performance obligations also include potential licenses related to the intellectual property. The Company concluded that licenses within the contract are not distinct from the research and development services as they are interrelated due to the fact that the research and development services significantly impact the potential licenses. Any additional services are considered customer options and will be considered as separate contracts for accounting purposes.

The Company has determined the transaction price to be \$137.0 million, for the initial performance obligations, comprised of the upfront payment, several milestones that have been achieved and estimated additional target exercises. Recursion will fully constrain the amounts of remaining variable consideration to be received from potential milestones considering the stage of development and the risks associated with the remaining development required to achieve each milestone. Recursion will re-evaluate the transaction price each reporting period.

The transaction price was generally allocated to the performance obligations based on the estimated relative stand-alone selling price of each performance obligation as determined using an expected cost plus margin approach. The milestone fees were allocated to related performance obligation as the terms of the variable consideration related specifically to Recursion's efforts to satisfy the related performance obligation. The Company recognizes revenue over time based on costs incurred relative to total expected costs to perform the research and development services. Recursion determined that this method provides a faithful depiction of the transfer of control to the customer. This method of recognizing revenue requires the Company to make estimates of total costs to provide the services required under the performance obligations. Significant inputs used to determine the total costs included the number of projects to be performed, the number of substitutions related to those projects, length of time required, service hours performed by Company employees and materials costs. A significant change in these estimates could have a material effect on the timing and amount of revenue recognized in future periods. Recursion is unable to estimate the completion date of the performance obligations due to the current stage of work.

### ***Merck KGaA (Merck)***

#### *Description*

In September 2023, the Company and Merck entered into a collaboration agreement to discover novel small molecule drug candidates across oncology, neuroinflammation and immunology. The collaboration utilizes the Company's AI platform and the Company is performing drug design and discovery while Merck will be assuming responsibility for the preclinical and clinical development.

#### *Pricing*

The Company received a \$20.1 million non-refundable upfront payment. Recursion is eligible for additional milestone payments based on performance progress of the collaboration and tiered royalties from the mid-single-digits to low-double-digits. The Company could earn a maximum of \$73.0 million for discovery, development and sales milestones per product.

#### *Accounting*

In November 2024, Recursion acquired Exscientia as part of an acquisition. See Note 4, "Acquisitions" for additional information. As such, the initial Recursion accounting analysis for this transaction was done as of the business combination date as if Recursion had originated the contract. This agreement represents a transaction with a customer and therefore is accounted for in accordance with ASC 606. Recursion has determined that it has three performance obligations related to each project in the partnership. These performance obligations are for performing research and development services for Merck to design small molecules and perform lead optimization activities. The performance obligations also include potential licenses related to the intellectual property. The Company concluded that licenses within the contract are not distinct from the research and development services as they are interrelated due to the fact that the research and development services significantly impact the potential licenses. Any additional services are considered customer options and will be considered as separate contracts for accounting purposes.

The Company has determined the transaction price to be \$20.1 million, for the initial performance obligations, comprised of the upfront payment. Recursion will fully constrain the amounts of remaining variable consideration to be received from potential milestones considering the stage of development and the risks associated with the remaining development required to achieve each milestone. Recursion will re-evaluate the transaction price each reporting period.

The transaction price was allocated to the performance obligations based on the estimated relative stand-alone selling price of each performance obligation as determined using an expected cost plus margin approach. The Company recognizes revenue over time based on costs incurred relative to total expected costs to perform the research and development services. Recursion determined that this method provides a faithful depiction of the transfer of control to the customer. This method of recognizing revenue requires the Company to make estimates of total costs to provide the services required under the performance obligations. Significant inputs used to determine the total costs included the number of projects to be performed, the number of substitutions related to those projects, length of time required, service hours performed by Company employees and materials costs. A significant change in these estimates could have a material effect on the timing and amount of revenue recognized in future periods. Recursion was unable to estimate the completion date of the performance obligations due to the current stage of work.

## **Roche and Genentech**

### Description

In December 2021, Recursion entered into a collaboration and license agreement with Roche and Genentech (collectively referred to as Roche). Recursion is constructing, using the Company's imaging technology and proprietary machine-learning algorithms, unique maps of the inferred relationships amongst perturbation phenotypes in a given cellular context with the goal to discover and develop therapeutic small molecule programs in a gastrointestinal cancer indication and in key areas of neuroscience. Roche and Recursion will collaborate to select certain novel inferences with respect to small molecules or targets generated from the Phenomaps for further validation and optimization as collaboration programs. Roche and Recursion may also combine sequencing datasets from Roche with Recursion's Phenomaps and collaborate to generate new algorithms to produce multi-modal maps from which additional collaboration programs may be initiated. For every collaboration program that successfully identifies potential therapeutic small molecules or validates a target, Roche will have an option to obtain an exclusive license to develop and commercialize such potential therapeutic small molecules or to exploit such target in the applicable exclusive field.

### Pricing

In January 2022, Recursion received a \$150.0 million non-refundable upfront payment from the Company's collaboration with Roche. In September 2024, Recursion received a \$30.0 million milestone payment (the "acceptance fee"), which was an acceptance fee related to the first accepted neuroscience Phenomap. Recursion is eligible for additional milestone payments based on performance progress of the collaboration. Each of the Phenomaps requested by Roche and created by Recursion may be subject to either an initiation fee, acceptance fee or both. Such fees could exceed \$250.0 million for 16 accepted Phenomaps. In addition, for a period of time after Roche's acceptance of certain Phenomaps, Roche will have the option to obtain, subject to payment of an exercise fee, rights to use outside the collaboration the raw images generated in the course of creating those Phenomaps. If Roche exercises its external use option for all 12 eligible Phenomaps, Roche's associated exercise fee payments to Recursion could exceed \$250.0 million. Under the collaboration, Roche may initiate up to 40 programs, each of which, if successfully developed and commercialized, could yield more than \$300.0 million in development, commercialization and net revenue milestones for Recursion, as well as tiered royalties on net revenue.

### Accounting

This agreement represents a transaction with a customer and therefore is accounted for in accordance with ASC 606. Recursion has determined that it has three performance obligations, one related to gastrointestinal cancer and two in neuroscience. These performance obligations are for performing research and development services for Roche to identify targets and medicines. The performance obligations also include potential licenses related to the intellectual property. The Company concluded that licenses within the contract are not distinct from the research and development services as they are interrelated due to the fact that the research and development services significantly impact the potential licenses. Any additional services are considered customer options and will be considered as separate contracts for accounting purposes.

The Company has determined the transaction price to be \$180.0 million, comprised of the upfront payment and the acceptance fee. Prior to the three months ended September 30, 2024, Recursion had fully constrained the \$30.0 million variable consideration acceptance fee. As a result of Roche's acceptance of the neuroscience Phenomap, Recursion is now recognizing the acceptance fee as part of the transaction price over the completion period of one of the neuroscience performance obligations. Recursion has fully constrained the remaining amounts of variable consideration to be received from potential milestones considering the stage of development and the risks associated with the remaining development required to achieve each milestone. Recursion will re-evaluate the transaction price each reporting period.

The transaction price was generally allocated to the performance obligations based on the estimated relative stand-alone selling price of each performance obligation as determined using an expected cost plus margin approach. The acceptance fee was allocated to one of the neuroscience performance obligations as the terms of the variable consideration related specifically to Recursion's efforts to satisfy this performance obligation. The Company recognizes revenue over time based on costs incurred relative to total expected costs to perform the research and development services. Recursion determined that this method provides a faithful depiction of the transfer of control to the customer. This method of recognizing revenue requires the Company to make estimates of total costs to

provide the services required under the performance obligations. Significant inputs used to determine the total costs included the length of time required, service hours performed by Company employees and materials costs. A significant change in these estimates could have a material effect on the timing and amount of revenue recognized in future periods. Recursion has estimated the completion of the performance obligations by 2026.

## **Bayer AG**

### Description

In August 2020, the Company entered into a Research Collaboration and Option Agreement (the Bayer Agreement) with Bayer AG (Bayer) pursuant to which the Company and Bayer initiated research projects related to fibrosis across multiple organ systems, including the lung, liver and heart. Under the agreement, the Company contributed compounds from its proprietary library and Bayer contributed compounds from its proprietary library and contributed scientific expertise throughout the collaboration. The Company worked with Bayer to identify potential candidates for development. Under the agreement, Bayer had the first option for licenses to potential candidates.

### Pricing

In October 2020, the Company received a \$30.0 million non-refundable upfront payment. Each such license potentially could have resulted in option exercise fees and development and commercial milestone payments payable to the Company, with an aggregate value of up to approximately \$100.0 million (for an option on a lead series) or up to approximately \$120.0 million (for an option on a development candidate), as well as tiered royalties for each such license, ranging from low- to mid-single digit percentages of sales, depending on commercial success.

### Accounting

The Company determined that it had one performance obligation under the agreement, which was to perform research and development services for Bayer. Recursion determined the transaction price to be \$30.0 million, comprised of the upfront payment. The Company allocated the amount to the single performance obligation. The Company recognized revenue over time by measuring progress towards completion of the performance obligation. This method of recognizing revenue required the Company to make estimates of the total time to provide the services required under the performance obligation. Recursion completed its performance obligation services in 2023.

## **Additional Revenue Disclosures**

Revenue from one customer exceeded 10% of total revenue, and that one customer represented primarily all of Recursion's operating revenue during the year ended December 31, 2024. For the years ended December 31, 2023 and 2022, revenue from two customers exceeded 10% of total revenues and those two customers represented primarily all of Recursion's operating revenue.

Of the revenue recognized during the year ended December 31, 2024, \$32.5 million was included in the unearned revenue balance as of December 31, 2023, and was related to the upfront payments received by the Company for the Roche agreement. Of the revenue recognized during the year ended December 31, 2023, primarily all of it was included in the unearned revenue balance as of December 31, 2022. Revenue recognized during the year ended December 31, 2024 was primarily from the upfront payments and acceptance fee received for the Roche agreement. The recognition of a portion of the upfront payment and acceptance fee decreased the unearned revenue recognized. As of December 31, 2024, the Company had \$7.9 million of costs incurred to fulfill a contract on its Consolidated Balance Sheet within "Other Current Assets."

Unearned revenue was classified as short-term and long-term on the Consolidated Balance Sheets based on the Company's estimate of revenue that will be recognized during the next twelve months.

## **Note 10. Stock-Based Compensation**

In April 2021, the Board of Directors and the stockholders of the Company adopted the 2021 Equity Incentive Plan (the 2021 Plan). The Company may grant stock options, restricted stock units (RSUs), stock appreciation rights, restricted stock awards and other forms of stock-based compensation. As of December 31, 2024, 8.9 million shares of Class A common stock were available for grant in the 2021 plan. In 2024, the Board of Directors and the



stockholders of the Company adopted the 2024 Inducement Equity Incentive Plan (the 2024 Plan) as part of the Exscientia acquisition. See Note 4, “Acquisitions” for additional information. As of December 31, 2024, 9.5 million shares of Class A common stock were available for grant in the 2024 plan.

The following table presents the classification of stock-based compensation expense for employees and non-employees within the Consolidated Statements of Operations:

| (in thousands)             | Years ended December 31, |           |           |
|----------------------------|--------------------------|-----------|-----------|
|                            | 2024                     | 2023      | 2022      |
| Cost of revenue            | \$ 3,636                 | \$ 5,326  | \$ 2,755  |
| Research and development   | 36,184                   | 21,992    | 10,065    |
| General and administrative | 39,681                   | 24,361    | 14,052    |
| Total                      | \$ 79,501                | \$ 51,679 | \$ 26,872 |

As part of the Exscientia acquisition, Recursion issued replacement grants for the Exscientia legacy awards. Recursion recorded \$8.5 million of additional one-time stock compensation expense during the year ended December 31, 2024. See Note 4, “Acquisitions” for additional information on the Exscientia acquisition.

### Stock Options

Stock options are primarily granted to executive leaders at the Company, generally vest over four years and expire no later than 10 years from the date of grant. Stock option activity during the year ended December 31, 2024 was as follows:

| (in thousands except share and per share amounts) | Shares      | Weighted-Average Exercise Price | Weighted-Average Remaining Contractual Life (in years) | Aggregate Intrinsic Value |
|---------------------------------------------------|-------------|---------------------------------|--------------------------------------------------------|---------------------------|
| Outstanding as of December 31, 2023               | 14,957,617  | \$ 6.13                         | 7.0                                                    | \$ 72,416                 |
| Granted                                           | 11,996,483  | 3.91                            |                                                        |                           |
| Cancelled                                         | (1,129,239) | 11.05                           |                                                        |                           |
| Exercised                                         | (3,883,366) | 2.30                            |                                                        | 25,194                    |
| Outstanding as of December 31, 2024               | 21,941,495  | \$ 5.40                         | 7.9                                                    | \$ 62,685                 |
| Exercisable as of December 31, 2024               | 12,016,358  | \$ 4.97                         | 6.8                                                    | \$ 44,298                 |

As part of the Exscientia acquisition, Recursion granted 5.8 million stock option awards related to the Exscientia legacy awards.

The fair value of options granted to employees is calculated on the grant date using the Black-Scholes option valuation model. The weighted-average grant-date fair values of stock options granted during the years ended December 31, 2024, 2023 and 2022 were \$5.64, \$5.64 and \$6.57, respectively.

The following weighted-average assumptions were used to calculate the grant-date fair value of stock options:

|                          | Years ended December 31, |      |      |
|--------------------------|--------------------------|------|------|
|                          | 2024                     | 2023 | 2022 |
| Expected term (in years) | 4.0                      | 5.8  | 6.2  |
| Expected volatility      | 65%                      | 66%  | 63%  |
| Expected dividend yield  | —                        | —    | —    |
| Risk-free interest rate  | 4.3%                     | 3.6% | 1.9% |

As of December 31, 2024, \$59.2 million of unrecognized compensation cost related to stock options is expected to be recognized as expense over approximately the next two years.

## RSUs

Equity awards granted to employees primarily consist of RSUs and generally vest over four years. The weighted-average grant-date fair value of RSUs generally is determined based on the number of units granted and the quoted price of Recursion's common stock on the date of grant.

The following table summarizes Recursion's RSU activity during the year ended December 31, 2024:

|                                     | Stock units | Weighted-average<br>grant date fair value |
|-------------------------------------|-------------|-------------------------------------------|
| Outstanding as of December 31, 2023 | 15,223,764  | \$ 8.39                                   |
| Granted                             | 21,392,796  | 7.18                                      |
| Vested                              | (6,262,525) | 8.31                                      |
| Forfeited                           | (3,049,806) | 8.30                                      |
| Outstanding as of December 31, 2024 | 27,304,229  | \$ 7.47                                   |

As part of the Exscientia acquisition, Recursion granted 1.6 million RSU awards related to the Exscientia legacy awards. Additionally, Recursion granted 8.0 million RSU awards as part of a retention program for Exscientia employees.

The fair market value of RSUs vested was \$52.2 million during the year ended December 31, 2024. As of December 31, 2024, \$196.1 million of unrecognized compensation cost related to RSUs is expected to be recognized as expense over approximately the next three years.

### Note 11. Employee benefit plans

The Company maintains defined contribution benefit plans for its eligible employees. The plans generally allows employees to make contributions up to a specified percentage of their compensation. The Company generally contributes up to 4% of employee base salary, by matching 100% of the first 4% of annual base salary contributed by each employee. Additionally, the Company generally contributes a certain amount to the defined contribution plans for employees that worked at the Company during the year. Employer expenses were \$5.3 million, \$3.8 million and \$3.6 million during the years ended December 31, 2024, 2023 and 2022, respectively.

## Note 12. Income Taxes

The provision for income taxes consisted of the following components :

| (in thousands)                      | Years ended December 31, |             |             |
|-------------------------------------|--------------------------|-------------|-------------|
|                                     | 2024                     | 2023        | 2022        |
| <b>Current</b>                      |                          |             |             |
| Federal                             | \$ 24                    | \$ —        | \$ —        |
| State                               | 6                        | —           | —           |
| Foreign                             | 474                      | —           | —           |
| Total Current Tax Expense (Benefit) | \$ 504                   | \$ —        | \$ —        |
| <b>Deferred</b>                     |                          |             |             |
| Federal                             | \$ (80,109)              | \$ (82,707) | \$ (61,225) |
| State                               | (11,918)                 | (54,634)    | (3,188)     |
| Foreign                             | (9,921)                  | (4,564)     | (471)       |
| Change in valuation allowance       | 100,318                  | 137,843     | 64,884      |
| Total Deferred Expense (Benefit)    | \$ (1,630)               | \$ (4,062)  | \$ —        |
| Total Income tax expense            | \$ (1,127)               | \$ (4,062)  | \$ —        |

The Company's effective tax rate of 0.2% during the year ended December 31, 2024, 1.2% during the year ended December 31, 2023 and 0% during the year ended December 31, 2022 differs from the statutory U.S. federal rate as follows:

|                               | Years ended December 31, |         |         |
|-------------------------------|--------------------------|---------|---------|
|                               | 2024                     | 2023    | 2022    |
| Statutory tax rate            | 21.0 %                   | 21.0 %  | 21.0 %  |
| R&D credit generation         | 1.5 %                    | 3.1 %   | 3.7 %   |
| Orphan drug credit generation | 1.5 %                    | 2.1 %   | 1.1 %   |
| State taxes                   | 4.6 %                    | 16.4 %  | — %     |
| Stock based compensation      | — %                      | (0.1)%  | 0.8 %   |
| Uncertain tax positions       | (0.3)%                   | (0.8)%  | (0.3)%  |
| Other                         | (2.1)%                   | 1.0 %   | (0.8)%  |
| Change in valuation allowance | (21.6)%                  | (41.5)% | (25.5)% |
| State impact of rate change   | (4.4)%                   | — %     | — %     |
| Effective tax rate            | 0.2 %                    | 1.2 %   | — %     |

Significant components of deferred tax assets and liabilities were as follows:

| (in thousands)                          | December 31, |            |
|-----------------------------------------|--------------|------------|
|                                         | 2024         | 2023       |
| <b>Deferred tax assets</b>              |              |            |
| Net operating loss carryforwards        | \$ 274,421   | \$ 117,877 |
| Research and development capitalization | 134,363      | 105,503    |
| Tax credit carryforwards                | 68,811       | 50,293     |
| Unearned revenue                        | 19,219       | 23,007     |
| Lease liabilities                       | 23,510       | 13,208     |
| Reserves and accruals                   | 5,133        | 4,744      |
| Stock-based compensation                | 14,730       | 5,080      |
| Other                                   | 1,175        | 485        |
| Gross deferred tax assets               | 541,362      | 320,197    |
| Valuation allowance                     | (466,147)    | (304,618)  |
| Net deferred tax asset                  | 75,215       | 15,579     |
| <b>Deferred tax liabilities</b>         |              |            |
| Right-of-use assets                     | (19,183)     | (8,942)    |
| Definite lived intangibles              | (67,140)     | (5,272)    |
| Depreciable assets                      | (5,358)      | (2,704)    |
| Deferred tax liabilities                | (91,681)     | (16,918)   |
| Net deferred tax liability              | \$ (16,466)  | \$ (1,339) |

Significant judgment is required in determining the Company's provision for income taxes, recording valuation allowances against deferred tax assets and evaluating the Company's uncertain tax positions. Due to net losses since inception and the uncertainty of realizing the deferred tax assets, the Company has a full valuation allowance against all entities in a net deferred tax asset position. To the extent that the Company generates positive income and expects, with reasonable certainty, to continue to generate positive income, the Company may release all, or a portion of, the valuation allowance in a future period. This release would result in the recognition of all, or a portion of, the Company's deferred tax assets, resulting in a decrease to income tax expense for the period such release is made. As of December 31, 2024 and 2023 the Company's valuation allowance was \$466.1 million and \$304.6 million, respectively, which increased by approximately \$161.5 million and \$137.8 million during the years ended December 31, 2024 and 2023, respectively.

Net operating losses (NOLs) and tax credit carry-forwards are subject to review and possible adjustment by the Internal Revenue Service ("IRS") and may become subject to annual limitation due to ownership changes that occur under Section 382 of the Internal Revenue Code, as amended and similar state provisions. These ownership changes may limit the amount of carryforwards that can be utilized annually to offset future taxable income. In general, an ownership change, as defined by Section 382, results from transactions increasing the ownership of certain shareholders or public groups in the stock of a corporation by more than 50% over a three-year period. As of December 31, 2024, the Company was not limited on its NOLs and tax credit carry-forwards. The Company will continue to monitor future ownership changes for potential Section 382 limitations.

As of December 31, 2024 and 2023, the Company had federal NOL carryforwards of \$553.2 million and \$412.0 million, respectively, available to reduce taxable income, of which \$16.3 million expire beginning 2036 and \$536.9 million do not expire. The Company had state NOL carryforwards of \$1,499.3 million and \$398.6 million as of December 31, 2024 and 2023, respectively, available to reduce future state taxable income, of which \$1,042.2 million expire beginning 2031 and \$457.1 million do not expire. The Company had foreign NOL carryforwards of \$439.5 million as of December 31, 2024, available to reduce future foreign taxable income, of which \$18.7 million expire beginning 2032 and \$420.8 million do not expire.

As of December 31, 2024, the Company also had federal, state and foreign research and development credit carryforwards of \$35.1 million, \$10.2 million and \$7.1 million respectively. As of December 31, 2023, the Company had federal, state and research and development credit carryforwards of \$30.3 million, \$6.9 million. The federal



research and development credit carryforwards expire beginning in 2036, the state credit carryforwards expire beginning in 2030 and the foreign credit carryforwards do not expire. The Company also had federal Orphan Drug credits of \$24.7 million and \$17.9 million as of December 31, 2024 and 2023, respectively, which will begin expiring in 2026.

Reserves for uncertain tax positions against the credit carryforwards were as follows:

| (in thousands)                                        | December 31, |          |
|-------------------------------------------------------|--------------|----------|
|                                                       | 2024         | 2023     |
| Balance at the beginning of the period                | \$ 5,417     | \$ 2,762 |
| Increases for positions taken in current year         | 1,535        | 1,726    |
| Increase (decrease) for positions taken in prior year | (203)        | 929      |
| Balance at the end of the period                      | \$ 6,749     | \$ 5,417 |

The Company recognizes benefits of uncertain tax positions if it is more likely than not that such positions will be sustained upon examination based solely on their technical merits, as the largest amount of benefit that is more likely than not to be realized upon the ultimate settlement. It is the Company's policy to include penalties and interest expense related to income taxes as a component of Other income (loss), net as necessary.

The Company files income tax returns in the United States, Canada, United Kingdom, Austria. The Company files state income tax returns in multiple states in the United States among others Utah, California and Massachusetts. The Company is not currently under examination in any of these jurisdictions. The Company is subject to income tax examinations on all federal returns since the 2016 tax return.

### Note 13. Net Loss Per Share

For the years ended December 31, 2024, 2023 and 2022, Recursion calculated net loss per share of Class A, Class B and Exchangeable common stock using the two-class method. Basic net loss per share is computed using the weighted-average number of shares outstanding during the period. Diluted net loss per share is computed using the weighted-average number of shares and the effect of potentially dilutive securities outstanding during the period. Potentially dilutive securities consist of stock options and other contingently issuable shares. For periods presented in which the Company reports a net loss, all potentially dilutive shares are anti-dilutive and as such are excluded from the calculation. For the years ended December 31, 2024, 2023 and 2022, the Company reported a net loss and therefore basic and diluted loss per share were the same.

The rights, including the liquidation and dividend rights, of the holders of the Company's Class A, Class B and the Exchangeable common stock are identical, except with respect to voting. As a result, the undistributed earnings for each period are allocated based on the contractual participation rights of the Class A, Class B common stock and the Exchangeable common stock as if the earnings for the period had been distributed. As the liquidation and dividend rights are identical, the undistributed earnings are allocated on a proportionate basis and the resulting amount per share for Class A, Class B and Exchangeable common stock was the same during the years ended December 31, 2024, 2023 and 2022.

The following tables set forth the computation of basic and diluted net loss per share of Class A, Class B and Exchangeable common stock during 2024, 2023 and 2022:

| (in thousands, except share amounts)       | Years ended December 31, |             |             |
|--------------------------------------------|--------------------------|-------------|-------------|
|                                            | 2024                     | 2023        | 2022        |
| Numerator:                                 |                          |             |             |
| Net loss                                   | (463,661)                | (328,066)   | (239,476)   |
| Denominator:                               |                          |             |             |
| Weighted average common shares outstanding | 274,207,146              | 207,853,702 | 175,537,487 |
| Net loss per share, basic and diluted      | \$ (1.69)                | \$ (1.58)   | \$ (1.36)   |

The Company excluded the following potential common shares from the computation of diluted net loss per share for the periods indicated because including them would have had an anti-dilutive effect:

|                          | Years ended December 31, |            |            |
|--------------------------|--------------------------|------------|------------|
|                          | 2024                     | 2023       | 2022       |
| Stock based compensation | 9,021,895                | 9,848,141  | 10,966,651 |
| Tempus agreement         | 7,802,744                | 1,073,834  | —          |
| Total                    | 16,824,639               | 10,921,975 | 10,966,651 |

#### Note 14. Fair Value Measurements

The fair value hierarchy consists of the following three levels:

- Level 1 — Valuations based on unadjusted quoted prices in active markets for identical assets that the company has the ability to access;
- Level 2 — Valuations based on quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-based valuations in which all significant inputs are observable in the market; and
- Level 3 — Valuations using significant inputs that are unobservable in the market and include the use of judgment by the company's management about the assumptions market participants would use in pricing the asset or liability.

The following tables summarize the Company's assets and liabilities that are measured at fair value on a recurring basis:

| (in thousands)     | December 31, 2024 | Basis of fair value measurement |         |         |  |
|--------------------|-------------------|---------------------------------|---------|---------|--|
|                    |                   | Level 1                         | Level 2 | Level 3 |  |
| <b>Assets</b>      |                   |                                 |         |         |  |
| Cash equivalents:  |                   |                                 |         |         |  |
| Money market funds | \$ 235,812        | \$ 235,812                      | \$ —    | \$ —    |  |
| Bank deposits      | 160,487           | 160,487                         |         |         |  |
| Restricted cash    | 8,675             | 8,675                           | —       | —       |  |
| Total assets       | \$ 404,974        | \$ 404,974                      | \$ —    | \$ —    |  |

| (in thousands)     | December 31, 2023 | Basis of fair value measurement |         |         |
|--------------------|-------------------|---------------------------------|---------|---------|
|                    |                   | Level 1                         | Level 2 | Level 3 |
| <b>Assets</b>      |                   |                                 |         |         |
| Cash equivalents:  |                   |                                 |         |         |
| Money market funds | \$ 322,653        | \$ 322,653                      | \$ —    | \$ —    |
| Restricted cash    | 9,860             | 9,860                           | —       | —       |
| Total assets       | \$ 332,513        | \$ 332,513                      | \$ —    | \$ —    |

In addition to the financial instruments that are recognized at fair value on the Consolidated Balance Sheet, the Company has certain financial instruments that are recognized at amortized cost or some basis other than fair value. The carrying amount of these instruments are considered to be representative of their approximate fair values.

The following tables summarize the Company's financial instruments that are not measured at fair value:

| (in thousands)                                             | Book values       |                   | Fair values       |                   |
|------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
|                                                            | December 31, 2024 | December 31, 2023 | December 31, 2024 | December 31, 2023 |
| <b>Liabilities</b>                                         |                   |                   |                   |                   |
| Notes payable and financing lease liabilities, current     | \$ 8,425          | \$ 41             | \$ 8,425          | \$ 41             |
| Notes payable and financing lease liabilities, non-current | 19,022            | 1,101             | 19,022            | 1,101             |
| <b>Total liabilities</b>                                   | <b>\$ 27,447</b>  | <b>\$ 1,142</b>   | <b>\$ 27,447</b>  | <b>\$ 1,142</b>   |

## Note 15. Segment Information

### Segment loss

Recursion operates as a single operating segment that is managed on a consolidated basis. The Company's chief operating decision maker is its Chief Executive Officer. The Company's chief operating decision maker uses segment net loss to evaluate the performance of its segment, analyze financial trends, compare the budget to the actual operating results, and make resource allocation decisions. Segment net loss represents the Company's consolidated net loss. All corporate costs, global function support costs, overhead costs and other shared costs are included within this segment. Other segment items primarily include general and administrative expenses including facilities, information technology, professional fees (including auditing, tax and legal) and insurance.

The following table presents Recursion's segment net loss:

| (In thousands)                                        | Years ended December 31, |                   |                   |
|-------------------------------------------------------|--------------------------|-------------------|-------------------|
|                                                       | 2024                     | 2023              | 2022              |
| Revenue                                               | \$ 58,839                | \$ 44,575         | \$ 39,843         |
| <b>Significant segment expenses</b>                   |                          |                   |                   |
| Salaries                                              | 242,795                  | 183,643           | 139,671           |
| Consumables                                           | 77,543                   | 65,688            | 35,107            |
| Platform                                              | 15,876                   | 6,353             | 4,822             |
| Discovery                                             | 30,480                   | 19,231            | 19,765            |
| Clinical development                                  | 43,713                   | 39,881            | 32,929            |
| Depreciation and amortization                         | 36,494                   | 24,402            | 11,756            |
| Other segment items                                   | 90,942                   | 55,437            | 41,520            |
| Loss from operations                                  | 479,004                  | 350,060           | 245,727           |
| Other non-operating income, net                       | 14,216                   | 17,932            | 6,251             |
| Income tax benefit                                    | 1,127                    | 4,062             | —                 |
| <b>Total segment loss</b>                             | <b>\$ 463,661</b>        | <b>\$ 328,066</b> | <b>\$ 239,476</b> |
| <b>Supplemental asset information</b>                 |                          |                   |                   |
| Total expenditures for additions to long-lived assets | \$ 14,134                | \$ 14,393         | \$ 37,650         |

## Additional Segment Disclosures

Recursion's long-lived assets are attributed to the following geographic areas based on their location:

| (In thousands) | Years ended December 31, |           |           |
|----------------|--------------------------|-----------|-----------|
|                | 2024                     | 2023      | 2022      |
| United States  | \$ 78,471                | \$ 84,056 | \$ 87,985 |
| Canada         | 2,631                    | 2,454     | 207       |
| United Kingdom | 56,332                   | —         | —         |
| Other          | 3,629                    | —         | —         |

Recursion generates revenue primarily from a single service, research and development services and from a single geographic area, the United States, therefore, the Company does not report additional information on revenue from external customers.

## Note 16. Subsequent Events

In February 2025, the Company terminated the Sales Agreement and entered into a Sales Agreement (the Citi Sales Agreement) with Citigroup Capital Markets Inc. (the Citi Sales Agent), to provide for the offering, issuance and sale of up to an aggregate amount of \$500.0 million of its Class A common stock from time to time in "at-the-market" offerings (the Citi ATM Offering). Recursion has not yet sold any shares and is not required to sell additional shares under the Citi Sales Agreement. The Company pays the Citi Sales Agent a commission of up to 3% of the aggregate gross proceeds received from all sales of Class A common stock less certain agreed credits and reimbursements. The Citi Sales Agreement continues until the earlier of selling all shares available under the Citi Sales Agreement or terminated by written notice from either of the parties.

## **Item 9. Changes in and Disagreements with Accountants.**

None.

## **Item 9A. Controls and Procedures.**

### ***Evaluation of Disclosure Controls and Procedures***

The Company has established disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act) designed to provide reasonable assurance that information required to be disclosed in the reports that the Company files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and communicated to management, including the principal executive officer (our Chief Executive Officer) and principal financial officer (our Chief Financial Officer), to allow timely decisions regarding required disclosure. Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of December 31, 2024, our disclosure controls and procedures were not effective due to the material weakness described below.

Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives as management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our disclosure controls and procedures have been designed to provide reasonable assurance of achieving their objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints, and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs.

### ***Management's Annual Report on Internal Control Over Financial Reporting***

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Our internal control over financial reporting is 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.

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 policies or procedures may deteriorate.

Management performed an assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2024. In performing this assessment, management used the criteria described in *Internal Control-Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on its assessment, management concluded that the Company's internal control over financial reporting was not effective as of December 31, 2024 due to the material weakness described below. A material weakness is a deficiency, or a 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 Company did not design and maintain effective controls over the estimated costs and time to completion and controls to validate the completeness and accuracy of data used to calculate revenue and unearned revenue related to its license agreement. This material weakness did not result in any misstatements of the Company's financial statements or disclosures. However, this material weakness could result in a misstatement of the aforementioned account balances or disclosures that would result in a material misstatement to the annual or interim consolidated financial statements that would not be prevented or detected.

The Company has excluded Exscientia plc (Exscientia) from its assessment of the Company's internal control over financial reporting as of December 31, 2024 because it was acquired by the Company in a purchase business



combination during 2024. Exscientia is a wholly-owned subsidiary whose total assets and total net loss excluded from management's assessment represent approximately 27% of total assets and 4% of total net loss of Recursion's Consolidated Financial Statements as of and for the year ended December 31, 2024.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2024 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included in Part II Item 8 of this Annual Report on Form 10-K.

### ***Material Weaknesses in the Excluded Acquired Business***

On November 20, 2024, the Company acquired Exscientia and its subsidiaries. Prior to the acquisition, Exscientia management identified the following material weaknesses in its internal control over financial reporting, which management of the Company concluded continue to exist as of December 31, 2024:

- Exscientia did not design and maintain effective process and controls; including with respect to consistent review procedures within its financial statement close process, to appropriately analyze, record and disclose accounting matters timely and accurately while maintaining appropriate segregation of duties; and
- Exscientia did not design and maintain effective information technology general controls for information systems that are significant to the preparation of its financial statements, including controls to verify that conflicting duties were appropriately segregated within such systems, in addition to controls over change management and program development.

The material weakness related to Exscientia's ineffective process and controls resulted in an immaterial misstatement to unearned revenue and unearned revenue, non-current in Recursion's Consolidated Financial Statements as of and for the year ended December 31, 2024. While the Company has undertaken additional compensating processes and controls, the Company is not yet in a position to conclude that the material weaknesses have been remediated as of December 31, 2024. As a result, these material weaknesses could result in a misstatement of Exscientia's reported financial results, which are consolidated with the Company's results, that would result in a material misstatement to Recursion's annual or interim consolidated financial statements that would not be prevented or detected. The Company's management is in the process of remediating these material weaknesses.

### ***Management's Remediation Efforts for Unremediated Material Weaknesses***

The following remediation actions have been taken as of December 31, 2024 related to the material weakness described above over the accounting for revenue and unearned revenue related to our license agreement:

- Improvement of documentation procedures regarding specific inquiries related to the cost model used for revenue recognition and the resulting responses
- Improvement of documentation for the review of changes in cost model due to responses from inquiries
- Provided additional documentation for internal reports to validate and support completeness and accuracy of reports
- Improvement of documentation of these processes was done with the input of our third-party consultants who continue to be involved in the design and enhancement of the revenue recognition policies and procedures

While significant progress has been made to enhance our internal control over financial reporting, Recursion is still designing, implementing and testing these processes, procedures and controls.

Regarding the material weaknesses described above related to the acquired Exscientia business, Recursion is currently in the process of integrating Exscientia's operations into our overall system of internal control over financial reporting.

We believe the above actions will be effective in remediating the material weaknesses described above. However, the material weaknesses cannot be considered remediated until remediated controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively.

### ***Changes in Internal Control Over Financial Reporting***

For the three months ended December 31, 2024, management was in the process of integrating the internal controls of the acquired business (Exscientia) into Recursion's existing operations as part of planned integration activities. There were no other changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the three months ended December 31, 2024 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

### **Item 9B. Other Information.**

In February 2025, Recursion terminated the Jefferies Sales Agreement and entered into, effective February 28, 2025, a Sales Agreement (the "Citi Sales Agreement") with Citigroup Capital Markets Inc. (the "Citi Sales Agent"), pursuant to which the Company may, from time to time, sell up to an aggregate amount of \$500.0 million of our Class A common stock through the Citi Sales Agent in an "at-the-market" offering (the "Citi ATM Offering"). The Company is not required to sell shares under the Citi Sales Agreement. Recursion will pay the Citi Sales Agent a commission of up to 3% of the aggregate gross proceeds Recursion receive from all sales of our Class A common stock under the Citi Sales Agreement. We have agreed to reimburse Citigroup for the fees and disbursements of its counsel, payable upon execution of the sales agreement, in an amount not to exceed \$75,000, in addition to certain ongoing disbursements of its legal counsel. Citigroup has agreed to credit up to an aggregate amount of \$2.3 million for fees and expenses payable by us to Citigroup under the Citi Sales Agreement. The Citi Sales Agreement continues until the earlier of selling all shares available under the Citi Sales Agreement or terminated by written notice from either of the parties. No sales have been made under the Citi Sales Agreement.

The Citi ATM Offering is being made under a prospectus supplement dated February 28, 2025, and related prospectus to be filed with the Securities and Exchange Commission pursuant to our automatically effective shelf registration statement on Form S-3ASR (Registration No. 333-284878).

A copy of the Citi Sales Agreement is attached as Exhibit 10.39 to this Annual Report on Form 10-K. The foregoing description of the Citi Sales Agreement does not purport to be complete and is qualified in its entirety by reference to Exhibit 10.39. A copy of the opinion of Wilson Sonsini Goodrich & Rosati, P.C. relating to the validity of the securities issued in the Citi ATM Offering is filed as Exhibit 5.1 to this Annual Report on Form 10-K. See Note 16, "Subsequent Events" to the Condensed Consolidated Financial Statements for additional details.

On December 19, 2024, Christopher Gibson, Chief Executive Officer, President, and a member of our Board of Directors, adopted a Rule 10b5-1 trading arrangement that is intended to satisfy the affirmative defense of Rule 10b5-1(c) for the sale of up to 2,343,000 shares of the Company's Class A common stock until April 9, 2026.

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

Not applicable.

## **PART III**

### **Item 10. Directors, Executive Officers and Corporate Governance.**

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2025 Annual Meeting of Stockholders, which Recursion intends to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

### **Item 11. Executive Compensation.**

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2025 Annual Meeting of Stockholders, which Recursion intends to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

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

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2025 Annual Meeting of Stockholders, which Recursion intends to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year pursuant.

### **Item 13. Certain Relationships and Related Transactions and Director Independence.**

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2025 Annual Meeting of Stockholders, which Recursion intends to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

### **Item 14. Principal Accountant Fees and Services.**

Our independent public accounting firm is PricewaterhouseCoopers LLP, Washington, PCAOB Auditor ID 000238.

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2025 Annual Meeting of Stockholders, which Recursion intends to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

## PART IV

### Item 15. Exhibits and Financial Statement Schedules.

(a) Documents filed as part of this Form 10-K.

(1) Financial Statements: See Item 8, “Financial Statements and Supplementary Data” for a list of financial statements.

(2) Financial Statement Schedules: All schedules omitted are inapplicable or the information required is shown in the consolidated financial statements or notes thereto.

(3) Exhibits Required by Item 601 of Regulation S-K: The information called for by this paragraph is set forth in Item 15(b) below.

(b) Exhibit Index:

| Exhibit number | Description                                                                                                                                           | Incorporated by Reference |            |             |                   | Filed /<br>Furnished<br>Herewith |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------|-------------|-------------------|----------------------------------|
|                |                                                                                                                                                       | Form                      | File No.   | Exhibit No. | Filing Date       |                                  |
| 2.1            | Transaction Agreement by and between Recursion Pharmaceuticals, Inc. and Exscientia plc dated as of August 8, 2024.                                   | 8-K                       | 001-40323  | 2.1         | August 8, 2024    |                                  |
| 2.2            | First Amendment to Transaction Agreement by and between Recursion Pharmaceuticals, Inc. and Exscientia plc dated as of November 5, 2024.              | 8-K                       | 001-40323  | 2.1         | November 6, 2024  |                                  |
| 3.1            | Amended and Restated Certificate of Incorporation of Recursion Pharmaceuticals, Inc.                                                                  | 8-K                       | 001-40323  | 3.1         | April 21, 2021    |                                  |
| 3.2            | Amended and Restated Bylaws of Recursion Pharmaceuticals, Inc.                                                                                        | 8-K                       | 001-40323  | 3.1         | January 31, 2024  |                                  |
| 4.1            | Specimen Class A common stock certificate of the Registrant.                                                                                          | S-1/A                     | 333-254576 | 4.2         | April 15, 2021    |                                  |
| 4.2            | Description of Securities.                                                                                                                            |                           |            |             |                   | X                                |
| 4.3            | Exchangeable Share Support Agreement, dated May 8, 2023.                                                                                              | S-3ASR                    | 333-272281 | 4.2         | May 30, 2023      |                                  |
| 4.4            | Registration Rights Agreement, dated October 24, 2022, by and among the Company and the Purchasers.                                                   | 8-K                       | 001-40323  | 10.2        | Oct. 25, 2022     |                                  |
| 4.5            | Registration Agreement, dated May 16, 2023, by and among the Registrant, Valence Discovery, Inc., and certain shareholders of Valence Discovery, Inc. | S-3ASR                    | 333-272281 | 4.3         | May 30, 2023      |                                  |
| 4.6            | Registration Agreement, dated May 25, 2023, by and among the Registrant, Recursion Canada Inc., and certain shareholders of Cyclica Inc.              | 8-K                       | 001-40323  | 4.1         | June 9, 2023      |                                  |
| 4.7            | Registration Rights Agreement, dated July 11, 2023, by and among the Registrant and NVIDIA.                                                           | 8-K                       | 001-40323  | 10.2        | July 12, 2023     |                                  |
| 4.8#           | Global Access Commitments Agreement between the Registrant and the Bill & Melinda Gates Foundation.                                                   |                           |            |             |                   | X                                |
| 5.1            | Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation.                                                                                |                           |            |             |                   | X                                |
| 10.1           | Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.                                            | S-1/A                     | 333-254576 | 10.1        | April 15, 2021    |                                  |
| 10.2+          | 2016 Equity Incentive Plan, as amended, and forms of agreement thereunder.                                                                            | S-1/A                     | 333-254576 | 10.2        | April 15, 2021    |                                  |
| 10.3+          | 2021 Equity Incentive Plan and forms of agreements thereunder.                                                                                        | 10-K                      | 001-40323  | 10.3        | February 27, 2023 |                                  |
| 10.4+          | 2021 Employee Stock Purchase Plan and forms of agreements thereunder.                                                                                 | S-1/A                     | 333-254576 | 10.4        | April 15, 2021    |                                  |
| 10.5+          | 2024 Inducement Equity Incentive Plan and forms of agreement thereunder.                                                                              | S-8                       | 333-283347 | 4.6         | November 20, 2024 |                                  |
| 10.6+          | The Exscientia Unapproved Share Option Plan with RSU Sub-Plan.                                                                                        | S-8                       | 333-283347 | 4.4         | November 20, 2024 |                                  |

|         |                                                                                                                                      |       |            |       |                   |   |
|---------|--------------------------------------------------------------------------------------------------------------------------------------|-------|------------|-------|-------------------|---|
| 10.7+   | Exscientia plc 2021 Equity Incentive Plan with Non-Employee Sub-Plan and CSOP Sub-Plan.                                              | S-8   | 333-283347 | 4.5   | November 20, 2024 |   |
| 10.8    | Cyclica Inc. Second Amended and Restated Stock Option Plan.                                                                          | S-8   | 333-272282 | 4.4   | May 30, 2023      |   |
| 10.9    | Valence Discovery Inc. Stock Option Plan dated April 17, 2018 as amended and restated on November 16, 2021.                          | S-8   | 333-272027 | 4.4   | May 18, 2023      |   |
| 10.10+  | Executive Incentive Compensation Plan.                                                                                               | S-1/A | 333-254576 | 10.20 | April 15, 2021    |   |
| 10.11+  | CEO Change in Control and Severance Policy                                                                                           | S-1/A | 333-254576 | 10.21 | April 15, 2021    |   |
| 10.12+  | Executive Change in Control and Severance Plan (for executives other than the CEO).                                                  | S-1/A | 333-254576 | 10.10 | April 15, 2021    |   |
| 10.13+  | Outside Director Compensation Policy.                                                                                                | S-1/A | 333-254576 | 10.11 | April 15, 2021    |   |
| 10.14+  | Confirmatory Employment Letter between the Registrant and Christopher Gibson, Ph.D.                                                  | S-1/A | 333-254576 | 10.5  | April 15, 2021    |   |
| 10.15+  | Employment Offer Letter, dated July 1, 2024, between the Registrant and Dr. Najat Khan, Ph.D.                                        | 10-Q  | 001-40323  | 10.1  | August 8, 2024    |   |
| 10.16+  | Confirmatory Employment Letter between the Registrant and Ben Taylor.                                                                |       |            |       |                   | X |
| 10.17+  | Confirmatory Employment Letter between the Registrant and Tina Marriott.                                                             | S-1/A | 333-254576 | 10.7  | April 15, 2021    |   |
| 10.18+  | Transition Agreement between the Registrant and Tina Marriott.                                                                       |       |            |       |                   | X |
| 10.19+  | Confirmatory Employment Letter between the Registrant and Michael Secora.                                                            | S-1/A | 333-254576 | 10.8  | April 15, 2021    |   |
| 10.20+  | Separation Agreement between the Registrant and Michael Secora.                                                                      |       |            |       |                   | X |
| 10.21+  | Employment Offer Letter, dated May 19, 2023, between the Registrant and Dr. David Mauro, M.D., Ph.D.                                 | 10-Q  | 001-40323  | 10.1  | August 8, 2023    |   |
| 10.22+  | Form of Exchange Agreement among the Registrant, Christopher Gibson, Ph.D., and entities affiliated with Dr. Gibson.                 | S-1/A | 333-254576 | 10.22 | April 15, 2021    |   |
| 10.23+  | Form of Equity Exchange Right Agreement among the Registrant, Christopher Gibson, Ph.D., and entities affiliated with Dr. Gibson.    | S-1/A | 333-254576 | 10.23 | April 15, 2021    |   |
| 10.24+  | Advisory Agreement between the Registrant and Shafique Virani.                                                                       | 10-Q  | 001-40323  | 10.1  | May 5, 2024       |   |
| 10.25+  | Transition Agreement between the Registrant and Shafique Virani.                                                                     | 10-Q  | 001-40323  | 10.2  | May 5, 2024       |   |
| 10.26   | Office Lease by and between Vestar Gateway, LLC and Registrant, dated November 13, 2017, as amended through December 2022.           | 10-K  | 001-40323  | 10.8  | February 27, 2023 |   |
| 10.27#^ | Research Collaboration and Option Agreement by and between Bayer AG and the Registrant, dated August 28, 2020.                       | S-1/A | 333-254576 | 10.14 | April 15, 2021    |   |
| 10.28#^ | Bayer Collaboration Expansion Agreement, dated December 1, 2021.                                                                     | 10-K  | 001-40323  | 10.11 | March 23, 2022    |   |
| 10.29#^ | Amended and Restated Research Collaboration and Option Agreement by and between Bayer AG and the Registrant, dated November 8, 2023. | 10-K  | 001-40323  | 10.21 | February 29, 2024 |   |
| 10.30#^ | Amended and Restated License Agreement between the Registrant and University of Utah Research Foundation, dated February 9, 2016.    | S-1/A | 333-254576 | 10.15 | April 15, 2021    |   |
| 10.31#^ | Exclusive License Agreement between Ohio State Innovation Foundation and Registrant, dated December 21, 2018.                        | S-1/A | 333-254576 | 10.16 | April 15, 2021    |   |
| 10.32#^ | License Agreement by and between Takeda Pharmaceutical Company Limited and Registrant, dated May 1, 2020.                            | S-1/A | 333-254576 | 10.17 | April 15, 2021    |   |
| 10.33#^ | Roche Collaboration and License Agreement, dated December 5, 2021.                                                                   | 10-K  | 001-40323  | 10.25 | March 23, 2022    |   |
| 10.34#^ | Master Agreement between the Company and Tempus Labs, Inc dated November 3, 2023.                                                    | 10-Q  | 001-40323  | 10.4  | November 9, 2023  |   |





- \* The certifications furnished in Exhibit 32.1 hereto are deemed to accompany this Annual Report on Form 10-K and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that the Registrant specifically incorporates it by reference.

**Item 16. Form 10-K Summary.**

None

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Act of 1934, Recursion Pharmaceuticals, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Salt Lake City, Utah, on February 28, 2025.

RECURSION PHARMACEUTICALS, INC.

By: \_\_\_\_\_ /s/ Christopher Gibson  
Christopher Gibson  
Chief Executive Officer

## Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints each of Christopher Gibson and Ben Taylor his or her true and lawful attorney-in-fact and agent, with full power of substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, each of the undersigned has executed this Power of Attorney as of the date indicated opposite his/her name.

Pursuant to the requirements of the Securities Act of 1934, this report has been signed by the following persons in the capacities and on the dates indicated.

| Signature                                    | Title                                                                   | Date              |
|----------------------------------------------|-------------------------------------------------------------------------|-------------------|
| /s/ Christopher Gibson<br>Christopher Gibson | Chief Executive Officer and Director<br>(Principal Executive Officer)   | February 28, 2025 |
| /s/ Ben Taylor<br>Ben Taylor                 | Chief Financial Officer (Principal<br>Financial and Accounting Officer) | February 28, 2025 |
| /s/ Zachary Bogue<br>Zachary Bogue           | Director                                                                | February 28, 2025 |
| /s/ Blake Borgeson<br>Blake Borgeson         | Director                                                                | February 28, 2025 |
| /s/ Najat Khan<br>Najat Khan                 | Director                                                                | February 28, 2025 |
| /s/ Robert Hershberg<br>Robert Hershberg     | Chair of the Board                                                      | February 28, 2025 |
| /s/ Zavain Dar<br>Zavain Dar                 | Director                                                                | February 28, 2025 |
| /s/ Dean Li<br>Dean Li                       | Director                                                                | February 28, 2025 |
| /s/ Franziska Michor<br>Franziska Michor     | Director                                                                | February 28, 2025 |







