PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

A. [Reserved]

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

Our business and our industry are subject to significant risks. You should carefully consider all of the information set forth in this Annual Report, including the following risk factors. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. Additional risks not currently known to us or that we currently deem immaterial may also affect our business operations. Additional risks not currently known to us or that we currently deem immaterial may also affect our business operations.

Summary of Risk Factors Associated with Our Business

Our business and our industry are subject to numerous risks described in "Risk Factors" and elsewhere in this Annual Report. You should carefully consider these risks before making a decision to invest in our securities. Key risks include, but are not limited to, the following:

Risks Related to Our Therapeutics Business:

- Our operating history, which has focused primarily on research and development and advancing immunotherapy gene-editing clinical trials, makes it difficult to assess our future prospects.
- We have not generated significant revenues and have incurred significant operating losses since our inception. While the amount of our future net losses will depend, in part, on the amount of our future operating expenses and our ability to obtain funding, realize payments under our licensing arrangements, and obtain reimbursements of research tax credit claims, we anticipate that we will continue to incur significant losses for the foreseeable future.
- We face substantial competition in our discovery, development and commercialization activities from competitors who may have significantly greater resources than we do.
- Because our product candidates all apply novel gene-editing technology, we are heavily dependent on the successful development of this technology.
- We may need to raise additional funding, which may not be available on acceptable terms or at all, and our ability to raise additional share capital is limited by French corporate law.

Risks Related to the Discovery, Development and Commercialization of Our Therapeutic Product Candidates:

- Our product candidates must undergo clinical trials that are time-consuming and expensive, the outcomes of which are unpredictable, and for which there is a high risk of failure, and which are susceptible under a variety of circumstances to additional costs, delays, suspensions and terminations.
- Initial, interim and preliminary data from our clinical trials may change as more data becomes available, and subsequent data may not bear out promising early results.
- Because we anticipate that our product candidates may initially receive regulatory approval as treatments for advanced disease or rare diseases, the size of the initial market for our product candidates may be limited.
- Our manufacturing process, which is highly complex and heavily regulated, may be difficult to efficiently and effectively operate and scale to the level required for advanced clinical trials or commercialization.
- Our manufacturing facilities may not obtain or maintain the required regulatory authorizations to supply commercial products.
- Acceptance and adoption of gene-editing and enrollment in our trials may be adversely affected by undesirable side effects, negative perceptions among the public or the medical community, or the inadequacy of payor coverage.
- Our future profitability depends, in part, on our ability to penetrate global markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Risks Related to Our Reliance on Third Parties:

- We rely on third parties for certain aspects of our discovery, development, manufacturing and commercialization, if any, of our product candidates and issues relating to such third parties, or their activities, which could result in additional costs and delays and hinder our research, development and commercialization prospects.
- License relationships may not be successful, including as a result of failures by our licensees or partners to perform satisfactorily or to devote resources to advance product candidates under our arrangements with them.
- Servier's discontinuation of its involvement in the development of CD19 Products and related disagreements may have adverse consequences
- We rely on a third party for the supply of alemtuzumab that is used in certain of our clinical trials as part of the lymphodepletion regimen, and issues relating to such third party may impact the clinical development and commercialization of our products.

Risks Related to Operational Compliance and Risk Management:

- We may encounter difficulties in managing our development and expansion, including challenges associated with recruiting additional employees, managing our internal development efforts and improving our operational, financial and management controls.
- The risk of product liability claims is inherent in the development and commercialization of therapeutic products, and product liability or other lawsuits could divert management and financial resources, result in substantial liabilities and reduce the commercial potential of our product candidates.
- The buy-out mechanism in our collaboration agreement with Servier may prevent or delay a takeover attempt.
- We identified a material weakness in our internal control over financial reporting. If we are not able to remediate the material weakness and otherwise maintain an effective system of internal control over financial reporting, the reliability of our financial reporting, investor confidence, and the value of our securities could be adversely affected.

Risks Relating to our Relationships with AstraZeneca:

- AstraZeneca has significant influence over us.
- Future sales of our ordinary shares by AZ Holdings could cause the market price for our ordinary shares and ADSs to fall.
- Conflicts of interest may arise as a result of the continuing involvement of certain of our directors with AstraZeneca and its affiliates.

Risks Related to Regulatory Approvals for Our Product Candidates:

- Our business is governed by a rigorous, complex and evolving regulatory framework, including premarketing regulatory requirements, pricing, reimbursement and cost-containment regulations, and rigorous ongoing regulation of approved products. This regulatory framework results in significant compliance costs, makes the development and approval of our product candidates time intensive and unpredictable, and may reduce the ultimate economic value and prospects for our product candidates.
- A Fast Track, Breakthrough Therapy or Regenerative Medicine Advanced Therapy designation by the U.S. Food and Drug Administration, or FDA, or a Priority Medicines designation by the European Medicines Agency, or EMA, may not lead to a faster development or regulatory review or approval process, and does not increase the likelihood that our product candidates will receive regulatory approval.
- Any regulatory compliance failures could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Risks Related to Intellectual Property.

- Because our commercial success depends, in part, on obtaining and maintaining proprietary rights to our and our licensors' intellectual property, our ability to compete may decline if we fail to obtain protection for our products, product candidates, processes and technologies or do not adequately protect our intellectual property.
- Our competitive position may be adversely impacted as a result of a variety of factors, including potentially adverse determinations of complex legal and factual questions involved in patents and patent applications or insufficiently long patent lifespans in one or more jurisdictions where we obtain intellectual property protection.
- Because it is cost prohibitive to seek intellectual property protection on a global basis, our intellectual property protection in certain jurisdictions many not be as robust as in the United States, which may adversely impact our competitive position.
- Third parties may assert rights to inventions we develop or otherwise regard as our own.
- A dispute concerning the infringement or misappropriation of our proprietary rights or the proprietary rights of others could be time consuming and costly, and an unfavorable outcome could harm our business.

Risks Related to Human Capital.

- Our business could be harmed if we lose key management personnel or cannot attract and retain other qualified personnel.

Risks Relating to Our Status as a Foreign Private Issuer and a French Company:

- The rights of shareholders in companies subject to French corporate law differ in material respects from the rights of shareholders of corporations incorporated in the United States.
- Our By-laws and French corporate law contain provisions that may delay or discourage a takeover attempt.
- Our international operations may be exposed to foreign exchange risks, U.S. federal income tax risks, and additional risks, which may adversely affect our financial condition, results of operations and cash flows.
- If we are classified as a PFIC for 2023 or any future taxable year, there may be adverse U.S. federal income tax consequences to U.S. holders.
- As a foreign private issuer, we are exempt from a number of rules under the U.S. securities laws and the Nasdaq's corporate governance standards. We expect to follow certain home country practices in relation to certain corporate governance matters, which may afford less protection than would be provided if we complied fully with the Nasdaq requirements.

Risks Related to Ownership of Our ADSs:

- Holders of our ADSs do not directly hold our ordinary shares and may be subject to limitations on the transfer of their ADSs and certain voting and withdrawal rights of the underlying ordinary shares as well as limitations on their ability to exercise preferential subscription rights or receive share dividends.
- Share ownership is concentrated in the hands of our principal shareholders and management, who will continue to be able to exercise substantial influence.

Risks Related to Our Therapeutics Business

As a clinical-stage biopharmaceutical company, we have incurred net losses in every period since our inception and anticipate that we will incur substantial net losses in the future.

We are a clinical-stage biopharmaceutical company and devote most of our financial resources to research and development relating to our CAR T-cell immunotherapy product candidates and the advancement of our clinical trials. Investment in biopharmaceutical product development is highly speculative because it entails both substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate efficacy or an acceptable safety profile, to gain required regulatory approvals or to become commercially viable. Our most advanced product candidates remain in clinical development. We have no products approved for commercial sale and have not generated any revenue from product sales to date. We will continue to incur significant research and development and other expenses related to our ongoing clinical trials and operations. As a result, we are not profitable and have incurred net losses in each period since our inception. For the year ended December 31, 2023, we reported a net loss of $116.8 million from continuing operations, our research and development expenses were $87.6 million. As of December 31, 2023, we had an accumulated deficit attributable to the shareholders of Cellectis of $405.8 million.

Notwithstanding our ongoing clinical trials, it will be several years, if ever, before we obtain regulatory approval for, and are ready for commercialization of, a biopharmaceutical product. Even if we or our licensees or partners successfully commence and complete clinical trials and obtain regulatory approval to market a product, any future revenues will depend upon the size of any markets in which the products are approved for sale as well as the market share captured by such products, market acceptance of such products and levels of reimbursement from third-party payors.

We expect to continue to incur significant expenses and operating losses for the foreseeable future. The net losses we incur may fluctuate significantly from year to year and quarter to quarter. We expect our expenditures to increase as we conduct our clinical studies, file IND and/or foreign equivalent filings for additional product candidates, conduct research and development for product candidates, invest in deploying and scaling our manufacturing capabilities, seek regulatory and marketing approvals, and establish necessary infrastructure for the commercialization of any products for which we obtain marketing approval.

In addition, we have encountered, and may encounter in the future, unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. For example, we and our licensees have had clinical trials placed on hold by the FDA, which have had the effect of temporarily suspending these clinical programs until the resolution of the hold with the FDA. You should consider our business and prospects in light of the risks and difficulties we face as a clinical-stage biopharmaceutical company.

We face substantial competition from other biotechnology and pharmaceutical companies, and our operating results will suffer if we fail to compete effectively.

The biopharmaceutical industry, and the immuno-oncology industry in particular, is characterized by intense competition and rapid innovation. Our competitors may be able to develop other compounds or drugs that are more effective, safer, more easily commercialized, or less costly than our product candidates. Further, competitors may develop proprietary technologies or secure patent protection that we may need for the development of our technologies and products.

We face competition from major multinational pharmaceutical companies, new and established biotechnology and specialty pharmaceutical companies, academic research institutions, government agencies and public and private research institutions. Many of our competitors have substantially greater financial, technical and other resources, such as larger research and development staff, greater expertise in large scale pharmaceutical manufacturing, and/or well-established marketing and sales teams. Smaller or early-stage companies may compete with us through collaborative arrangements with large, established companies. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors.

The success of other therapies developed by our competitors could impact our regulatory strategy and delay or prevent regulatory approval of our product candidates. Even if we obtain regulatory approval of our product candidates, the availability and price of our competitors' products may limit demand for, or the price that we are able to charge for, our product candidates. We may not be able to implement our business plan if the acceptance of our product candidates is inhibited by price competition or the reluctance of physicians to switch from existing methods of treatment to our product candidates, or if physicians switch to other new drug or biologic products or choose to reserve our product candidates for use in limited circumstances.

We are subject to various risks related to public health crises, that could have material and adverse impacts on our business, financial condition, liquidity, and results of operations.

Any outbreaks of contagious diseases and other adverse public health developments could have a material and adverse impact on our business, financial condition, liquidity, and results of operations. As has occurred with the COVID-19 global pandemic, a regional epidemic or a global pandemic could cause disruptions to national and global economies and financial markets as well as raw materials supply chains, and could have a negative impact on our clinical trials, including with respect to patient recruitment.

We may need to raise additional funding, which may not be available on acceptable terms or at all. Failure to obtain necessary capital when needed may force us to delay, limit or terminate our product development efforts or other operations.

The process of developing and manufacturing CAR T-cell product candidates and conducting clinical studies is expensive, lengthy and risky. We are currently sponsoring three clinical studies, preparing regulatory filings to commence new clinical studies and/or to add additional investigational sites for ongoing studies, advancing pre-clinical testing for additional product candidates, and conducting manufacturing at our in-house manufacturing facilities. Accordingly, we expect our operational expenses to increase in connection with our ongoing activities. In addition, subject to obtaining regulatory approval of any biopharmaceutical product candidates, we expect to incur significant commercialization expenses. Further, our operating plans, including product development and commercialization plans, may change in light of changed circumstances or as a result of factors currently unknown to us, which may require us to seek additional funds sooner than planned.

With cash and cash equivalents of $136.7 million as of December 31, 2023, and taking into account the €15.0 million under Tranche B of the €40.0 million Finance Contract with the European Investment Bank (the "EIB") received in January 2024, and the $140 million equity investment we expect to receive (the "Additional Investment") pursuant to the subsequent investment agreement dated November 14, 2023 (the "Subsequent Investment Agreement") between us and AZ Holdings, the Company believes its cash and cash equivalents will be sufficient to fund its operations into, assuming receipt of such funds, 2026 and therefore for at least twelve months following the consolidated financial statements' publication.

Our ability to raise additional capital may be limited. If we raise additional capital through the sale of additional equity or convertible securities, current ownership interests may be diluted and the terms of these securities may include liquidation or other preferences that adversely affect stockholders' rights. For example, in connection with the Finance Contract, the Company has also agreed to enter into a warrant agreement with the EIB with respect to the issuance of warrants to the EIB in connection with, and as a condition to, the funding of each tranche under the Finance Contract. In April 2023, in connection with the disbursement of the €20.0 million Tranche A, the Company issued 2,799,188 warrants to the EIB, and in January 2024, the Company announced the issuance of 1,460,053 warrants to the EIB in connection with the disbursement of €15.0 million Tranche B of the EIB financing. In addition, in November 2023, the Company announced the issuance of 16,000,000 new ordinary shares to AZ Holdings under the Initial Investment Agreement signed between us and AZ Holdings dated November 1, 2023 (the "Initial Investment Agreement"), and following the filing of this Annual Report, the Company expects to issue 10,000,000 "class A" convertible preferred shares and 18,000,000 "class B" convertible preferred shares to AZ Holdings pursuant to the Subsequent Investment Agreement signed between us and AZ Holdings. Due to any future issuances of shares of our common stock, including pursuant to the warrants issuable to the EIB if any, and the Subsequent Investment Agreement, our shareholders may experience immediate dilution and, as a result, our stock price may decline.

Debt financing, if available, would result in increased fixed payment obligations and a portion of our operating cash flows, if any, being dedicated to the payment of principal and interest on such indebtedness. In addition, debt financing may involve agreements that include restrictive covenants that impose operating restrictions, such as restrictions on the incurrence of additional debt, the making of certain capital expenditures or the declaration of dividends. For example, in connection with the Finance Contract, we agreed to certain negative undertakings, which include: restrictions on dispositions of assets by us and our subsidiaries, restrictions on changes to the general nature of our business, restrictions on us and our subsidiaries engaging in mergers and other restructuring transactions, restrictions on certain ownership changes with respect to subsidiaries, restrictions on us and our subsidiaries engaging in acquisitions or making investments, restrictions on us and our subsidiaries incurring additional indebtedness or guarantees, restrictions on the making of intercompany loans, restrictions on us and our subsidiaries engaging in certain hedging or derivative transactions, restrictions on us and our subsidiaries making specified restricted payments including dividends and share repurchases, restrictions on us and our subsidiaries becoming creditors in respect of certain indebtedness, and restrictions on the incurrence of security over any of our or our subsidiaries' assets. To the extent we raise additional funds through arrangements with research and development partners or otherwise, we may be required to relinquish some of our technologies, product candidates or revenue streams, license our technologies or product candidates on unfavorable terms, or otherwise agree to terms unfavorable to us. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all.

Global financial markets have been negatively impacted as a result of global pandemics such as COVID-19 and military and regional conflicts, such as the invasion of Ukraine by Russia and the Middle East conflict. If these disruptions persist or deepen, or if other global events have a significant impact on the global financial markets, we could experience an inability to access additional capital or an increase in our costs of borrowing, which could in the future negatively affect our capacity for certain corporate development transactions or our ability to make other important, opportunistic investments. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

If we are unable to obtain funding on a timely basis, we may be required to significantly curtail, delay or discontinue one or more of our research and development programs or product candidate development programs, or the commercialization of any product candidate that may receive regulatory approval, which could materially affect our business, operating results and prospects.

Risks Related to the Discovery, Development and Commercialization of Our Therapeutic Product Candidates

Gene-editing remains relatively new technology, and if we are unable to use this technology in our intended applications, our revenue opportunities will be limited.

Our TALEN technology involves a relatively new approach to gene editing, using sequence-specific deoxyribonucleic acid (DNA)-cutting enzymes, or nucleases, to perform precise and stable modifications in the DNA of living-cells and organisms. Although we have generated nucleases for many specific gene sequences, we have not created nucleases for all gene sequences that we may seek to target, and we may have difficulty creating nucleases for certain gene sequences that we may seek to target, which could limit the usefulness of our technology. Our technology may also not be shown to be effective in clinical studies that we or licensees of our technology may conduct, or may be associated with safety issues that may negatively affect our development programs. For instance, gene-editing may create unintended changes to the DNA such as a non-target site gene-editing, a large deletion, or a DNA translocation, any of which could lead to oncogenesis. In the ALPHA2 trial being conducted by our licensee, Allogene, Allogene observed a chromosomal abnormality, and the FDA placed Allogene's clinical trials on hold following this observation. While Allogene reported that its investigation concluded that gene editing was not responsible for the chromosomal abnormality and the hold was resolved, we or our licensees may discover future abnormalities caused by gene editing or other factors that would impact our development plans.

In addition, the field of gene-editing is rapidly developing. Our competitors may introduce new technologies that render our technology obsolete, uneconomical or less attractive. Similarly, our licensees may improve upon our technology in ways that makes our underlying technology, without such improvements, less attractive. New technology could emerge at any point in the development cycle of our product candidates. As competitors use or develop new technologies, any failures of such technology could adversely impact our programs. We also may be placed at a competitive disadvantage, and competitive pressures may force us to implement new technologies at a substantial cost. In addition, our competitors may have greater financial, technical and personnel resources that allow them to enjoy technological advantages and may in the future allow them to implement new technologies before we can. We cannot be certain that we will be able to implement technologies on a timely basis or at a cost that is acceptable to us. If we are unable to maintain technological advancements consistent with industry standards, our operations and financial condition may be adversely affected.

Our therapeutic product candidate development programs are in various phases of development and may be unsuccessful.

Our therapeutic product candidates are in various phases of development. At each stage of development, there is typically an extremely high rate of attrition from the failure of product candidates advancing to subsequent stages of development.

Because some of our product candidates are in the early stages of discovery or pre-clinical development, there can be no assurance that our research and development activities will result in these product candidates advancing into clinical development. Product candidates in these development phases undergo testing in animal studies, and the results from these animal studies may not be sufficiently compelling to warrant further advancement. Moreover, even if results from animal studies are positive, such results are not necessarily predictive of positive results in clinical studies.

Even where product candidates do progress into and through clinical studies, these product candidates may fail to show the desired safety and efficacy in clinical development despite demonstrating positive preliminary clinical data and/or results in animal studies. Because of the early stages of our currently ongoing clinical studies, the safety, specificity and clinical benefits of our clinical-stage product candidates have not yet been demonstrated, and we cannot assure you that the results of any clinical trials will demonstrate the value and efficacy of our platform. The results of clinical studies are subject to a variety of factors, and there can be no assurance that any product candidate will advance to regulatory approval, be approved by applicable regulatory agencies, or be successfully commercialized.

Although there are a large number of drugs and biologics in development globally, only a very small percentage obtain regulatory approval, even fewer are approved for commercialization, and only a small number of these achieve widespread physician and consumer acceptance. Accordingly, despite expending significant resources in pursuit of their development, our product candidates may never achieve commercial success, and any time, effort and financial resources we expend on the product candidate development programs that we pursue may adversely affect our ability to develop and commercialize other product candidates.

Initial, interim 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 or our licensee partners may publish initial, interim or preliminary data from clinical studies. Interim and preliminary data from clinical trials 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. For instance, while we and our licensees or partners have published preliminary data from on-going clinical studies, such data is preliminary in nature, does not bear statistical significance, and should not be viewed as predictive of the ultimate success of the respective clinical trials. Particular caution should be exercised when interpreting preliminary results and results relating to a small number of patients or individually presented case studies—such results should not be viewed as predictive of future results. It is possible that such results will not continue or may not be repeated in ongoing or future clinical trials for the same product candidates or in clinical trials for other allogeneic Chimeric Antigen Receptor T-cells (“UCART”) product candidates.

Preliminary 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, initial, interim and preliminary data should be viewed with caution until the final data are available. Adverse differences between initial, preliminary or interim data and final data could significantly harm our business prospects.

We may encounter substantial delays in our clinical trials, or we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities.

Clinical trials are long, expensive and unpredictable processes that can be subject to extensive delays. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, if at all. It will take several years to complete the clinical development necessary to obtain adequate data to file for a marketing authorization or to commercialize a product candidate, and failure can occur at any stage.

Positive interim or preliminary results of clinical trials do not necessarily predict positive final results, and success in early clinical trials does not ensure that later clinical trials will be successful. Product candidates in later stages of clinical trials may still fail to show the desired safety and efficacy profile despite having successfully progressed through initial clinical trials. A number of pharmaceutical and biopharmaceutical companies have suffered significant setbacks—lack of efficacy, insufficient durability of efficacy or unacceptable safety issues (including a number of patient deaths in CAR-T trials conducted in the United States)—in advanced clinical trials, even after promising results in earlier trials. We cannot be certain that our product candidates will not face similar setbacks.

An unfavorable outcome in one or more of our or our licensees’ or partners’ clinical trials would be a major setback for our product candidates and for us and may require us or our licensees or partners' to delay, reduce or re-define the scope of, or eliminate one or more product candidate development programs, any of which could have a material adverse effect on our business, financial condition and prospects.

In addition, a number of events, including any of the following, could delay clinical trials, negatively impact the ability to obtain regulatory approval for, and to market and sell, a particular product candidate, or result in suspension or termination of a clinical trial: conditions imposed by the FDA or any foreign regulatory authority regarding the scope or design of clinical trials;

- delays in obtaining, or the inability to obtain, regulatory agency approval for the conduct of the clinical trials or required approvals from institutional review boards, or IRBs, or other reviewing entities at clinical sites selected for participation in our clinical trials;
- the identification of flaws in the design of a clinical trial;
- changes in regulatory requirements and guidance that necessitate amendments to clinical trial protocols;
- delays in sufficiently developing, characterizing or controlling manufacturing processes suitable for clinical trials;
- insufficient supply or deficient quality of the product candidates or other materials necessary to conduct the clinical trials;
- difficulty in sourcing healthy donor material of sufficient quality and in sufficient quantity to meet our development needs;

- lower-than-anticipated enrollment and retention rate of subjects in clinical trials for a variety of reasons, including size of patient population, site selection, nature of trial protocol, the availability of approved effective treatments for the relevant disease and competition from other clinical trial programs for similar indications and competition from approved products;
- delays in reaching agreement on acceptable terms with prospective contract research organizations (CROs) and clinical study sites and obtaining required institutional review board (IRB) approval at each clinical study site;
- the placing of a clinical hold on our licensees' or partners' clinical trials —for example, clinical holds were placed on our AMELI-01 Study in September 2018 and on our now discontinued MELANI-01 Study in July 2020 and on all of our licensee Allogene's AlloCAR T clinical trials in October 2021 and remained in place until the FDA permitted these trials to restart in November 2018, November 2020 and January 2022, respectively;
- unfavorable interpretations by FDA or similar foreign regulatory authorities of interim data;
- determinations by the FDA or similar foreign regulatory authorities that a clinical trial protocol is deficient in design to meet its stated objectives;
- failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols;
- serious safety issues, including drug-related side effects experienced by patients in clinical trials—for example, following patient safety issues, including patient death, related to cytokine release syndrome, or CRS, patient recruitment for our AMELI-01 Study and for our NaThaLi-01 Study were paused, in accordance with their respective protocols, pending the implementation of modified protocol treatment strategies, and commenced in October 2022 and in August 2023, respectively;
- failure of our or our licensees' or partners' third-party contractors to meet their contractual obligations in a timely manner; or
- lack of, or failure to, demonstrate efficacy of our products candidate.

Our product candidates are based on a novel technology, which makes it difficult to predict the time and cost of product candidate development and obtaining regulatory approval.

We have concentrated our research, development and manufacturing efforts on our gene-edited CAR T-cell immunotherapy product candidates, and our future success depends on the successful development of this therapeutic approach. We are in the early stages of developing our UCART platform, and we have experienced significant development challenges, including with prior clinical holds by the FDA. There can be no assurance that any development problems we experience in the future will not cause significant delays or unanticipated costs, or that such development problems can be overcome. We may also experience delays in fully or effectively deploying a sustainable, reproducible and scalable manufacturing process at our new manufacturing facilities, which may prevent us from completing our clinical studies or commercializing our products on a timely or profitable basis, if at all. Our expectations with regard to the scalability and cost of manufacturing may change significantly as we further progress the development of our product candidates.

In addition, the clinical study requirements of the U.S. Food and Drug Administration (the "FDA"), the European Medicines Agency (the "EMA") and other regulatory agencies and the criteria these regulators use to determine the safety and efficacy of a product candidate are determined according to the type, complexity, novelty and intended use and market of the potential products. The regulatory approval process for novel product candidates such as ours can be more complex and consequently more expensive and take longer than for other, better known or extensively studied pharmaceutical or other product candidates. In addition, we may experience additional regulatory challenges with respect to clinical trials in which patients receive a lymphodepletion regimen. For example, regulatory authorities may require us to demonstrate the safety of such a lymphodepletion regimen as well as its contribution to the overall benefit to risk ratio, which could require that we collect additional clinical data.

Approvals by the European Commission, on the basis of the opinion issued by the EMA, and FDA for existing autologous CAR T-cell therapies may not be indicative of what these regulators may require for approval of our therapies. Also, while we expect reduced variability in our products candidates compared to autologous products, we do not have significant clinical data supporting any benefit of lower variability and the use of healthy donor material may create separate variability challenges for us. More generally, approvals by any regulatory agency may not be indicative of what any other regulatory agency may require for approval or what such regulatory agencies may require for approval in connection with new product candidates.

Our business is highly dependent on the success of our lead product candidates, and we cannot be certain that we will be able to obtain regulatory approval for, or successfully commercialize, these product candidates.

Our business and future success depends on our ability to successfully develop, obtain regulatory approval for, and successfully commercialize our most advanced product candidates, UCART123, UCART22 and UCART20x22, our ability to develop and manufacture products candidates for AstraZeneca, and the ability of our licensees or partners to advance the product candidates that they are developing pursuant to licenses from us. Because our lead product candidates, and UCART product candidates of our licensees or partners, are among the first allogeneic products to be clinically evaluated, the failure of any such product candidate, or the failure of other allogeneic T cell therapies, may impede our ability to develop our product candidates, and significantly influence physicians' and regulators' opinions in regards to the viability of our entire pipeline of allogeneic T cell therapies. If significant events, such as significant GvHD or chromosomal abnormality events, are observed with the administration of our or our licensees' product candidates, or if any of the product candidates is viewed as less safe or effective than autologous therapies, our ability to develop other allogeneic therapies may be significantly harmed. For example, all of the clinical trials of our licensee, Allogene, were put on clinical hold due to an observation in Allogene's ALPHA2 trial. While that clinical hold has been resolved, we could be subject to clinical holds in the future due to any similar unexpected observations or as a result of adverse patient outcomes or other issues.

Our therapeutic product candidates will require substantial additional clinical and non-clinical development, testing, and regulatory review and approval in multiple jurisdictions, substantial investment, implementation and scaling of our commercial manufacturing capabilities, and significant marketing efforts before we can generate any revenue from product sales. Before obtaining regulatory approvals for the commercial sale of any product candidate, we must demonstrate, with substantial evidence gathered in well-controlled clinical trials and to the satisfaction regulatory authorities (including the FDA in the United States and the EMA in the EU) that the product candidate is safe and effective for use in each target indication. Following this extensive regulatory process, the

manufacturing and marketing of our product candidates will be subject to extensive and rigorous review and regulation by numerous government authorities in the United States and in other countries where we intend to pursue commercialization.

Satisfaction of these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. The process can take many years and may include post-marketing studies and surveillance, which will require the expenditure of substantial resources beyond our existing cash on hand. There can be no assurance that any of our product candidates will successfully complete the foregoing regulatory approval processes. We do not expect any of the product candidates we or our licensees or partners develop to be commercially available for many years and some or all may never become commercially available.

The size of the initial market for our product candidates may be limited.

We expect that, if approved, several of the product candidates we develop will initially receive regulatory approval as treatment for advanced disease or rare diseases with few other treatment options. This could limit the initial size of the market for these product candidates, and we cannot predict when, if ever, such product candidates would receive regulatory approval for indications treating a more expansive patient population.

Any issues that arise in the highly complex manufacturing process for our product candidates could have an adverse effect on our business, financial position or prospects.

Our CAR T-cell immunotherapy products undergo a complex, highly-regulated manufacturing process. The process is subject to strict controls and procedures to ensure no more than very minimal batch-to-batch variability. As a result, our manufacturing process is subject to multiple risks, and the cost to manufacture our products is generally higher than traditional small molecule chemical compounds. The complexity of our manufacturing process makes it susceptible to product loss or failure due to issues associated with the collection of T-cells from healthy donors, manufacturing or supply of raw material or starting material, shipping such material to the manufacturing site, ensuring standardized production batch-to-batch in the context of mass production, freezing the manufactured product, shipping the final product globally, and infusing patients with the product.

Manufacturers of cell therapy products often encounter difficulties in production, particularly in scaling out and validating initial production and ensuring the absence of contamination. These problems include difficulties with production costs and yields, quality control, including stability of the product, inconsistency in cell growth, quality assurance testing, improper installation or operation of equipment, operator error, shortages of qualified personnel, shortage of raw material or starting material and other procurement issues, as well as compliance with strictly enforced federal, state and foreign regulations.

Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects, and other supply disruptions. If microbial, viral, or other contaminations are discovered in our supply of product candidates or in the manufacturing facilities in which our product candidates are made, such supply may have to be discarded and the manufacturing may be stopped or such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.

We operate two in-house manufacturing facilities—a facility in Paris, France, which is dedicated to the manufacturing of certain raw and starting material for our investigational products, and a facility in Raleigh, North Carolina, which is dedicated to the production of our investigational products. Both facilities are fully operational and in December 2022, the first patient was dosed with our in-house manufactured product candidate UCART22. Despite our manufacturing success to date, we have very limited experience in operating a manufacturing infrastructure for clinical or commercial pharmaceutical products, and we may never be successful in effectively exploiting such in-house manufacturing capabilities at the scale required for advanced clinical trials or commercialization. We may face additional challenges, including, among others, cost overruns, process scale-up and/or scale-out, process reproducibility, stability issues, lot consistency, timely availability of reagents or raw materials, equipment failures, labor shortages, natural disasters and power failures. Further, the application of new regulatory guidelines or parameters, such as those related to release testing, may also adversely affect our ability to effectively and efficiently manufacture our product candidates. Any of these factors could prevent us from realizing the intended benefits of our internalized manufacturing capabilities and have a material adverse effect on our business. We may ultimately be unable to reduce the cost of goods for the product candidates to levels that will allow for an attractive return on investment if and when those product candidates are commercialized. In addition, we may never obtain the regulatory approvals to manufacture our commercial products in our in-house manufacturing facilities.

Any changes to manufacturing processes may result in additional regulatory approvals.

The manufacturing process for any products that we may develop is subject to FDA and foreign regulatory authority approval for the jurisdictions in which we or our licensees or partners will seek marketing approval for commercialization as well as ongoing compliance requirements. If the manufacturing process is changed during the course of product development or subsequent to a product’s commercialization, FDA or foreign regulatory authorities could require us to repeat some or all previously conducted trials or conduct additional bridging trials, which could delay or impede our ability to obtain marketing approval. If we or any CMOs on which we rely are unable to reliably produce product candidates or products to specifications acceptable to the FDA or other regulatory authorities, we may not obtain or maintain the approvals we need to further develop, conduct clinical trials for, and commercialize such products in the relevant territories.

Negative publicity and increased regulatory scrutiny of genetic research and therapies involving gene editing may damage public perception of our product candidates or adversely affect our ability to conduct our business or obtain regulatory approvals for our product candidates.

Our gene-editing technologies are relatively novel. Public perception may be influenced by claims that gene editing is unsafe, and products incorporating gene editing may not gain the acceptance of the public or the medical community. In particular, our success will depend upon physicians specializing in our targeted diseases prescribing our product candidates as treatments in lieu of, or in addition to, existing, more familiar, treatments, including those for which greater clinical data may be available. Any increase in negative perceptions of gene editing may result in fewer physicians prescribing our treatments or may reduce the willingness of patients to utilize our treatments or participate in clinical trials for our product candidates. Increased negative public opinion or more restrictive government regulations in response thereto, would have a negative effect on our business or financial condition and may delay or impair the development and commercialization of our product candidates or demand for such product candidates.

For example, there have been adverse events (including, in some instances, patient deaths) in CAR-T trials conducted in the United States by our competitors as well as in our AMELI-01 clinical study and now discontinued MELANI-01 clinical study, which have led to clinical trial holds or protocol-based pauses in patient recruitment. In addition, on October 7, 2021, the FDA placed a clinical hold on all of our licensee Allogene Therapeutics' clinical trials following a chromosomal abnormality detected in ALLO-501A, which hold was removed by the FDA in January 2022. Adverse events in clinical studies for the product candidates we develop or those of our competitors, even if not ultimately attributable to the respective product candidates and any resulting publicity could result in increased governmental regulation, unfavorable public perception, potential regulatory delays, stronger labeling for approved product candidates and a decrease in demand for any such product candidates.

Monitoring and managing toxicities in patients receiving our product candidates is challenging, which could adversely affect our ability to obtain regulatory approval and commercialize.

For our clinical trials of our product candidates, we contract or will contract with academic medical centers and hospitals experienced in the assessment and management of toxicities arising during clinical trials. Nonetheless, these centers and hospitals may have difficulty observing patients and treating toxicities, which may be more challenging due to personnel changes, inexperience, shift changes, house staff coverage or related issues. This could lead to more severe or prolonged toxicities or even patient deaths, which could result in us or the FDA or equivalent foreign regulatory authority delaying, suspending or terminating one or more of our clinical trials, and which could jeopardize regulatory approval. We also expect the centers using our product candidates, if approved, on a commercial basis could have similar difficulty in managing adverse events. Medicines used at centers to help manage adverse side effects of our product candidates may not adequately control the side effects and/or may have a detrimental impact on the efficacy of the treatment. Use of these medicines may increase with new physicians and centers administering our product candidates.

Difficulty enrolling patients could delay or prevent clinical studies of product candidates.

Identifying and qualifying patients to participate in clinical studies is critical to the success of the relevant product candidate. The timing of clinical studies depends, in part, on the speed of recruitment of patients to participate in testing such product candidates as well as completion of required follow-up periods. We or those evaluating product candidates pursuant to licenses from us may not be able to identify, recruit and enroll a sufficient number of patients or patients with required or desired characteristics to achieve the objectives of the study. If patients are unable or unwilling to participate in such studies, the timeline for recruiting patients, conducting studies and obtaining regulatory approval of potential products may be delayed. These delays could result in increased costs, delays in advancing our product candidates, delays in testing the effectiveness of our technology, failure to meet study endpoints or objectives or termination of the clinical studies altogether.

In addition, competition among clinical trials in the same therapeutic areas may reduce the number and types of patients available to participate in our or our licensees' or partners' clinical trials. Because the number of qualified clinical investigators is limited, we expect to conduct some clinical trials at the same sites as our competitors, which may reduce the number of patients available for our clinical trials at such sites. Certain of our competitors may have greater success than us in enrolling patients as a result of a variety of factors. Moreover, because of the novel nature of our product candidates, potential patients and their doctors may be less likely to enroll in our clinical trials relative to clinical trials for more conventional therapies.

Patient enrollment is affected by a variety of factors, including:

- severity of the disease under investigation;
- incidence and prevalence of the disease under investigation;
- design of the clinical trial protocol;
- size and nature of the patient population;
- eligibility criteria for the trial in question;
- perceived risks and benefits of the product candidate under trial, including relative to available therapies;
- proximity and availability of clinical trial sites for prospective patients;
- availability of competing therapies and clinical trials;
- patient referral practices of physicians;
- our ability to monitor patients adequately during and after treatment, and
- ability of the clinical sites to have sufficient resources and avoid any backlogs.

If we or our licensees' or partners are unable to enroll a sufficient number of patients to conduct clinical studies as planned, it may be necessary to delay, limit or terminate such clinical studies, which could have a material adverse effect on our business and financial condition. Even if we are able to enroll a sufficient number of patients in our clinical trials, delays in patient enrollment may result in increased costs or may affect the timing or outcome of the planned clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of the product candidates we develop.

As certain of our clinical trials require conditioning patients with chemotherapy, including agents such as fludarabine, cyclophosphamide and alemtuzumab, our ability to enroll may also be impacted by the shortage of such agents. For example, the FDA has reported a shortage of fludarabine and any failure or delays by us or by our clinical trial sites to obtain sufficient quantities of fludarabine may delay our ability to enroll and treat patients in our clinical trials.

Our product candidates may cause undesirable side effects that have halted and could in the future halt their clinical development, delay or prevent their regulatory approval, limit their commercial potential, or result in other significant negative consequences.

Undesirable or unacceptable side effects caused by our product candidates have and could in the future cause us or regulatory authorities to interrupt, delay, suspend or halt clinical trials. Such side effects could also result in the delay or denial of regulatory approval by the FDA or other comparable foreign regulatory authorities, or could lead to a more restrictive label for our product candidates.

Results of our clinical trials could reveal a high and unacceptable incidence and severity of side effects or unexpected characteristics. Approved autologous CAR T therapies and those under development have shown frequent rates of CRS, neurotoxicity, serious infections, and prolonged cytopenia, and adverse events have resulted in the death of patients.

We have seen similar adverse events for allogeneic CAR T product candidates. In the currently ongoing UCART product candidate clinical studies, the most common severe or life-threatening adverse events include CRS, cytopenia and infections. As reported, there have been patient deaths in the AMELI-01 Study and the now discontinued MELANI-01 Study as well as in clinical trials conducted by our licensees or partners, including deaths attributable to UCART immuno-therapy. In the future, additional patients may experience severe adverse events related to UCART product candidates, some of which may result in death. In addition, our allogeneic CAR T cell product candidates undergo gene engineering by using lentivirus and TALEN nucleases that can cause insertion, deletion, or chromosomal translocation. These changes can cause allogeneic CAR T cells to cause additional adverse events.

The allogeneic nature of our CAR T cell product candidates may also cause unique adverse events related to the differences between the donor material used to manufacture the product candidates and patients, such as GvHD. GvHD results when allogeneic CAR T cells start recognizing the patient's normal tissue as foreign. We use our TALEN gene-editing technology to inactivate a gene coding for TCRα, a key component of the natural antigen receptor of T cells, to cause the engineered T cells to be incapable of recognizing foreign antigens. Accordingly, when injected into a patient, the intent is for the engineered T cell not to recognize the tissue of the patient as foreign and thus avoid attacking the patient's tissue. However, our CAR T cell product candidates may not have the benefits that we anticipate and may not be successful in limiting the risk of GvHD.

In addition, in certain of our clinical trials, we utilize a lymphodepletion regimen, which generally includes fludarabine, cyclophosphamide and alemtuzumab, that may cause serious adverse events. For instance, because the regimen will cause a transient and sometimes prolonged immune suppression, patients will have an increased risk of infection, such as to COVID-19, that may be unable to be cleared by the patient and ultimately lead to other serious adverse events or death. Our lymphodepletion regimen has caused and may also cause prolonged cytopenia. We are also exploring various dosing strategies for lymphodepletion in our clinical trials, which may increase the risk of serious adverse events.

As more patients are included in our and our licensee's clinical trials, previously less common, side effects and adverse events may also emerge. Additional UCART product candidates that enter clinical development may also cause similar or more severe toxicities, particularly if such product candidates require higher dose levels or are administered to higher risk patient populations.

Any undesirable side effects could cause us, our licensees or partners or regulatory authorities to interrupt, delay, halt or terminate clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other regulatory authorities. Treatment-related side effects could also adversely affect patient recruitment or the ability of enrolled subjects to complete the trial or result in potential product liability claims. In addition, certain side effects of UCART product candidates are not normally encountered in the general patient population or by medical personnel familiar with more conventional therapies. Although we provide training to medical personnel involved in clinical trials for our product candidates, failure of medical personnel to recognize or manage potential side effects of our product candidates could exacerbate adverse outcomes and potentially result in patient deaths.

Any of these occurrences could prevent our product candidates from achieving or maintaining market acceptance and could increase the cost of development and commercialization, and may harm our business, financial condition and prospects significantly.

The incorporation of an anti-CD52 monoclonal antibody as part of our lymphodepletion regimen prior to administration of UCART product candidates may increase the risk of adverse side effects.

In certain of our clinical trials, we utilize an anti-CD52 monoclonal antibody as part of a lymphodepletion regimen to be infused prior to infusing patients with our product candidates. We believe that using an anti-CD52 antibody in a lymphodepletion regimen may delay rejection of our allogeneic T cells by the patient's immune system, and therefore improve the window of persistence during which such engineered allogeneic T cells can expand and actively target and destroy cancer cells. However, the anti-CD52 antibody may not have the benefits that we anticipate and could result in adverse effects or confounding other adverse effects. For instance, our lymphodepletion regimen, including the use of an anti-CD52 antibody, will cause a transient and sometimes prolonged immune suppression, which is associated with an increased risk of infection, such as COVID-19, that may be unable to be cleared by the patient and ultimately lead to other serious adverse events or death.

We currently use alemtuzumab, a monoclonal antibody that binds CD52, as the anti-CD52 antibody for our lymphodepletion regimen. Alemtuzumab is known to have risk of causing certain adverse events. On November 14, 2019, the EMA completed a pharmacovigilance review of alemtuzumab in the context of the treatment of multiple sclerosis (Lemtrada®) following reports of immune-related disorders and cardiovascular disorders, including fatal cases. Among other things, the EMA recommended that alemtuzumab not be used in patients with certain heart, circulation or bleeding disorders or in patients who have autoimmune disorders other than multiple sclerosis. The EMA also recommended that alemtuzumab only be given in a hospital with ready access to intensive care facilities and specialists who can manage serious adverse reactions. In each of June 2021 and June 2022, the European Commission decided to update the product information of Lemtrada® to add additional adverse reaction warnings. Because of the risk of autoimmunity, infusion reactions, and malignancies, Lemtrada®is available in the United States only through restricted distribution under an FDA-approved and mandated Risk Evaluation and Mitigation Strategy (REMS) Program.

On May 11, 2021, we entered into each of a partnership agreement and a supply agreement with Genzyme Corporation, or Genzyme, regarding alemtuzumab to be used as part of the lymphodepleting regimen in certain Cellectis-sponsored UCART clinical trials. As part of the agreement, Genzyme supplies alemtuzumab to support Cellectis' clinical studies, and the parties agreed to enter into discussions to execute an additional agreement for the commercial supply of alemtuzumab by Genzyme to Cellectis under pre-agreed financial conditions. Following this agreement, we are implementing the use of alementuzumab as a Cellectis investigational medicinal product, coded as CLLS52, in the clinical protocols AMELI-01, BALLI-01, and NaThaLi-01 in the United States and in the relevant European Union member states. These clinical studies are currently conducted at specialized centers that are experienced at managing patients with advanced malignancies as well as toxicities associated with immunomodulatory therapies. We will monitor the safety profile of CLLS52 and ensure our pharmacovigilance reporting responsibilities as sponsor. If the EMA, FDA or other regulatory agencies further limit the use of alemtuzumab or anti-CD52 antibodies, or if the FDA, EMA or other relevant regulatory agencies issues additional requirements for the use of CLLS52, our clinical programs could be adversely affected.

If we are unable to successfully secure an adequate source of CLLS52 in the timeframe we anticipate, or if regulatory authorities do not approve the use of CLLS52 in combination with our UCART product candidates, we could face delays in our product development efforts and/or the commercialization of our product candidates.

If the product candidates we develop do not achieve projected development and commercialization in the announced or expected timeframes, the further development or commercialization of our product candidates may be delayed, and our business may be harmed.

We sometimes estimate, or may in the future estimate, for planning purposes, the timing of the accomplishment of various scientific, clinical, manufacturing, regulatory and other product development objectives. These milestones may include our expectations regarding the commencement or completion of scientific studies, clinical trials, the submission of regulatory filings, the receipt of marketing approval or commercialization objectives. The achievement of many of these milestones may be outside of our control. All of these milestones are based on a variety of assumptions, including assumptions regarding capital resources and constraints, progress of development activities, and the receipt of key regulatory approvals or actions, any of which may cause the timing of achievement of the milestones to vary considerably from our estimates.

If we or our licensees or partners fail to achieve announced milestones in the expected timeframes, the commercialization of the product candidates may be delayed, our credibility may be undermined, and our business and results of operations may be harmed.

Even if we or our licensees or partners successfully complete clinical trials of product candidates, those candidates may not be commercialized successfully for other reasons.

Even if we or our licensees or partners successfully complete clinical trials for one or more product candidates, those candidates may not be commercialized for other reasons, including:

- failing to receive regulatory approvals required to market them as drugs;
- being subject to proprietary rights held by others;
- failing to comply with GMP requirements;
- being difficult or expensive to manufacture on a commercial scale;
- having adverse side effects that make their use less desirable;
- being inferior to existing approved drugs or therapies;
- failing to compete effectively with existing or new products or treatments commercialized by competitors; or
- failing to show long-term benefits sufficient to offset associated risks.

In addition, for any product candidates developed by a licensee pursuant to a licensing agreement, we will depend entirely upon such licensee for marketing and sales of that product. These partners may not devote sufficient time or resources to the marketing and commercialization, or may determine not to pursue marketing and commercialization at all, which could prevent the affected products from reaching milestones or sales that would trigger payments to Cellectis.

Even if any of our product candidates are commercialized, they may not be accepted by physicians, patients, or others in the medical community.

The use of engineered T-cells as a cancer treatment is a recent development and may not become broadly accepted by physicians, patients, hospitals, cancer treatment centers or others in the medical community. Even if any of our product candidates receive marketing approval, the medical community may not accept such products as adequately safe and efficacious for their indicated use. We expect physicians in the large bone marrow transplant centers to be particularly important to the medical community’s acceptance of our products, and we may not be able to educate them on the benefits of using our product candidates for many reasons. Moreover, physicians may choose to restrict the use of the product, if, based on experience, clinical data, side-effect profiles and other factors, they are not convinced that the product is preferable to alternative drugs or treatments.

Additional factors that may influence whether our product candidates are accepted in the market, include:

- the clinical indications for which product candidates are approved;
- the potential and perceived advantages and risks of our product candidates relative to alternative treatments;
- the prevalence and severity of side effects;
- the demonstration of the clinical efficacy and safety of the product;
- the approved labeling for the product and any required limitations or warnings;
- the timing of market introduction of the product candidate as well as of competing products;
- the effectiveness of educational outreach to the medical community about the product;
- the coverage and reimbursement policies of government and commercial third-party payors pertaining to the product; and
- the market price of the product relative to competing treatments.

We cannot predict the degree of market acceptance of any product candidate that receives marketing approval. If our product candidates are approved but fail to achieve market acceptance in the medical community, we will not be able to generate significant revenue. Even if our products achieve market acceptance, we may not be able to maintain that market acceptance over time if new products or technologies are introduced that are more favorably received than our products, are more cost effective or render our products obsolete.

Coverage and reimbursement may be limited or unavailable in certain market segments for our product candidates, which could make it difficult for us to sell our product candidates profitably.

Successful sales of our product candidates, if approved, depend, in part, on the availability of adequate coverage and reimbursement from third-party payors including governmental healthcare programs, such as Medicare and Medicaid, managed care organizations and commercial payors, among others. Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we obtain regulatory approval. In addition, because our product candidates represent new approaches to the treatment of cancer, we cannot accurately estimate the potential revenue from our product candidates.

Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Adequate coverage and reimbursement from third-party payors are critical to new product acceptance. The marketability of any product candidates for which we receive regulatory approval for commercial sale may suffer if government and other third-party payors fail to provide coverage and adequate reimbursement. Coverage and reimbursement may depend upon a number of factors, including determinations as to whether a product is:

- a covered benefit under applicable policies or plans;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

Coverage and reimbursement policies vary, and obtaining coverage and reimbursement approval of a product from a government or other third- party payor is a time-consuming and costly process that could require us or our licensees or partners to furnish on a payor-by-payor basis supporting scientific, clinical and cost-effectiveness data for the use of our products, with no assurance that coverage or adequate reimbursement will be obtained. Even if coverage for a product is obtained, reimbursement rates may be inadequate to achieve profitability or may require co-payments that patients find unacceptably high.

If coverage is unavailable or reimbursement rates are inadequate, patients may not use our products. Because our product candidates represent a new approach to treatment, they may have a higher cost than conventional therapies and may require long-term follow-up evaluations, which may increase the risk that coverage and/or reimbursement rates may be inadequate for us to achieve profitability.

Our future profitability, if any, depends, in part, on our ability to penetrate global markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Our future profitability, if any, will depend, in part, on our ability and the ability of our licensees or partners to commercialize the product candidates we develop in markets throughout the world. Commercialization of our product candidates in various markets could subject us to additional risks and uncertainties related to operating in foreign countries, including:

- obtaining, on a country-by-country basis, the applicable marketing authorization from the competent regulatory authority;
- the burden of complying with complex and changing regulatory, tax, accounting and legal requirements in each jurisdiction that we pursue;
- differing medical practices and customs affecting acceptance in the marketplace;
- import or export licensing requirements;
- increased difficulties in managing the logistics and transportation of storing and shipping product candidates;
- country specific requirements related to the cells used as starting material for manufacturing;
- language barriers for technical training, healthcare professionals and patients documents;
- reduced protection of intellectual property rights in some foreign countries;
- foreign currency exchange rate fluctuations;
- potential imposition of governmental controls;
- economic weakness, including inflation, or political instability in foreign economies and markets;
- difficulties staffing and managing foreign operations and workforces; and
- business interruptions resulting from natural or man-made disasters, including earthquakes, tsunamis, fires, epidemics or pandemics, or geo-political actions, including war and terrorism.

Risks Related to Our Reliance on Third Parties

Third parties on whom we rely to conduct some aspects of our development programs may not perform satisfactorily.

We do not, and do not expect in the future to, independently conduct all aspects of our development programs. We rely, and will continue to rely, on third parties for certain aspects of manufacturing, quality control, protocol development, material supply, research and pre-clinical development, translational activities, and clinical testing, clinical trial conduct and distribution activities. With respect to the clinical trials that we sponsor, we rely on clinical research organizations, or CROs, medical institutions and clinical investigators to conduct our clinical studies. Such reliance on third parties reduces our control over these activities, but does not relieve us of our responsibility to ensure compliance with all required regulations and study and trial protocols.

If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct their activities in accordance with regulatory requirements and our stated study and trial plans and protocols, or if there are disagreements between us and these third parties, we may not be able to complete, or may be delayed in completing, the pre-clinical studies and clinical trials required to support future regulatory submissions and approval of the product candidates we develop.

Reliance on such third-parties entails additional risks to which we would not be subject if we conducted the above-mentioned activities ourselves, including:

- that we may be unable to negotiate agreements with third parties under reasonable terms or that termination or non-renewal of an agreement occurs in a manner or time that is costly or damaging to us;
- that such third-parties may have limited experience with our or comparable products and may require significant support from us in order to implement and maintain the infrastructure and processes required to manufacture, test or distribute our product candidates;
- that such third parties may not perform as agreed or in compliance with applicable laws and requirements, or may not devote sufficient resources to our products;
- that we may not have sufficient rights or access to the intellectual property or know how relating to improvements or developments made by our third-party service providers in the course of their providing services to us;
- that regulators object to or disallow the performance of specific tasks by certain third parties or disallow data provided by such third parties;
- that such third parties may experience business disruptions, such as bankruptcy or acquisition, or failures or deficiencies in their supply chains, that disrupt their ability to perform their obligations to us.

Under certain circumstances, third party service providers may be entitled to terminate their engagements with us. In such circumstances, product development activities could be delayed while we seek to identify, validate, and negotiate an agreement with a replacement service provider. In some such cases an appropriate replacement may not be readily available or available on acceptable terms, which could cause additional delays to our development process.

Any of these events could lead to manufacturing, supply and/or clinical study delays or failure to obtain regulatory approval, or impact our ability to successfully commercialize future products, which could, in each case, have a material adverse effect on our business, financial condition, results of operations and prospects.

Although we manufacture and store our clinical product supplies internally, we may have to rely on third parties for commercial production and processing of our product candidates, if approved.

Although our two in-house manufacturing facilities in Paris, France, and Raleigh, North Carolina, are both operational for manufacturing of clinical supplies, we may not be able to effectively scale our manufacturing to meet our anticipated commercial needs, in the event that any of our product candidates are approved. We continue to rely on third parties to manage other aspects, including some testing, as well as distribution and release logistics. We do not have long-term agreements in place with such third parties for these testing, distribution and logistics activities. Accordingly, there can be no assurance that we will not experience supply or manufacturing disruptions in the future and any such issues may limit our ability to recruit new patients for our clinical trials.

We have not yet caused our product candidates to be manufactured or processed on a commercial scale and may not be able to achieve manufacturing and processing and may be unable to create an inventory of mass-produced, off-the-shelf product to satisfy commercial demands for any of our product candidates. Our self-manufactured clinical supply is also limited to small quantities and any latent defects discovered in our supply could significantly delay our development timelines. We do not have agreements in place with CMOs to support commercial production of our cell therapies in the event that our internal manufacturing capabilities are insufficient.

In addition, although we have an agreement with Genzyme for the supply of alemtuzumab to be used in our sponsored UCART clinical trials, we have not executed an agreement for the commercial supply of alemtuzumab and Genzyme has the right to terminate the agreement under certain conditions. If we are unable to contract with CMOs on acceptable terms or at all, this could result in delays in our product development efforts and/or the commercialization of our product candidates.

To the extent we rely on CMOs in the future, they will be subject to the same risks we face in our own manufacturing operations, as described above. See “Any issues that arise in the highly complex manufacturing process for our product candidates could have an adverse effect on our business, financial position or prospects.”

We also rely on third parties to store our released product candidates, and any failure to adequately store our product candidates could result in significant delay to our development timelines. Any additional or future damage or loss of raw materials or product candidates could materially impact our ability to manufacture and supply our product candidates. Each of these risks could delay our clinical trials, the approval, if any of our product candidates by the FDA or the commercialization of our product candidates or result in higher costs or deprive us of potential product revenue.

Third parties on whom we rely may not perform satisfactorily.

We and our licensees or partners rely on medical institutions, clinical investigators, CROs and contract laboratories to carry out, or otherwise assist with, clinical trials or to perform data collection and analysis and on CMOs for the manufacturing of certain product candidates and starting materials. While we and our licensees or partners have agreements governing these services, we and our licensees or partners have limited control over such third parties’ actual performance. Nevertheless, we or our licensees or partners, as applicable, are responsible for ensuring that such clinical trial is conducted in accordance with the applicable protocol, legal, regulatory, ethical and scientific standards. Reliance on a third party does not relieve the sponsor of a clinical trial of any regulatory responsibilities, including compliance with the FDA’s and other regulatory authorities’ good clinical practices, or GCP, good manufacturing practices, or GMP, good laboratory practices, or GLP, and other applicable requirements for conducting, recording and reporting the results of clinical trials to assure that the data and reported results are credible and accurate and that the rights, integrity and confidentiality of clinical trial participants are protected.

If we, our licensees or partners, our respective CROs, or our respective investigators or trial sites, or our respective CMOs fail to comply with applicable GCP, GLP, GMP or other applicable regulatory requirements, the clinical data generated in the applicable clinical trial may be deemed unreliable or otherwise not usable and the regulatory authorities and they may require the performance of additional clinical trials before issuing any marketing authorizations for the relevant product candidates.

Third party performance failures may increase our costs, delay our ability to obtain regulatory approval, and delay or prevent starting or completion of clinical trials and delay or prevent commercialization of our product candidates. While we believe that there are numerous alternative sources to provide these services, in the event that we seek such alternative sources, we may not be able to enter into replacement arrangements without incurring delays or additional costs.

We are party to licensing or collaboration relationships, which may not advance or be successful.

We have entered into licensing or collaboration agreements with partners, such as Allogene, Servier and AstraZeneca under which our partners have or have the right to obtain exclusive development and commercialization rights with respect to certain product candidates. We may in the future enter into additional similar relationships. All of the risks relating to product development, regulatory approval and commercialization described in this Annual Report apply to the activities of our licensees or partners.

Our reliance on certain licensing or collaboration arrangements may pose a number of risks, including the following:

- we and our collaboration partners, including AstraZeneca may fail to satisfactorily perform research and development activities pursuant to the applicable collaboration agreement;
- licensees or partners may not perform or prioritize their obligations as expected;
- clinical trials conducted pursuant to licensing agreements may not be successful;
- licensees may not pursue development and commercialization of product candidates that achieve regulatory approval or may elect not to pursue development or commercialization of product candidates based on clinical trial results, changes in the partners' focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;
- licensees may delay clinical trials, provide insufficient funding for clinical trials, stop a clinical trial, or abandon a product candidate;
- licensees or partners could develop, independently or with third parties, products that compete directly or indirectly with our product candidates;
- product candidates developed pursuant to licensing or collaboration agreements may be viewed by our partners as competitive with their independently developed product candidates or products, which may cause them to devote limited resources to the product candidate's development or commercialization;
- a collaborator may not commit sufficient resources to the commercialization, marketing and distribution of any product candidate;
- disagreements with licensees or partners, including over proprietary rights, contract interpretation, or the preferred course of development, may cause delays or termination of the development or commercialization of such product candidates, or may result in time- consuming and expensive legal proceedings;
- licensees or partners may not properly obtain, maintain, protect, defend or enforce intellectual property rights or may improperly use proprietary information;
- disputes may arise with respect to the ownership of intellectual property developed pursuant to our licensing or collaboration agreements;
- licensees or partners may infringe, misappropriate or otherwise violate third-party intellectual property rights, which may expose us to litigation and potential liability;
- licensing agreements may be terminated for convenience by the partner and, if terminated, the development of product candidates may be delayed or stopped;
- the negotiation of licensing or collaboration agreements may require substantial attention from our management team; and
- we could face significant competition in seeking appropriate licensees or partners, and the negotiation process is time-consuming and complex.

We rely on these licensing or collaboration arrangements to help us finance the development and commercialization of our own biopharmaceutical products. Our success depends, in part, on our ability to collect milestone and royalty payments from our licensees or partners. To the extent our licensees or partners do not aggressively and effectively pursue product candidates for which we are entitled to such payments, we will not realize these significant revenue streams, which may slow our overall development progress and could have an adverse effect on our business and future prospects.

In addition, our license or collaboration agreements are generally terminable at will upon specified prior notice. If one or more collaborator terminates a license or collaboration agreement, this could have an adverse effect on our revenues. If we do not receive anticipated payments, our development of product candidates could be delayed and we may need additional resources to develop our product candidates.

Servier's discontinuation of its involvement in the development of CD19 Products and related disagreements may have adverse consequences,

Under the License, Development and Commercialization Agreement dated March 6, 2019, between us and Les Laboratoires Servier SAS and Institut de Recherches Internationales Servier SAS (collectively, "Servier"), as amended on March 4, 2020 (as so amended, the "Servier License Agreement"), Servier currently holds an exclusive worldwide license to develop and commercialize gene-edited allogeneic CAR T-cell products targeting CD19, including UCART19, ALLO-501 and ALLO-501A, in the field of anti-tumor adoptive immunotherapy (collectively, "CD19 Products"). The exclusive rights for the development and commercialization of CD19 Products in the United States have been sublicensed by Servier to Allogene.

On September 15, 2022, Servier sent to us and Allogene a notice of discontinuation of its involvement in the development of the CD19 Products and purported to provide Allogene with the ability to elect to obtain a license to the CD19 Products outside of the United States. We do not believe that the Servier License Agreement permits Servier to grant such a world-wide sub-license to Allogene. We

also believe that Servier has not complied with its performance obligations under the Servier License Agreement, which we believe may involve material breaches of the Servier License Agreement.

While we are envisaging all available options and contractual remedies to address the foregoing matters, we have initiated an arbitration proceeding through the *Centre de Médiation et d'Arbitrage de Paris*. We are requesting that the arbitral tribunal issue a decision (i) terminating the Servier License Agreement, and (ii) requiring Servier to pay us fair financial compensation for losses incurred due to the lack of development of the licensed products and for non-payment of milestone payments for milestones that have been achieved under the Servier License Agreement. Although a favorable determination by the arbitral tribunal, if achieved, would return development and commercialization rights for the licensed products to us, and potentially provide monetary compensation to us for incurred losses, such determination could also increase our costs and expenses and would terminate Servier's financial obligations to us under the Servier License Agreement. If the arbitral tribunal does not rule in our favor or grants counterclaims made by Servier, this could have negative financial impact on our business.

Unless an amicable resolution is reached with Servier, we may incur additional costs and expenses relating to any dispute with Servier. In addition, the development and commercialization of the CD19 Products may be delayed, and our relationship with Servier and its sublicensee, Allogene, may be further strained. Any failure to successfully resolve these issues could have a significant adverse impact on our business, financial condition and prospects.

We rely on T cells from healthy donors to manufacture our product candidates, and if we do not obtain an adequate supply of T cells from qualified donors, development of those product candidates may be adversely impacted.

Unlike autologous CAR T companies, we are reliant on receiving healthy donor material to manufacture our product candidates. Healthy donor T cells vary in type and quality, and this variation makes producing standardized product candidates more difficult and makes the development and commercialization pathway of those product candidates more uncertain. We have developed a screening process designed to enhance the quality and consistency of T cells used in the manufacture of our CAR T cell product candidates, but our screening process may fail to identify suitable donor material and we may discover unacceptable variability with the material after production. We may also have to update our specifications for new risks that may emerge, such as to screen for new viruses or chromosomal abnormalities.

We have strict specifications for donor material, which include specifications required by regulatory authorities. If we are unable to identify and obtain donor material that satisfy specifications, agree with regulatory authorities on appropriate specifications, or address variability in donor T cells, there may be inconsistencies in the product candidates we produce or we may be unable to initiate or continue clinical trials on the timelines we expect, which could harm our reputation and adversely impact our business and prospects.

In addition, certain vendors faced challenges in obtaining donor material during the COVID-19 pandemic. Future health crises could result in challenges to our vendors’ abilities to secure sufficient donor material to manufacture our product candidates.

Access to raw materials, starting material and products necessary for the conduct of clinical trials and manufacturing of our product candidates is not guaranteed.

We are dependent on third parties for the supply of various of materials, including certain biological materials, that are necessary to produce our product candidates. The supply of these materials could be reduced or interrupted at any time. In such case, we may not be able to find other acceptable suppliers or on acceptable terms. If key suppliers or manufacturers are lost or the supply of the materials is diminished or discontinued, we may not be able to develop, manufacture, and market our product candidates in a timely and competitive manner. In addition, biological materials are subject to stringent manufacturing process and rigorous testing. Certain of our suppliers are small-scale business and may not have the capacity to support commercial products manufactured under cGMP by biopharmaceutical firms.

Some raw materials are currently available from a single supplier, or a small number of suppliers. We cannot be sure that these suppliers will remain in business or that they will not be purchased by one of our competitors or another company that is not interested in continuing to produce these materials for our intended purpose. In addition, the lead time needed to establish a relationship with a new supplier can be lengthy, and we may experience delays in meeting demand in the event we must switch to a new supplier. The time and effort to qualify a new supplier, including to meet any regulatory requirements for such qualification, could result in additional costs, delays, diversion of resources or reduced manufacturing yields, any of which would negatively impact our operating results. Further, we may be unable to enter into agreements with a new supplier on commercially reasonable terms, which could have a material adverse impact on our business. We also face competition for supplies from other cell therapy companies. Such competition may make it difficult for us to secure raw materials or the testing of such materials on commercially reasonable terms or in a timely manner.

Delays in the completion and validation of manufacturing processes for these materials could adversely affect the ability to complete trials and commercialize our product candidates. In addition, our suppliers or manufacturers may, from time to time, change their internal manufacturing or testing processes and procedures. Such changes may require us to perform or have performed studies to demonstrate equivalence of the materials produced or tested under such new procedures. Such equivalence testing may impose significant delays in the development of our product candidates. Furthermore, our suppliers may face quality issues or findings from regulatory authorities’ inspections that could lead to delays or interruption of the supply of our product candidates.

We may enter into agreements with third parties to sell, distribute and/or market any of the products candidates we develop for which we obtain regulatory approval, which may adversely affect our ability to generate revenues.

As a company, we have no experience in sales, marketing and distribution of biopharmaceutical products. If any of our product candidates obtain marketing approval, we intend to develop sales and marketing capabilities, either in-house or with partners. Outsourcing sales, distribution and marketing may subject us to a variety of risks, including:

- our inability to exercise direct control over sales, distribution and marketing activities and personnel;
- potential failure or inability of contracted sales personnel to successfully market our products to physicians; and
- potential disputes with third parties concerning distribution, sales and marketing expenses, calculation of royalties, and sales and marketing strategies.

There can be no assurance that we will be able to establish or maintain such arrangements, or if we are able to do so, that they will have effective sales forces or be on favorable terms. If we are unable to partner with a third party that has adequate sales, marketing, and distribution capabilities, we may have difficulty commercializing our product candidates, which would adversely affect our business, financial condition, and ability to generate product revenues.

Our reliance on third parties and our licensees or partners requires us to share our trade secrets, which increases the possibility that a competitor will discover them or that our trade secrets will be misappropriated or disclosed.

Because we rely on third party service providers for certain activities in our development process, we must, at times, share trade secrets with them. In addition, we are required to share certain trade secrets with our licensees or partners pursuant to the terms of our licensing and collaboration agreements. We also conduct joint research and product development that may require us to share trade secrets under the terms of our research and development partnerships or similar agreements.

We seek to protect our proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, collaborative research agreements, licensing agreements, consulting agreements or other similar agreements with our licensees, partners, subcontractors, advisors, employees and consultants prior to beginning research, services or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, such as trade secrets. Despite these contractual provisions, the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are incorporated into the technology of others, or are disclosed or used in violation of these agreements. Parties with whom we share confidential information may also be acquired by competitors, which may increase the risk that these entities might breach their confidentiality obligations and share our confidential information with the acquirer.

Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor’s discovery of our trade secrets or other unauthorized use or disclosure would impair our competitive position and may have a material adverse effect on our business.

Risks Related to Operational Compliance and Risk Management

We will need to develop and expand our company, and we may encounter difficulties in managing this development and expansion, which could disrupt our operations.

As of December 31, 2023, we had 216 full-time employees. To manage our anticipated continued development and expansion, including the operation of our manufacturing facilities and the commercialization of our product candidates, 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.

Current and future growth imposes significant responsibility on our management team, including:

- identifying, recruiting, integrating, maintaining and motivating additional employees;
- effectively managing our internal development efforts, including the clinical and regulatory review process for our product candidates; and
- improving our operational, financial and management controls, reporting systems and procedures.

Our future financial performance and our ability to commercialize our product candidates, if approved, and compete effectively will depend, in part, on our ability to effectively manage the future development and growth of our company. To achieve this, our management may need to divert a disproportionate amount of its attention away from its day-to-day activities and devote a substantial amount of time to managing these activities.

If our management is unable to effectively manage our expected development and growth, our expenses may increase more than expected, our ability to generate or increase our revenue could be reduced and we may not be able to implement our business strategy.

Product liability lawsuits could divert our resources, result in substantial liabilities and reduce the commercial potential of our product candidates.

The risk that we may be sued on product liability claims is inherent in the development and commercialization of biopharmaceutical products. Side effects of, or manufacturing defects in, products that we develop could result in the deterioration of a patient’s condition, injury or even death. For example, we may be sued if our product candidates cause, or are perceived to cause, injury or are found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Once a product is approved for sale and commercialized, the likelihood of product liability lawsuits increases. Criminal or civil proceedings might be filed against us by patients, regulatory authorities, our licensees, our partners, biopharmaceutical companies and any other third party using or marketing our products. These actions could include claims resulting from acts by our partners, licensees and subcontractors, over which we have little or no control. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates.

In addition, regardless of merit or eventual outcome, product liability claims may result in: decreased demand for our product candidates; impairment of our business reputation; withdrawal of clinical trial participants; initiation of investigations by regulators; costs due to related litigation; distraction of management’s attention from our primary business; substantial monetary awards to trial participants, patients or other claimants; loss of revenue; exhaustion of any available insurance and our capital resources; the inability by us and our licensees and partners to commercialize our product candidates; and a decline in our share price.

We maintain product liability insurance coverage for damages caused by our product candidates, including clinical trial insurance coverage, with coverage limits that we believe are customary for companies in our industry. This coverage may be insufficient to reimburse us for any expenses or losses we may suffer. In addition, in the future, we may not be able to obtain or maintain sufficient insurance coverage at an acceptable cost or to otherwise protect against potential product or other legal or administrative liability claims by us or our partners, licensees or subcontractors, which could prevent or inhibit the commercial production and sale of any of our

product candidates that receive regulatory approval, which could adversely affect our business. Our insurance policies may also have various exclusions, and we may be subject to a product liability claim for which we have no coverage.

We may use hazardous chemicals and biological materials in our business. Any claims relating to improper handling, storage or disposal of these materials could be time consuming and costly.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment, manufacture and disposal of hazardous materials and wastes. Our research and development processes may involve the controlled use of hazardous materials, including chemicals and biological materials. We cannot eliminate the risk of accidental contamination or discharge and any resultant injury from these materials. We may be sued for any injury or contamination that results from our use or the use by third parties of these materials, and our liability may exceed any insurance coverage and our total assets. Federal, state, local or foreign laws and regulations govern to use, manufacture, storage handling and disposal of these hazardous materials and specified waste products, as well as the discharge of pollutants into the environment and human health and safety matters. Compliance with environmental laws and regulations may be expensive and may impair our research and development efforts. If we fail to comply with these requirements, we could incur delays, substantial costs, including civil or criminal fines and penalties, clean-up costs or capital expenditures for control equipment or operational changes necessary to achieve and maintain compliance. In addition, we cannot predict the impact on our business of new or amended environmental laws or regulations or any changes in the way existing and future laws and regulations are interpreted and enforced. These current or future laws and regulations may impair our research, development or production efforts.

Our internal computer systems, or those of our third-party contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product development programs or loss of personal data.

In the ordinary course of our business, we may collect, process, store and transmit proprietary, confidential and sensitive information, including personal data (including health information), intellectual property, trade secrets, and proprietary business information owned or controlled by ourselves or other parties. We may also share or receive sensitive information with our partners, CROs, CMOs, or other third parties. Our ability to monitor these third parties' information security practices is limited, and these third parties may not have adequate information security measures in place.

Despite the implementation of security measures, our internal computer systems and those of our third-party contractors and consultants are vulnerable to damage from computer viruses, cyber-attacks, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Cyberattacks, malicious internet-based activity, and online and offline fraud are prevalent and are increasing in their frequency, sophistication and intensity, and have become increasingly difficult to detect. These threats come from a variety of sources, including traditional computer "hackers," threat actors, personnel (such as through theft or misuse), sophisticated nation-states, and nation-state-supported actors. Some actors now engage and are expected to continue to engage in cyber-attacks, including without limitation nation-state actors for geopolitical reasons and in conjunction with military conflicts and defense activities. During times of war and other major conflicts, we, and the third parties upon which we rely, may be vulnerable to a heightened risk of these attacks, including retaliatory cyber-attacks, that could materially disrupt our systems and operations, supply chain, and ability to produce and distribute our product candidates. Cyberattacks could include, but are not limited to, the deployment of harmful malware (including as a result of advanced persistent threat intrusions), denial-of-service (such as credential stuffing), credential harvesting, social engineering attacks (including through phishing attacks), viruses, ransomware, supply chain attacks, personnel misconduct or error and other similar threats. We may also be the subject of software bugs, server malfunction, software or hardware failures, loss of data or other information technology assets, adware, telecommunications failures or other similar issues. In particular, ransomware attacks are becoming increasingly prevalent and severe and can lead to significant interruptions, delays, or outages in our operations, disruptions to our clinical trials, loss of data (including data related to clinical trials), significant expense to restore data or systems, reputational loss and the 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. Similarly, supply chain attacks have increased in frequency and severity, and we cannot guarantee that third parties and infrastructure in our supply chain have not been compromised or that they do not contain exploitable defects or bugs that could result in a breach to our information technology systems or the third-party information technology systems that support us and our services. Future or past business transactions (such as acquisitions or integrations) could expose us to additional cybersecurity risks and vulnerabilities, as our systems could be negatively affected by vulnerabilities present in acquired or integrated entities' systems and technologies.

Although we have implemented security measures designed to protect against security incidents, there can be no assurance that these measures will be effective. We have experienced attempts to compromise our information technology systems or otherwise cause a security incident. While we do not believe that we have experienced any significant system failure, accident, or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in unauthorized, unlawful, or accidental acquisition, modification, destruction, loss, alteration, encryption, disclosure of, or access to our sensitive information. A security incident or other interruption could disrupt our ability (and that of third parties upon whom we rely) to manufacture or deliver our product candidates. For example, the loss of clinical trial data for our product candidates could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of or damage to our data or applications or other data or applications relating to our technology or product candidates, or inappropriate disclosure of confidential or proprietary information, we could incur liabilities and the further development of our product candidates could be delayed.

We may be unable to detect vulnerabilities in our information technology systems because such threats and techniques change frequently, are often sophisticated in nature, and may not be detected until after a security incident has occurred. Despite our efforts to identify and remediate exploitable critical vulnerabilities, if any, in our information technology systems, our efforts may not be successful. Further, we may experience delays in developing and deploying remedial measures designed to address any such identified vulnerabilities. Any failure to prevent or mitigate security incidents or improper access to, use of, or disclosure of our clinical data or patients' personal data could result in significant liability under state, federal, and international law and may cause a material adverse impact to our reputation, affect our ability to conduct our clinical trials and potentially disrupt our business.

Data privacy regulations could adversely affect our business, results of operations and financial condition.

We are subject to data privacy and protection laws and regulations that impose requirements relating to the collection, transmission, storage and use of personally-identifying information, including comprehensive regulatory systems in the U.S. and EU.

The legislative and regulatory landscape for privacy and data protection continues to evolve in jurisdictions worldwide, and there has been an increasing focus on privacy and data protection issues with the potential to affect our business. Failure to comply with any of these laws and regulations could result in enforcement action against us, including fines, imprisonment of company officials and public censure, claims for damages by affected individuals, damage to our reputation and loss of goodwill, any of which could have a material adverse effect on our business, financial condition, results of operations or prospects.

There are numerous U.S. federal and state laws and regulations related to the privacy and security of personal information, including regulations promulgated pursuant to HIPAA that establish privacy and security standards for the use and disclosure of individually identifiable health information and require the implementation of administrative, physical and technological safeguards to protect the privacy of such protected health information. Determining whether protected health information has been handled in compliance with applicable privacy standards and our contractual obligations can be complex and may be subject to changing interpretation. We cannot be sure how these regulations will be interpreted, enforced or applied to our operations. If we fail to comply with applicable privacy laws, including applicable HIPAA privacy and security standards, we could face civil and criminal penalties.

In the EU, we are subject to the European Regulation (EU) No. 2016/679, known as the General Data Protection Regulation (GDPR), as well as EU Member State legislations complementing the GDPR. GDPR and EU Member State legislation apply to the collection and processing of personal data, including health-related information, of individuals in the EU by companies established in the EU and, in certain circumstances established outside of the EU. These laws impose strict obligations on the ability to process personal data, including health-related information, in particular in relation to their collection, use, disclosure and transfer. These include several requirements relating to (i) obtaining, in some situations, the informed consent of the individuals to whom the personal data relates, (ii) the Information provided to the individuals about how their personal information is used, (iii) ensuring the security and confidentiality of the personal data, (iv) the obligation to notify personal data breaches to regulatory authorities and, as applicable, to communicate such breaches to affected individuals, (v) extensive internal privacy governance obligations, and (vi) obligations to honor rights of individuals in relation to their personal data (for example, the right to access, correct and delete their data). The GDPR also imposes restrictions on the transfer of personal data from countries in the European Economic Area (EEA) to most countries in the world, including the U.S., unless the parties to the transfer have implemented specific safeguards to protect the transferred personal information. One of the primary safeguards allowing U.S. companies to import personal information from the EEA has been the European Commission's Standard Contractual Clauses (SCCs). In addition, pursuant to an EU Commission decision dated July 10, 2023, data recipients located in the United States that have self-certified as complying with the principles of the Data Privacy Framework are deemed to provide a level of personal data protection equivalent to that of the European Union and transfers of personal data from the EU to such U.S.-based organizations can now take place, without additional framework. At present, there are few, if any, viable alternatives to the SCCs, on which we have relied for personal information transfers from Europe to the United States organizations that have not taken steps to comply with the new "Data Privacy Framework" (the list of the compliant organizations is managed and published by the U.S. Department of Commerce) and other countries outside of the EEA. In relation to SCCs, new sets of SCCs were published on June 4, 2021 and, since December 27, 2022, such new sets must be used for all transfers relying on SCCs. Most importantly, the use of SCCs no longer automatically ensures compliance with the GDPR. Instead, companies remain required to conduct a data transfer impact assessment for each transfer, which adds a compliance burden. The GDPR has thus increased our responsibility and liability in relation to personal data that we process, and we may be required to put in place additional potential mechanisms to ensure compliance with the new EU data protection rules. Also, some uncertainty remains around the legal and regulatory environment for these evolving privacy and data protection laws and regulations. Potential pecuniary fines for noncompliant companies may be up to €20 million or 4% of annual global revenue, whichever is higher.

We may become the subject of investigations and/or claims in respect of privacy matters and unfavorable outcomes in any of such matters could preclude the commercialization of products, harm our reputation, negatively affect the profitability of our products and subject us to substantial fines. In addition, our ongoing efforts to comply with evolving laws and regulations in the US, EU and elsewhere may be costly and require ongoing modifications to our policies, procedures and systems.

Provisions in our collaboration agreement with Servier may prevent or delay a change in control.

The Servier License Agreement provides that if a third party, meeting certain criteria, acquires control of us, directly or indirectly, by any means, or in the event that we sell or otherwise convey to a third party all or substantially all of our assets (or all or substantially all of our assets that are material to the performance of our obligations under the Servier License Agreement), and such third party successor conducts research, development, manufacturing or commercialization activities on the primary CD19 target or any other CAR-T products within the indications developed by Servier, then Servier has the right to acquire for one lump sum payment an exclusive fully paid-up worldwide license under our intellectual property, subject to certain exceptions including TAL technologies, to develop, manufacture and commercialize UCART19 products for use in anti-tumor immuno-therapy (the "Servier buy out"). If we and Servier fail to agree on the amount of payment for the Servier buy out within ten days following Servier's provision of a buy-out notice, then the amount of the buy-out payment would be determined based a valuation process involving third-party valuators selected by us and Servier, respectively.

The Servier buy-out mechanism may have the effect of delaying or preventing a change in control transaction involving us, or may reduce the number of companies interested in acquiring us. If Servier were to exercise the Servier buy-out upon a change of control, our successor would not receive milestone payments or royalty payments on net sales of any of the UCART19 products acquired by Servier in the Servier buy-out.

We identified a material weakness in our internal control over financial reporting as of December 31, 2023. The failure to establish and maintain effective internal control over financial reporting could adversely affect our ability to produce timely and accurate financial statements and could harm investor confidence in our Company and the trading price of ordinary shares and ADSs.

As a U.S. public company, the Sarbanes-Oxley Act requires, among other things, that we assess the effectiveness of our disclosure controls and procedures and the effectiveness of our internal control over financial reporting at the end of each fiscal year.

In connection with the preparation of our audited financial statements for the year ended December 31, 2023, we identified a material weakness in our internal controls over financial reporting related to a lack of formality of accounting processes and controls

over significant non-routine transactions and a design and operating deficiency associated with a lack of sufficient qualified resources with sufficient technical knowledge to identify and timely resolve complex accounting matters. This material weakness arose primarily as a result of material errors in the accounting treatment for the Astrazeneca arrangements and the deconsolidation of Calyxt at the closing date of the merger between Calyxt and Cibus Global, LLC. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be prevented or detected on a timely basis.

In response to the material weakness discussed above, our management is implementing a remediation plan, discussed further in Item 15 of this Annual Report, which it believes will remediate the material weakness that has been identified. Effective internal controls are necessary for us to provide reliable financial reports. These remediation measures may be time consuming and costly and there is no assurance that these initiatives will ultimately have the intended effects.

If we fail to remediate our material weakness and to maintain effective internal control over financial reporting adequate to meet the requirements of the Sarbanes-Oxley Act, investors may lose confidence in our financial reporting, the price of our ordinary shares and ADSs could decline and our access to the capital markets could be restricted, and our business and reputation may be harmed.

The remediation of our material weakness and compliance with the requirements of the Sarbanes-Oxley Act require that we incur substantial accounting expense and expend significant management attention and time on compliance-related issues. We cannot assure you that the measures we have taken to date, or any measures we may take in the future, will be sufficient to remediate our existing material weakness and to avoid potential future material weaknesses.

Risks Relating to our Relationships with AstraZeneca

AstraZeneca has significant influence over us.

AZ Holdings is our single largest shareholder. As of December 31, 2023, AZ Holdings beneficially owned approximately 22,4% of our ordinary shares, and immediately following the Additional Investment contemplated by the Subsequent Investment Agreement, AZ Holdings is expected to own approximately 44.0% of our ordinary shares representing approximately 30% of the voting rights of the Company's ordinary shares (based on the number of voting rights outstanding as of the date of this Annual Report). In light of such ownership, AstraZeneca may be in a position to exercise significant influence over matters affecting shareholders or requiring shareholder approval, including the election of the board of directors of the Company, amendments to our By-laws, and any delegation to the board of directors of the power to issue new shares or other equity securities.

In addition, pursuant to the Subsequent Investment Agreement, AZ Holdings has certain rights, including the right to nominate up to two directors to our board of directors, approval rights over a limited number of material Company actions and pre-emptive rights entitling AZ Holdings to maintain its *pro rata* beneficial ownership in the Company. Upon the consummation of the Additional Investment contemplated by the Subsequent Investment Agreement, two AZ Holdings nominees, Mr. Marc Dunoyer and Mr. Tyrell Rivers, will be appointed to our board of directors which will be expanded to 11 members at such time. For more information, see "Item 4. Information on the Company—B. Business Overview—Our Licensing Relationships."

Further, AZ Ireland is a significant collaboration partner for the Company. Pursuant to the AZ JRCA with AZ Ireland 25 genetic targets have been exclusively reserved for AZ Ireland, from which up to 10 candidate products could be explored for development, and AZ Ireland will have an option for a worldwide exclusive license on the candidate products.

Accordingly, while not controlling the Company, AstraZeneca has significant influence over us. There can be no assurance that AstraZeneca's interests will align with our interests or the interests of other shareholders.

Moreover, our ordinary shares may be less liquid and trade at a discount relative to the trading that could occur in circumstances where AstraZeneca did not have the ability to significantly influence or determine matters affecting us. Also, AstraZeneca's significant interest in us may discourage transactions involving a change of control of the Company or may otherwise limit the price that a potential acquirer might be willing to pay in the future for our ordinary shares.

Future sales of our ordinary shares by AZ Holdings could cause the market price for our ordinary shares and ADSs to fall.

Sales of a substantial number of our ordinary shares by AZ Holdings could occur at any time. Such sales, or the market perception that such sales may occur, could significantly reduce the market price of our securities. We cannot predict the effect, if any, that future public sales of our ordinary shares beneficially owned by AZ Holdings or the availability of these ordinary shares for sale will have on the market price of our ordinary shares and ADSs. If the market price of our securities were to drop as a result, this might impede our ability to raise additional capital and might cause a significant decline in the value of the investments of our other shareholders.

The intentions of AZ Holdings regarding its long-term economic ownership of our ordinary shares are subject to change as a result of changes in the circumstances of AstraZeneca, changes in our management and operation and changes in laws and regulations, market conditions and our financial performance.

Conflicts of interest may arise as a result of the continuing involvement of certain of our directors with AstraZeneca.

In light of AZ Holdings' right effective following the closing of the Additional Investment to nominate two directors for appointment by our board of directors, some of our directors, from time to time, may have relationships with or be employed by AstraZeneca. For example, Mr. Marc Dunoyer is Chief Strategy Officer of AstraZeneca and Chief Executive Officer of Alexion, AstraZeneca Rare Disease, and Dr. Tyrell Rivers is Executive Director of Corporate Ventures at AstraZeneca. While all of our directors are required to act in our best interests and we implement policies and procedures to mitigate potential conflicts of interest, our relationship with AstraZeneca may appear to create conflicts of interest when our board of directors is faced with decisions that could have different implications for us and AstraZeneca. If our policies and procedures to address and manage potential conflicts of interest are ineffective, conflicts of interest could materialize or fail to be properly addressed. Such potential conflicts of interest and the appearance of conflicts,

even if such conflicts do not materialize, might adversely affect the public's perception of us, as well as our relationship with other companies and our ability to enter into new relationships in the future, including with competitors of such related parties, which could harm our business and results of operations.

Risks Related to Regulatory Approvals for Our Product Candidates

The regulatory landscape that governs our product candidates is uncertain; regulations relating to more established gene therapy and cell therapy products are still developing, and changes in regulatory requirements could result in delays or discontinuation of development of our product candidates or unexpected costs in obtaining regulatory approval.

Because we are developing novel CAR T-cell immunotherapy product candidates that are unique biological entities, the regulatory requirements that we will be subject to are not entirely clear. Even with respect to more established products that fit into the categories of gene therapies or cell therapies, the regulatory landscape is still developing, and requirements have changed frequently and may continue to change in the future. Moreover, there is substantial, and sometimes uncoordinated, overlap in oversight responsibilities of gene therapy products and cell therapy products. In addition to FDA review and oversight, gene therapy clinical trials are also subject to review and oversight by an institutional biosafety committee, or IBC, a local institutional committee that reviews and oversees basic and clinical research conducted at the institution participating in the clinical trial. Although the FDA decides whether individual gene therapy protocols may proceed, review processes and determinations of other reviewing bodies can impede or delay the initiation of a clinical study, even if the FDA has reviewed the study and allowed its initiation. Conversely, the FDA can place an IND application on clinical hold even if such other entities have provided a favorable review. Furthermore, each clinical trial must be reviewed and approved by an independent institutional review board, or IRB, at or servicing each institution at which a clinical trial will be conducted. In addition, adverse developments in clinical trials of gene therapy products conducted by others may cause the FDA or other regulatory bodies to change the requirements for approval of any of our product candidates.

Complex regulatory environments exist in other jurisdictions in which we might consider seeking regulatory approvals for our product candidates, further complicating the regulatory landscape. For example, in the EU a special committee called the Committee for Advanced Therapies (CAT) was established within the EMA in accordance with Regulation (EC) No 1394/2007 on advanced-therapy medicinal products (ATMPs) to assess the quality, safety and efficacy of ATMPs, and to follow scientific developments in the field. ATMPs include gene therapy products as well as somatic cell therapy products and tissue engineered products. In this regard, on May 28, 2014, the EMA issued a recommendation that Cellectis' UCART19 be considered a gene therapy product under Regulation (EC) No 1394/2007 on ATMPs. We believe this recommendation is likely to be applicable to each of our UCART product candidates; however, this recommendation is not definitive until such products obtain regulatory approval for commercialization.

These various regulatory authorities, review committees and advisory groups, their rules and guidelines, as well as new or revised rules or guidelines that they promulgate or recommend from time to time may lengthen the regulatory review process, require us to perform additional studies, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of our product candidates or lead to significant post-approval limitations or restrictions. Because the regulatory landscape for our CAR T-cell immunotherapy product candidates is new, we may face even more cumbersome and complex regulations than those emerging for gene therapy products and cell therapy products. Furthermore, even if our product candidates obtain required regulatory approvals, such approvals may later be withdrawn as a result of changes in regulations or the interpretation of regulations by applicable regulatory agencies.

As we or our licensees or partners advance product candidates, we and they will be required to consult with these regulatory groups and comply with all applicable guidelines, rules and regulations. Because the UCART19 studies are being sponsored by Servier and Allogene, they are directly interacting with the relevant regulatory agencies and we are not able to direct such interactions. Some of the discussions among our licensees or partners and relevant regulatory agencies could generate additional unexpected requirements from regulatory agencies that may apply to our wholly-controlled UCART product candidates, including UCART123, UCART22 and UCART 20x22 and could lead to potential delays or additional requirements, such as additional studies or modifications to our controlled clinical studies.

Delay or failure to obtain, or unexpected costs in obtaining, the regulatory approval necessary to bring a potential product to market could decrease our ability to generate sufficient product revenue to maintain our business.

Even if we obtain regulatory approval for a product candidate, our products will remain subject to ongoing regulatory requirements.

Even if we obtain regulatory approval in a jurisdiction for the product candidates we develop, the approval will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, and submission of safety and other post-market information. Any regulatory approvals received for the product 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 contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the product. For example, the holder of an approved BLA in the United States is obligated to monitor and report adverse events and any failure of a product to meet the specifications in the BLA. FDA guidance advises that patients treated with some types of gene therapy undergo follow-up observations for potential adverse events for as long as 15 years. Similarly, in the EU, pharmacovigilance obligations are applicable to all medicinal products. In particular, any marketing authorization holder has legal obligations to continuously collect data and conduct pharmacovigilance, i.e., the activities relating to the detection, assessment, understanding and prevention of adverse reactions and other medicine-related problems. Data have to be transmitted to the authorities within defined timelines, and any emerging concern about the benefit-risk balance has to be notified immediately. If necessary, competent authorities may request further investigations, including formal studies. Regulatory procedures exist for updating product information and implementing other safety measures. In addition to those obligations, holders of a marketing authorization for gene or cell therapy products must detail, in their application, the measures they envisage to ensure follow-up of the efficacy and safety of these products. In cases of particular concern, marketing authorization holders for gene or cell therapy products in the EU may be required to design a risk management system with a view to identifying, characterizing, preventing or minimizing risks related to those products, and may be obliged to carry out post- marketing studies and submit them to the EMA for review. In the United States, the holder of an approved BLA must also submit new or supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling or manufacturing process. Similar provisions apply in the EU. In particular, any amendment to the marketing authorization (e.g., manufacturing processes, therapeutic indication(s), product information, etc.) must be reviewed by the EMA for medicinal products having received a centralized marketing authorization valid across the entire EU. Advertising and promotional materials must comply with FDA rules and are subject to FDA review, in addition to other potentially applicable federal and state laws.

Similarly, in the EU any promotion of medicinal products is highly regulated. For example, in the EU, it is prohibited to promote prescription medicinal products to the general public and is permitted exclusively to healthcare professionals. Additional and stricter rules may apply to promotional materials and activities, depending on the specific jurisdiction involved, and these may require their prior vetting by the competent national regulatory authorities.

In addition, product manufacturers and their facilities are subject to payment of user fees and continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP requirements and adherence to commitments made in the BLA or foreign marketing application. If we or a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured or if a regulatory agency disagrees with the promotion, marketing or labeling of that product, a regulatory agency may impose restrictions relative to that product, the manufacturing facility or us, including requiring recall or withdrawal of the product from the market, suspension or revocation of the marketing authorization or suspension of manufacturing.

If we or our licensees or partners fail to comply with applicable regulatory requirements following approval of any of the product candidates we develop, national competent authorities may:

- issue a warning letter asserting a violation of the law;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend or terminate any ongoing clinical trials;
- refuse to approve a pending BLA or comparable foreign marketing application (or any supplements thereto) submitted by us or our licensees or partners;
- restrict the marketing, distribution or manufacturing of the product;
- seize or detain product or otherwise require the withdrawal or recall of product from the market;
- destroy or require destruction of products;
- refuse to permit the import or export of products; or
- refuse to allow us to enter into supply contracts, including government contracts.

Any of the foregoing regulatory actions could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit the ability to commercialize products and generate revenues. In addition, the FDA's policies, and policies of foreign regulatory agencies, may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we or our licensees or partners are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or our licensees or partners are not able to maintain regulatory compliance, marketing approval that has been obtained may be lost and we may not achieve or sustain profitability, which would adversely affect our business, prospects, financial condition and results of operations.

We expect the product candidates we develop will be regulated as biological products, or biologics, and therefore they may be subject to competition sooner than anticipated.

The Biologics Price Competition and Innovation Act of 2009, or BPCIA, was enacted as part of the 2010 Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively, the ACA, to establish an abbreviated pathway for the approval of products that are biosimilar to or interchangeable with an FDA-approved biological product. The regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable" based on its similarity to an approved biologic. Under the BPCIA, an application for a biosimilar product cannot be approved by the FDA until 12 years after the reference product was approved under a BLA. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation, and meaning are subject to uncertainty.

We believe that if any of our product candidates is approved in the United States as a biological product under a BLA, it should qualify for the 12-year period of referenced product exclusivity. However, there is a risk that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider the subject product candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of the reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

Similarly in EU, a biosimilar is typically defined as a biological medicine highly similar to another already approved biological medicine (the 'reference medicine'). Developers of biosimilars are required to demonstrate through comprehensive comparability studies with the reference medicine that:

- their biological medicine is highly similar to the reference medicine, notwithstanding natural variability inherent to all biological medicines; and
- there are no clinically meaningful differences between the biosimilar and the reference medicine in terms of safety, quality and efficacy.

Biosimilars can only be commercialized in the EU once the period of market exclusivity on the reference medicine has expired. In general, this means that the biological reference medicine must have been authorized for at least eight years before another company can apply for approval of a similar biological medicine (that protection is referred to data exclusivity). Also, this typically means that the biological reference medicine must have been commercialized for at least ten years before another company's biosimilar medicine can be commercialized (that protection is referred to as market exclusivity). The overall ten-year market exclusivity period can be

extended to a maximum of eleven years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are deemed to bring a significant clinical benefit in comparison with existing therapies. However, data and market exclusivity can be challenged under certain circumstances and there is therefore no guarantee that our products will benefit from the associated protection.

The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed.

We must obtain regulatory approval to market and sell our product candidates. For example, in the U.S., we must obtain FDA approval for each product candidate that we intend to commercialize, and in the EU we must obtain approval from the European Commission (EC), based on the opinion of the EMA. The approval processes are typically expensive, and the time required to obtain approval by the FDA, the EC and comparable foreign authorities is inherently unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the discretion of the regulatory authorities. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for the commercialization of any product candidate and it is possible that none of our existing product candidates or any product candidates we may seek to develop in the future will ever obtain such regulatory approval.

The FDA or other regulatory authority, as applicable, may delay, limit or deny approval of our product candidates for many reasons, including disagreement with clinical trial design or implementation, determinations that a product candidate is not sufficiently safe or efficacious, objections to the statistical significance of data or our interpretation of data, objections to the production, formulation or labeling of our product candidates, and any other discretionary factors such regulators deem relevant.

This lengthy approval process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval to market the product candidates we develop, which would significantly harm our business, results of operations and prospects. In addition, even if we or our licensees or partners were able to obtain approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, may not approve the price we intend to charge for our products (in jurisdictions where pricing is approved), 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 product candidate. Any of the foregoing scenarios could materially harm the commercial prospects for the product candidates we develop.

We plan to seek orphan drug status for some or all of our product candidates, but we may be unable to obtain such designations or to maintain the benefits associated with such status, which may cause our revenue, if any, to be reduced.

We plan to seek orphan drug designation for some or all of our product candidates in specific orphan indications in which there is a medically plausible basis for the use of these products. Under the Orphan Drug Act, the FDA may grant orphan drug designation to a drug or biologic intended to treat a rare disease or condition, defined as a disease or condition with a patient population of fewer than 200,000 in the United States, or a patient population greater than 200,000 in the United States when there is no reasonable expectation that the cost of developing and making available the drug or biologic in the United States will be recovered from sales in the United States for that drug or biologic. Orphan drug designation must be requested at any time before submitting a BLA. 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. After the FDA grants orphan drug designation, the generic identity of the drug 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. Although we intend to seek orphan product designation for some or all of our product candidates, we may never receive such designations.

If a product that has orphan drug designation subsequently receives the first FDA approval for a particular active ingredient for the disease for which it has such designation, the FDA may grant orphan product exclusivity, which means that the FDA may not approve any other applications, including a BLA, to market the same biologic for the same indication for seven years, except in limited circumstances such as a showing of clinical superiority of the subsequent product to the product with orphan product exclusivity or if FDA finds that the holder of the orphan drug exclusivity has not shown that it can assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the drug was designated. Even if we obtain orphan drug designation for a product candidate, we may not be the first to obtain marketing approval for any particular orphan indication due to the uncertainties associated with developing pharmaceutical products. Orphan drug exclusive marketing rights in the United States may be limited or lost if we seek and obtain approval for an indication broader than the orphan designated indication and may be lost if the FDA later determines that the request for designation was materially defective, the disease or condition exceeded the population threshold, or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition. Further, even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties can be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve the same drug with the same active moiety for the same condition if the FDA concludes that the later drug is safer, more effective, or makes a major contribution to patient care. Furthermore, the FDA can waive orphan exclusivity if we are unable to manufacture sufficient supply of our product.

Similarly, in EU, a medicinal product may receive orphan designation under Article 3 of Regulation (EC) No 141/2000 (Orphan Regulation). This applies to products that are intended for a life-threatening or chronically debilitating condition and either (a) such condition affects no more than five in 10,000 persons in the EU when the application is made, or (b) the product, without the benefits derived from orphan status, would unlikely generate sufficient return in the EU to justify the necessary investment. Moreover, in order to obtain orphan designation in the EU it is necessary to demonstrate that there exists no satisfactory method of diagnosis, prevention or treatment of such condition authorized for marketing in the EU, or if such a method exists, the product will be of significant benefit to those affected by the condition. Orphan designation is lost if it is established that the product no longer meets the orphan criteria before market authorization is granted.

In EU, orphan medicinal products are eligible for financial incentives such as reduction of fees or fee waivers and applicants can benefit from specific regulatory assistance and scientific advice. Products receiving orphan designation in the EU can receive ten years of market exclusivity from the date on which they are granted a market authorization in the EU, during which time no similar medicinal

product for the same indication may be placed on the market. The period of market exclusivity is extended by two years for orphan drug products that have also complied with an agreed Pediatric Investigation Plan (Article 37 of the Orphan Regulation). However, the 10-year market exclusivity may be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan designation, i.e. the prevalence of the condition has increased above the orphan designation threshold or it is judged that the product is sufficiently profitable so as not to justify maintenance of market exclusivity. Additionally, marketing authorization may be granted to a similar product for the same therapeutic indication at any time if:

- the second applicant can establish that its product, although similar to the orphan medicinal product already authorized, is safer, more effective or otherwise clinically superior;
- the holder of the marketing authorization of the orphan medicinal product consents to a second orphan medicinal product application; or
- the holder of the marketing authorization of the orphan medicinal product cannot supply sufficient quantities of the orphan medicinal product.

If we do not obtain, or if – despite having obtained it– we subsequently loose, orphan exclusivity for our products that do not have broad patent protection, our competitors may sell the same drug to treat the same condition and our revenues will be reduced.

Although we may seek fast-track designation from the FDA for some or all of our product candidates, there is no assurance that such designation will be granted or, if granted that it will lead to a faster development or regulatory review or approval process.

We may seek fast-track designation and review for some or all of our product candidates. If a drug is intended for the treatment of a serious or life- threatening condition or disease, the drug sponsor may apply for FDA fast track designation. The FDA has broad discretion whether or not to grant this designation. Thus, even if we believe a particular product candidate is eligible for this designation, we cannot assure that the FDA would decide to grant it. Moreover, even if we do receive fast track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures and such designation does not assure ultimate approval. In addition, the FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program.

Although we may seek a regenerative medicine advanced therapy (RMAT) designation, a breakthrough therapy designation and/or priority medicines (PRIME) support for our product candidates, there is no assurance that such designations will be granted or, if granted that they will lead to a faster development or regulatory review or approval process.

We may seek special designations for some or all of our product candidates, including RMAT designation or breakthrough therapy designation from the FDA, or PRIME support from the EMA.

A drug is eligible for RMAT designation if, (i) the drug is a regenerative medicine therapy, which is defined as a cell therapy, therapeutic tissue engineering product, human cell and tissue product, or any combination product using such therapies or products, except for those regulated solely under Section 361 of the Public Health Service Act and part 1271 of Title 21, Code of Federal Regulations; (ii) the drug is intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition; and (iii) preliminary clinical evidence indicates that the drug has the potential to address unmet medical needs for such disease or condition.

A drug may be designated as a breakthrough if the product is defined as a product 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 product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development.

The EMA’s PRIME scheme focuses on medicines that may offer a major therapeutic advantage over existing treatments, or benefit patients without treatment options. To be accepted for PRIME support, a medicine has to show its potential to benefit patients with unmet medical needs based on early clinical data. Through PRIME, the EMA offers early, proactive and enhanced support to drug developers to optimize the generation of robust data on a therapy’s benefits and risks and enable accelerated assessment of medicinal products applications.

For product candidates that obtain an RMAT designation, breakthrough therapy designation or are accepted for PRIME support, interaction and communication between the FDA or the EMA, as applicable, and the sponsor of the trial can help to identify the most efficient path for clinical development. However, the granting of such designations and provisions of support is within the discretion of the FDA or the EMA, respectively. Accordingly, even if we believe, after completing early clinical trials, that one of our product candidates meets the criteria for RMAT designation, breakthrough therapy designation, or PRIME support, the FDA or EMA, as the case may be, may disagree and instead decide not to grant such designation or support. In any event, the receipt of RMAT designation, breakthrough therapy designation or PRIME support for a product candidate may not result in a faster development process, review or approval compared to products considered for approval under conventional regulatory procedures and does not assure ultimate regulatory approval. In addition, even if one or more of our product candidates qualify for RMAT designation, breakthrough therapy designation or PRIME support, the FDA or EMA, may later decide that such product candidates no longer meet the conditions for qualification.

Even if we or our licensees or partners obtain and maintain approval for product candidates in the United States or another jurisdiction, we or our licensees or partners may never obtain approval for the same product candidates in other jurisdictions, which would limit market opportunities and adversely affect our business.

Approval of a product candidate in the United States by the FDA or in another jurisdiction by the requisite regulatory agencies in such other jurisdiction does not ensure approval of such product candidate by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. The approval process varies among countries and may limit our or our licensees or partners’ ability to develop, manufacture, promote and sell our product candidates internationally. Failure to obtain marketing approval in international jurisdictions would prevent the product candidates from being marketed outside of the jurisdictions in which regulatory approvals have been received. In order to market and sell the product candidates in the EU and many other jurisdictions, we and our licensees or partners must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and may involve additional pre-clinical studies or clinical trials both before and post approval. In many countries, a product candidate

must be approved for reimbursement before it can be approved for sale in that country. In some cases, the intended price for the product is also subject to approval. Further, while regulatory approval of a product candidate in one country does not ensure approval in any other country, a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory approval process in others. If we or our licensees or partners fail to comply with the regulatory requirements in international markets and/or receive applicable marketing approvals, the target market will be reduced and the ability to realize the full market potential of the subject product candidates will be harmed and our business may be adversely affected.

Depending on the results of clinical trials and the process for obtaining regulatory approvals in other countries, we or our licensees or partners may decide to first seek regulatory approvals of a product candidate in countries other than the United States, or we or our licensees or partners may simultaneously seek regulatory approvals in the United States and other countries, in which case we or our licensees or partners will be subject to the regulatory requirements of health authorities in each country in which we seek approvals. Obtaining regulatory approvals from health authorities in countries outside the United States and the EU is likely to subject us or our licensees or partners to risks in such countries that are substantially similar to the risks associated with obtaining approval in the United States or the EU described herein.

Government restrictions on pricing and reimbursement, as well as other healthcare payor cost-containment initiatives, may negatively impact our ability to generate revenues if we obtain regulatory approval for any of our product candidates.

Third-party payors, whether domestic or foreign, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. The continuing efforts of various governments, insurance companies, managed care organizations and other payors to contain or reduce healthcare costs may adversely affect our ability or our licensees or partners' ability to set a price for our products that we believe is fair, to achieve profitability, and to obtain and maintain market acceptance by patients and the medical community.

In both the United States and certain foreign jurisdictions, there have been a number of legislative and regulatory initiatives to contain healthcare costs. By way of example, in the United States, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the ACA) was enacted in March 2010.

The ACA expanded health care coverage through Medicaid expansion and the implementation of a tax penalty for individuals who do not maintain mandated health insurance coverage (the so-called 'individual mandate'). The ACA also contains a number of provisions that affect coverage and reimbursement of drug products. Uncertainty remains regarding the implementation and impact of the ACA. There have been sustained Congressional and legal efforts to modify or repeal all or certain provisions of the ACA. For example, tax reform legislation was enacted at the end of 2017 that eliminated the individual mandate beginning in 2019. We cannot predict the ultimate content, timing or effect of any changes to the ACA or other federal and state reform efforts, and there can be no assurance that any such health care reforms will not adversely affect our future business and financial results.

U.S. federal and state governments have shown significant interest in implementing cost-containment programs to limit the growth of government-paid healthcare costs, including price controls, waivers from Medicaid drug rebate law requirements, restrictions on reimbursement and requirements for substitution of generic products for branded prescription drugs. For example, in August 2022, the United States enacted the Inflation Reduction Act of 2022 (IRA), which includes two policies that are designed to have a direct impact on drug prices. The IRA requires the federal government to negotiate prices for certain high-cost drugs covered under Medicare and requires drug manufacturers to pay rebates to Medicare if they increase prices faster than inflation for drugs used by Medicare beneficiaries. The private sector has also sought to control healthcare costs by limiting coverage or reimbursement or requiring discounts and rebates on products. We are unable to predict what additional legislation, regulations or policies, if any, relating to the healthcare industry or third party coverage and reimbursement may be enacted in the future or what effect such legislation, regulations or policies would have on our business. Any cost containment measures could significantly decrease the available coverage and the price we might establish for our potential products, which would have an adverse effect on our net revenues and operating results.

Likewise, in many EU Member States, legislators and other policymakers continue to propose and implement healthcare cost-containing measures in response to the increased attention being paid to healthcare costs in the EU. Certain of these changes could impose limitations on the prices we will be able to charge for our products and any approved product candidates or the amounts of reimbursement available for these products from governmental and private third-party payers, may increase the tax obligations on pharmaceutical companies or may facilitate the introduction of generic competition with respect to our products. Further, an increasing number of EU countries Member States and other non-U.S. countries use prices for medicinal products established in other countries as "reference prices" to help determine the price of the product in their own territory. If the price of one of our products decreases substantially in a reference price country, that could impact the price for such product in other countries. Consequently, a downward trend in prices of our products in some countries could contribute to similar downward trends elsewhere, which would have a material adverse effect on our revenues and results of operations. Also, in order to obtain reimbursement for our products in some countries, we may be required to conduct clinical trials that compare the cost-effectiveness of our products to other available therapies.

Moreover, this political and legislative uncertainty could harm our and our licensees or partners' ability to market any products and generate revenues. Cost containment measures that healthcare payors and providers are instituting and the effect of further healthcare reform could significantly reduce potential revenues from the sale of any of our product candidates approved in the future, and could cause an increase in our compliance, manufacturing, or other operating expenses.

In some countries, the proposed pricing for a biopharmaceutical product must be approved before it may be lawfully marketed. In addition, in certain foreign markets, the pricing of a biopharmaceutical product is subject to government control and reimbursement may in some cases be unavailable. The requirements governing drug pricing vary widely from country to country. For example, the EU 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. An EU 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 biopharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products. Historically, biopharmaceutical products launched in the EU do not follow price structures of the United States and generally tend to have significantly lower prices.

We believe that pricing pressures will continue and may increase, which may make it difficult for us to sell our potential products that may be approved in the future at a price acceptable to us or any of our future collaborators.

We are subject to healthcare laws and regulations, which could expose us to the potential for criminal sanctions, civil penalties, exclusion from government healthcare programs, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians and others will play a primary role in the recommendation and prescription of our products, if approved. Our arrangements with such persons and third-party payors must be structured in accordance with the 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, market, sell and distribute our products, if we obtain marketing approval. Restrictions under applicable federal, state and foreign healthcare laws and regulations include but are not limited to the following:

- The federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration (including any kickback, bribe or rebate), directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase or lease, order or recommendation of, any item, good, facility or service, for which payment may be made under federal healthcare programs such as Medicare and Medicaid.
- The federal civil and criminal false claims laws and civil monetary penalties laws, which impose criminal and civil penalties, including those from civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, 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 Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created new federal criminal statutes that prohibit executing a scheme to defraud any healthcare benefit program or knowingly and willingly falsifying, concealing or covering up a material fact or making false statements relating to healthcare matters.
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and its implementing regulations, which impose certain requirements on covered entities and their business associates, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information.
- The federal transparency requirements under the Physician Payments Sunshine Act, enacted as part of the ACA, that require applicable manufacturers of covered drugs, devices, biologics and medical supplies to track and annually report to CMS payments and other transfers of value provided to physicians and teaching hospitals and certain ownership and investment interests held by physicians or their immediate family members.
- Analogous laws and regulations in various U.S. states, such as state anti-kickback and false claims laws, which may apply to items or services reimbursed by any third-party payor, including commercial insurers, state marketing and/or transparency laws applicable to manufacturers that may be broader in scope than U.S. federal requirements, state laws that require biopharmaceutical companies to comply with the biopharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the U.S. government, and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect as HIPAA.

  Similar legislation is applicable in other countries, including by way of example and without limitation: the UK's Bribery Act 2010 or Article D1453-1 to D1453-9 of the French Public Health Code on Transparency of Benefits Given by Companies Manufacturing or Marketing Health and Cosmetic Products for Human Use. Furthermore, in the EU, harmonized rules prohibit gifts, pecuniary advantages or benefits in kind to Health Care Professionals (HCPs) unless they are inexpensive and relevant to the practice of medicine or pharmacy. Similarly, strict rules apply to hospitality at sales promotion events. Based on these rules, a body of industry guidelines and sometimes national laws in force in individual EU Member States has been introduced to fight improper payments or other transfers of value to HCPs, and in general inducements that may have a broadly promotional character.

Ensuring that our business practices and that our business arrangements with third parties comply with applicable healthcare laws and regulations could be costly. It is possible that governmental authorities will conclude that our business practices do 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 were found to be in violation of any laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, disgorgement, individual imprisonment and exclusion from government funded healthcare programs, such as Medicare and Medicaid, any of which could substantially disrupt our operations. If the physicians or other providers or entities with whom we expect to do business are found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

Significant regulation applies to the manufacturing of our products and the manufacturing facilities on which we rely may not meet regulatory requirements or may have limited capacity.

All entities involved in the preparation of products for clinical studies or commercial sale, including our existing CMOs as well as our in-house manufacturing facilities in Raleigh, North Carolina, and Paris, France, are subject to extensive regulations. For example, in the United States, components of a finished CAR T-cell immunotherapy product approved for commercial sale or used in clinical studies must be manufactured in accordance with the relevant current Good Manufacturing Practices (cGMP) requirements. Similarly, in the EU, manufacturers and importers of active substances and/or medicinal products must be authorized to carry out these activities. Each of their facilities must comply with cGMP to obtain a manufacturing or import authorization. Also, applicants for a marketing authorization are responsible to ensure that the proposed manufacturing sites included in the marketing authorization application comply with cGMP.

The FDA's cGMP regulations and comparable regulations in other jurisdictions govern manufacturing processes and procedures (including record keeping) and the implementation and operation of quality systems to control and assure the quality of investigational products and products approved for sale. Poor control of production processes can lead to the introduction of adventitious agents or other contaminants, or to inadvertent changes in the properties or stability of the product candidates we develop that may not be detectable in final product testing. In the United States, we or our contract manufacturers must supply all necessary documentation in support of a BLA on a timely basis and must adhere to the FDA's cGMP requirements enforced by the FDA through its facilities inspection program. Our facilities and quality systems and the facilities and quality systems of our third-party contractors must pass a pre-approval inspection for compliance with the applicable regulations as a condition of regulatory approval of our product candidates. In addition, the regulatory authorities may, at any time, inspect a manufacturing facility involved with the preparation and/or control of

our product candidates as well as the associated quality systems for compliance with the regulations applicable to the activities being conducted.

Similarly, in the EU, Directive 2003/94/EC, Regulation (EU) No 1252/2014 and Regulation (EU) 2017/1569 lay down the principles and guidelines of cGMP in respect of active substances for medicinal products for human use as well as investigational and medicinal products for human use and require that products are consistently produced and controlled in accordance with the applicable quality standards. EU legislation also requires that medicinal products and investigational medicinal products that are imported from third countries are manufactured in accordance with standards at least equivalent to the GMP standards laid down in the EU. These rules, together with the detailed EU Guidelines on cGMP that are laid down in EudraLex—Volume 4, provide guidance on, inter alia, quality management, personnel, premises, documentation, production operations, quality control, outsources activities, complaints and product recall and self-inspection. GMP inspections are performed by the competent authorities of the EU Member States, and are coordinated by the EMA in the case of medicinal products that are authorized through the EU centralized procedure. Furthermore, specific guidance laying down GMP requirements for the manufacturing of ATMPs that have been granted a marketing authorization and of ATMPs used in a clinical trial setting have been adopted by the EMA.

If we or any of our third-party CMOs fail to provide appropriate products or maintain regulatory compliance, the regulator can impose regulatory sanctions including, among other things, the imposition of a hold on clinical trials, the refusal to permit a clinical trial to commence, the refusal to use certain batches of product candidates intended to be used in the clinical trials, the refusal to approve a pending application for a new product, the revocation or non-renewal of a pre-existing approval, or the refusal to accept some non-clinical and/or clinical data generated with material for which that third-party was responsible. As a result, our business, financial condition and results of operations may be materially harmed.

Manufacturing at our in-house manufacturing facilities requires significant resources and substantial regulatory engagement. Our commercial manufacturing facility in Raleigh, North Carolina, will be subject to FDA inspection, including preapproval inspections, which we may never successfully complete. Even if the facility is appropriately qualified, we will be subject to ongoing periodic announced or unannounced inspection by the FDA, the Drug Enforcement Administration and other foreign agencies to ensure strict compliance with cGMPs, and other government regulations. Accordingly, bringing our own commercial manufacturing capabilities online and maintaining compliant manufacturing capabilities may be costlier than we anticipate or may result in delays.

In addition, if supply from one approved manufacturer or supplier, including our own in-house manufacturing facilities, is interrupted, there could be a significant disruption in commercial and/or clinical supply of our products. Identifying and engaging an alternative manufacturer or supplier that complies with applicable regulatory requirements could result in further delay. Applicable regulatory agencies may also require additional studies if a new manufacturer or supplier is relied upon in connection with commercial production. Switching manufacturers or suppliers may involve substantial costs and time and is likely to result in a delay in our desired clinical and commercial timelines.

These factors could cause commercialization of our product candidates to be delayed, cause us to incur higher costs, or prevent us from commercializing our products successfully. Furthermore, if our manufacturing facilities are unable to produce high quality product for our clinical and commercial needs, and we are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our clinical studies may be delayed or we could lose potential revenue.

Risks Related to Calyxt, Inc.

On May 31, 2023, Calyxt, Inc. completed its all-stock, reverse merger business combination with Cibus Global, LLC (the "Merger"). Following the closing of the Merger, effective on June 1, 2023, the combined company operates under the name of Cibus, Inc. (referred to as “Cibus”). Cellectis’ equity interest in Calyxt was reduced to 2.9% after the closing of the Merger, which resulted in Cellectis losing control of Calyxt. Calyxt is therefore no longer consolidated since June 1, 2023 and continue to be presented as the results of discontinued operations until that date.

On June 1, 2023, we owned 2.9% of the equity interests of Cibus.. In connection with the Merger Agreement, we executed a voting agreement with Cibus to vote in favor of and approve all the transactions contemplated by the Merger Agreement, subject to the terms and conditions thereof. Pursuant to the voting agreement, at such time that the annual revenues of Calyxt Inc. equals $25.0 million or more for two consecutive 12-month periods after the closing of the Merger, Cibus will use commercially reasonable efforts to terminate our guaranty of Calyxt’s lease agreement with respect to its headquarters, which we provided in favor of the landlord of that property. As of December 31, 2023, our lease guaranty represents a liability in the amount of $22.9 million over the remaining 14-year lease period. Cibus, however, will not be required to replace us as guarantor or pay any fees in connection with termination of the guaranty. Until the parties are able to terminate our lease guaranty, Cibus. may not renew or extend Cibus’s lease or enter into any amendment that would increase our liability under the lease guaranty. Further, Cibus, from and after the closing of the Merger, agrees to indemnify us and our affiliates in connection with the Cibus lease and our guaranty thereof. However, due to the potential amount of the payment obligation and the uncertainty about Cibus' ability to make payments under or indemnify us in connection with the lease and guaranty, this indemnification may not be sufficient to cover the possible payment obligation arising out of this guaranty. As a result, our continuing potential liability pursuant to the lease guaranty and our potential obligation to pay the remaining liability amount could have a material adverse effect on our business, financial condition, cash flows or results of operations.

Risks Related to Intellectual Property

Our ability to compete may decline if we do not adequately protect our proprietary rights.

Our commercial success depends, in part, on obtaining and maintaining proprietary rights to our and our licensors’ intellectual property estate, including with respect to our product candidates, as well as successfully defending these rights against third-party challenges. We will only be able to protect our product candidates from unauthorized use by third parties to the extent that valid and enforceable patents, or effectively protected trade secrets, cover them. Our ability to obtain patent protection for our product candidates is uncertain due to a number of factors, including:

- we or our licensors may not have been the first to invent the technology covered by our or their pending patent applications or issued patents;

- we cannot be certain that we or our licensors were the first to file patent applications covering our product candidates, including their compositions or methods of use, as patent applications in the United States and most other countries are confidential for a period of time after filing;
- others may independently develop identical, similar or alternative products or compositions or methods of use thereof;
- the disclosures in our or our licensors' patent applications may not be sufficient to meet the statutory requirements for patentability and the plausibility case law requirements that may exist in certain jurisdictions;
- any or all of our or our licensors' pending patent applications may not result in issued patents;
- we or our licensors may not seek or obtain patent protection in countries or jurisdictions that may eventually provide us a significant business opportunity;
- any patents issued to us or our licensors may not provide a basis for commercially viable products, may not provide any competitive advantages, or may be successfully challenged by third parties, which may result in our or our licensors' patent claims being narrowed, invalidated or held unenforceable;
- our compositions and methods may not be patentable;
- others may design around our or our licensors' patent claims to produce competitive products that fall outside of the scope of our or our licensors' patents; and
- others may identify prior art or other bases upon which to challenge and ultimately invalidate our or our licensors' patents or otherwise render them unenforceable.

Even if we own, obtain or in-license patents covering our product candidates or compositions, we may still be barred from making, using and selling our product candidates or technologies because of the patent rights or other intellectual property rights of others. Others may have filed, and in the future may file, patent applications covering compositions, products or methods that are similar or identical to ours, which could materially affect our ability to successfully develop and, if approved, commercialize our product candidates. In addition, because patent applications can take many years to issue, there may be currently pending applications unknown to us that may later result in issued patents that our product candidates or compositions may infringe. These patent applications, including intermediate documents, may have priority over patent applications filed by us or our licensors.

Obtaining and maintaining a patent portfolio entails significant expense of resources. Part of such expense includes periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications due over the course of several stages of prosecuting patent applications, and over the lifetime of maintaining and enforcing issued patents. We or our licensors may or may not choose to pursue or maintain protection for particular intellectual property in our or our licensors portfolio. If we or our licensors choose to forgo patent protection or to allow a patent application or patent to lapse purposefully or inadvertently, our competitive position could suffer. In some cases, the prosecution and maintenance of our licensed patents is controlled by the applicable licensor. If such licensor fails to properly prosecute and maintain such patents, we could lose our rights to them, which could materially impair any competitive advantage afforded by such patents. Furthermore, we and our licensors employ reputable law firms and other professionals to help us comply with the various procedural, documentary, fee payment and other similar provisions we and they are subject to and, in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules.

There are situations, however, in which failure to make certain payments or noncompliance with certain requirements in the patent prosecution and maintenance process can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

Legal action that may be required to enforce our patent rights can be expensive and may involve the diversion of significant management time. In addition, these legal actions could be unsuccessful and could also result in the invalidation or transfer of ownership of our or our licensors' patents or a finding that they are unenforceable. We or our licensors may or may not choose to pursue litigation or other actions against those that have infringed on our or their patents, or have used them without authorization, due to the associated expense and time commitment of monitoring these activities. In some cases, the enforcement and defense of patents we in-license is controlled by the applicable licensor. If such licensor fails to actively enforce and defend such patents, any competitive advantage afforded by such patents could be materially impaired. In addition, some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we or our licensors can because of their greater financial resources and more mature and developed intellectual property portfolios. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating or from successfully challenging or claiming ownership over our intellectual property rights. If we fail to protect or to enforce our intellectual property rights successfully, our competitive position could suffer, which could harm our results of operations.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to patent protection, because we operate in the highly technical field of development of therapies, we rely in part on trade secret protection in order to protect our proprietary technology and processes. However, trade secrets are difficult to protect. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary technologies will be effective or sufficient.

In addition to contractual measures that we implement in our agreements with third-party service providers and in licensing agreements, we try to protect the confidential nature of our proprietary information using physical and technological security measures. Such measures may not provide adequate protection for our proprietary information. For example, our security measures may not prevent an employee, consultant, or collaborator with authorized access from misappropriating our trade secrets and providing them to a competitor, and the recourse we have available against such misconduct may not provide an adequate or sufficiently swift remedy to protect our interests fully. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret can be difficult, expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States may be less willing to protect trade secrets. Furthermore, our proprietary information may be independently developed or lawfully reverse-engineered by others in a manner that could prevent legal recourse by us.

We cannot guarantee that our trade secrets and other proprietary and confidential information will not be disclosed or that competitors will not otherwise gain access to our trade secrets. If any of our confidential or proprietary information, including our trade secrets, were to be disclosed or misappropriated, or if any such information was independently developed by a competitor, our competitive position could be harmed.

Patents and patent applications involve highly complex legal and factual questions, which, if determined adversely to us, could negatively impact our competitive position.

The patent positions of biotechnology and biopharmaceutical companies and other actors in our fields of business can be highly uncertain and typically involve complex scientific, legal and factual analyses. In particular, the interpretation and breadth of claims allowed in some patents covering biological and biopharmaceutical compositions may be uncertain and difficult to determine, and are often affected materially by the facts and circumstances that pertain to the patented compositions and the related patent claims. The standards of the United States Patent and Trademark Office, or USPTO, and foreign patent offices are sometimes uncertain and could change in the future. Consequently, the issuance and scope of patents cannot be predicted with certainty. Patents, if issued, may be challenged, invalidated, narrowed or circumvented. U.S. patents and patent applications may also be subject to interference proceedings, and U.S. patents may be subject to reexamination proceedings, post- grant review, inter partes review, or other administrative proceedings in the USPTO. Foreign patents as well may be subject to opposition or comparable proceedings in the corresponding foreign patent offices. Challenges to our or our licensors' patents and patent applications, if successful, may result in the denial of our or our licensors' patent applications or the loss or reduction in their scope. For example, on February 2022, following an opposition before the European Patent Office, the EP3004349 patent entitled "a method for producing precise DNA cleavage using CAS9 double nickase activity" was revoked. In addition, such interference, reexamination, post-grant review, inter partes review, opposition proceedings and other administrative proceedings may be costly and involve the diversion of significant management time. Accordingly, rights under any of our or our licensors' patents may not provide us with sufficient protection against competitive products or processes and any loss, denial or reduction in scope of any such patents and patent applications may have a material adverse effect on our business.

Furthermore, even if not challenged, our or our licensors' patents and patent applications may not adequately protect our product candidates or technology or prevent others from designing their products or technology to avoid being covered by our or our licensors' patent claims. If the breadth or strength of protection provided by the patents we own or license with respect to our product candidates is threatened, it could dissuade companies from collaborating with us to develop, and could threaten our ability to successfully commercialize, our product candidates. Furthermore, for U.S. patent applications in which claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third party or instituted by the USPTO in order to determine who was the first to invent any of the subject matter covered by such patent claims.

In addition, changes in, or different interpretations of, patent laws in the United States and other countries may permit others to use our discoveries or to develop and commercialize our technology and products without providing any notice or compensation to us, or may limit the scope of patent protection that we or our licensors are able to obtain. The laws of some countries do not protect intellectual property rights to the same extent as U.S. laws and those countries may lack adequate rules and procedures for defending our intellectual property rights.

If we or our licensors fail to obtain and maintain patent protection and trade secret protection of our product candidates and technology, we could lose our competitive advantage and competition we face would increase, reducing any potential revenues and have a material adverse effect on our business.

The lives of our patents may not be sufficient to effectively protect our products and business.

Patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after its first effective filing date. Although various extensions may be available, the life of a patent, and the protection it affords, is limited. Our or our licensors' issued patents and pending patent applications will expire on dates ranging from 2024 to 2042, subject to any patent extensions that may be available for such patents. In addition, although upon issuance in the United States a patent's life can be increased based on certain delays caused by the USPTO, this increase can be reduced or eliminated based on certain delays caused by the patent applicant during patent prosecution. In the EU, Supplementary Protection Certificates (SPCs) are available to extend a patent term for up to five years to compensate for patent protection lost during regulatory review. Although all EU Member States must provide SPCs, SPCs must still be applied for and granted on a country-by-country basis and their protection is subject to exceptions. If we or our licensors do not have sufficient patent life to protect our products, our business and results of operations will be adversely affected.

We will not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents on our product candidates in all countries and jurisdictions throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than those in the United States, assuming that rights are obtained in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in 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 or our licensors do not pursue and obtain patent protection to develop their own products and further, may export otherwise infringing products to territories where we or our licensors have patent protection, but where the ability to enforce our or our licensors' patent rights is not as strong as in the United States. These products may compete with our products and our intellectual property rights and such rights may not be effective or sufficient to prevent such competition.

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Patent protection must be sought on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we or our licensors may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries. In addition, the legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to biopharmaceuticals or biotechnologies, and the requirements for patentability differ, in varying degrees, from country to country, and the laws of some foreign countries do not protect intellectual property rights, including trade secrets, to the same extent as federal and state laws of the United States. As a result, many companies have encountered significant problems in protecting and defending intellectual property rights in

certain foreign jurisdictions. Such issues may make it difficult for us to stop the infringement, misappropriation or other violation of our intellectual property rights. For example, many foreign countries, including the EU countries, have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit. In those countries, we and our licensors may have limited remedies if patents are infringed or if we or our licensors are compelled to grant a license to a third party, which could materially diminish the value of those patents. This could limit our potential revenue opportunities. Accordingly, our and our licensors' efforts to enforce intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we own or license. Similarly, if our trade secrets are disclosed in a foreign jurisdiction, competitors worldwide could have access to our proprietary information and we may be without satisfactory recourse. Such disclosure could have a material adverse effect on our business. Moreover, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws.

Furthermore, proceedings to enforce our and our licensors' patent rights and other intellectual property rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our or our licensors' patents at risk of being invalidated or interpreted narrowly, could put our or our licensors' patent applications at risk of not issuing and could provoke third parties to assert claims against us or our licensors. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded to us, if any, may not be commercially meaningful, while the damages and other remedies we may be ordered to pay such third parties may be significant. Accordingly, our or our licensors' efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Third parties may assert rights to inventions we develop or otherwise regard as our own.

Third parties may in the future make claims challenging the inventorship or ownership of our or our licensors' intellectual property. We have written agreements with collaborators that provide for the ownership of intellectual property arising from our licensing arrangements. These agreements provide that we must negotiate certain commercial rights with such collaborators with respect to joint inventions or inventions made by our collaborators that arise from the results of the arrangement. In some instances, there may not be adequate written provisions to address clearly the allocation of intellectual property rights that may arise from the respective licensing arrangement. If we cannot successfully negotiate sufficient ownership and commercial rights to the inventions that result from our use of a third-party collaborator's materials when required, or if disputes otherwise arise with respect to the intellectual property developed through the use of a collaborator's samples, we may be limited in our ability to capitalize on the full market potential of these inventions. In addition, we may face claims by third parties that our agreements with employees, contractors, or consultants obligating them to assign intellectual property to us are ineffective, or are in conflict with prior or competing contractual obligations of assignment, which could result in ownership disputes regarding intellectual property we have developed or will develop and could interfere with our ability to capture the full commercial value of such inventions. Litigation may be necessary to resolve an ownership dispute, and if we are not successful, we may be precluded from using certain intellectual property and associated products and technology, or may lose our rights in that intellectual property. Either outcome could have a material adverse effect on our business.

In addition, the research resulting in certain of our in-licensed patent rights and technology was funded in part by the United States government. As a result, the United States government has certain rights to such patent rights and technology, which include march-in rights. When new technologies are developed with government funding, the government generally obtains certain rights in any resulting patents, including a non-exclusive license authorizing the government to use the invention or to have others use the invention on its behalf. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the government-funded technology, or because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to the United States industry. Any exercise by the government of any of the foregoing rights could have a material adverse effect on our business.

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 products.

We cannot guarantee that any of our patent searches or analyses, including but not limited to 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 application in the United States and abroad that is relevant to or necessary for the commercialization of our 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 application may be incorrect, which may negatively impact our ability to market our products. We may incorrectly determine that our products are not covered by a third-party patent or may incorrectly predict whether a third party's pending 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, which may negatively impact our ability to develop and market our product candidates. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our products.

Third parties may assert that our employees or consultants have wrongfully used or disclosed confidential information or misappropriated trade secrets.

We currently employ, and may in the future employ, individuals who were previously employed or worked as an intern at universities or other biotechnology or biopharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees and consultants do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of a former employer or other third parties. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

A dispute concerning the infringement or misappropriation of our proprietary rights or the proprietary rights of others could be time consuming and costly, and an unfavorable outcome could harm our business.

There is significant litigation in the biopharmaceutical industry regarding patent and other intellectual property rights. Although we are not currently subject to any material pending intellectual property litigation, and are not aware of any such threatened litigation, we may be exposed to future litigation by third parties based on claims that our product candidates, technologies or activities infringe the intellectual property rights of others.

Our success will depend in part on our ability to operate without infringing, misappropriating or otherwise violating the intellectual property and proprietary rights of third parties. Other parties may allege that our or our collaborators' products or product candidates or the use of our or our collaborators' technologies infringe, misappropriate or otherwise violate patent claims or other intellectual property rights held by them or that we or our collaborators' are employing their proprietary technology without authorization.

If our development activities are found to infringe any such patents or other intellectual property rights, we may have to pay significant damages or seek licenses to such patents or other intellectual property. A patentee could prevent us from using the patented drugs or compositions. We may need to resort to litigation to enforce a patent issued to us, to protect our trade secrets, or to determine the scope and validity of third-party proprietary rights.

If we become involved in litigation, it could consume a substantial portion of our managerial and financial resources, regardless of whether we win or lose. Any adverse ruling or perception of an adverse ruling in defending ourselves against these claims could have a material adverse impact on our cash position. Patent and other types of intellectual property litigation can involve complex factual and legal questions, and their outcome is uncertain.

Any legal action against us or our collaborators could lead to:

- payment of damages, potentially including treble or punitive damages if we are found to have willfully infringed a party's patent rights;
- injunctive or other equitable relief that may effectively block our ability to further develop, commercialize, and sell products;
- our or our collaborators being required to obtain a license under third-party intellectual property, and such license may not be available on an exclusive basis, on commercially acceptable terms, or at all; or
- extensive discovery in which our confidential information could be compromised.

Any of these outcomes could have a material adverse impact on our cash position and financial condition and our ability to develop and commercialize our product candidates.

Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court.

If we or one of our licensing partners initiated legal proceedings against a third party to enforce a patent covering our product candidate, the defendant could counterclaim that the patent covering our product candidate is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Furthermore, third parties may petition courts for declarations of invalidity or unenforceability with respect to our patents or individual claims. If successful, such claims could narrow the scope of protection afforded our product candidates and future products, if any. Grounds for a validity challenge include alleged failures to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for unenforceability assertions include allegations that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post grant review and equivalent proceedings in foreign jurisdictions. Such proceedings could result in revocation or amendment of our patents in such a way that they no longer cover our product candidates or competitive products. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to validity, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Such a loss of patent protection would have a material adverse impact on our business.

We may be unsuccessful in licensing or acquiring intellectual property that may be required to develop and commercialize our product candidates from third parties.

We have rights, through licenses from third parties and under patents that we own, to the intellectual property to develop our product candidates. Because our programs may involve additional product candidates or improved formulations of existing product candidates that may require the use of intellectual property or proprietary rights held by third parties, the growth of our business may depend in part on our ability to acquire, in-license or use such intellectual property and proprietary rights. We may be unable to acquire or in-license any third-party intellectual property or proprietary rights or to do so on commercially reasonable terms. For example, we sometimes collaborate with academic institutions to accelerate our research or development under written agreements with these institutions. Typically, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified time frame or under terms that are acceptable to us, and the institution may license such intellectual property rights to third parties, potentially blocking our ability to pursue our development and commercialization plans.

The licensing and acquisition of third-party intellectual property and proprietary rights is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire third-party intellectual property and proprietary rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size and greater capital resources and development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license intellectual property and proprietary rights to us.

If we are unable to successfully acquire or in-license rights to required third-party intellectual property and proprietary rights or maintain the existing intellectual property and proprietary rights we have, we may have to cease development of the relevant the relevant program, product or product candidate, which could have a material adverse effect on our business.

If we fail to comply with our obligations in the agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business.

We are a party to a number of intellectual property license agreements that are important to our business and expect to enter into additional license agreements in the future. Our existing license agreements impose, and we expect that future license agreements will impose, various diligence, milestone payment, royalty and other obligations on us. If we fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, our licensors may have the right to terminate the license, in which event we would not be able to market products or product candidates covered by the license.

In addition, disputes may arise regarding the payment of the royalties or other consideration due to licensors in connection with our exploitation of the rights we license from them. Licensors may contest the basis of payments we retained and claim that we are obligated to make payments under a broader basis. In addition to the costs of any litigation we may face as a result, any legal action against us could increase our payment obligations under the respective agreement and require us to pay interest and potentially damages to such licensors.

In some cases, patent prosecution of our licensed technology is controlled solely by the licensor. If such licensor fails to obtain and maintain patent or other protection for the proprietary intellectual property we license from such licensor, we could lose our rights to such intellectual property or the exclusivity of such rights, and our competitors could market competing products using such intellectual property. In addition, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. In that event, we may be required to expend significant time and resources to develop or license replacement technology. If we are unable to do so, we may be unable to develop or commercialize the affected products and product candidates, which could harm our business significantly. In other cases, we control the prosecution of patents resulting from licensed technology. In the event we breach any of our obligations related to such prosecution, we may incur significant liability to our licensing partners. We may also require the cooperation of our licensors to enforce any licensed patent rights, and such cooperation may not be provided. Moreover, we have obligations under these license agreements, and any failure to satisfy those obligations could give our licensor the right to terminate the agreement. Termination of a necessary license agreement could have a material adverse impact on our business.

Disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- the basis of royalties and other consideration due to our licensors;
- the extent to which our products, product candidates, technology and processes infringe on 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 ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

If disputes over intellectual property that we have licensed from third parties prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

Risks Related to Human Capital

We depend on key management personnel and attracting and retaining other qualified personnel, and our business could be harmed if we lose key management personnel or cannot attract and retain other qualified personnel.

Our success depends to a significant degree upon the technical skills and continued service of certain members of our management team, including Dr. André Choulika, our co-founder and Chief Executive Officer and Dr. David Sourdive, our co-founder and Executive Vice President CMC and Manufacturing. Although we maintain “key person” insurance policies on the lives of our co-founders, the loss of the services of our co-founders or other key executive officers could have a material adverse effect on us.

Our success also will depend upon our ability to attract and retain additional qualified management, regulatory, medical, and technical executives and personnel. The failure to attract, integrate, motivate, and retain additional skilled and qualified personnel, or to find suitable replacements upon departures, could have a material adverse effect on our business. We compete for such personnel against numerous companies, including larger, more established companies with significantly greater financial resources than we possess. In addition, failure to succeed in our product candidates’ development may make it more challenging to recruit and retain qualified personnel. There can be no assurance that we will be successful in attracting or retaining such personnel and the failure to do so could have a material adverse effect on our business, financial condition, and results of operations.

In order to induce valuable employees to remain at Cellectis, we have provided from time to time free shares and stock options to purchase ordinary shares that vest over time. The value to employees of free shares and stock options that vest over time may be significantly affected by movements in the price of our ordinary shares that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. In addition, our board’s authority to grant equity incentive instruments is subject to an approval of a two-thirds majority of the votes cast of our shareholders. Our shareholders may vote against some or all resolutions giving authority to our board to grant such equity awards.

Risks Relating to Our Status as a Foreign Private Issuer and a French Company

We are limited in our ability to raise additional share capital, which may make it difficult for us to fund our operations.

Under French law, our share capital generally may be increased with the approval of a two-thirds majority of the votes cast of the shareholders present, represented by proxy, or voting by mail at an extraordinary general shareholders’ meeting following the

recommendation of our board of directors. The shareholders may delegate to our board of directors either the authority (délégation de compétence) or the power (délégation de pouvoir) to carry out any increase in the share capital. Accordingly, our board of directors may be precluded from issuing additional share capital if the prior approval of the shareholders is not duly obtained.

Our By-laws and French corporate law contain provisions that may delay or discourage a takeover attempt.

Provisions contained in our By-laws and French corporate law could make it more difficult for a third party to acquire us, even if doing so might be beneficial to our shareholders. In addition, provisions of French law and our By-laws impose various procedural and other requirements, which could make it more difficult for shareholders to effect certain corporate actions. These provisions include the following:

- a merger (i.e., in a French law context, a stock-for-stock exchange after which our company would be dissolved without being liquidated into the acquiring entity and our shareholders would become shareholders of the acquiring entity) of our company into a company incorporated in the European Union would require the approval of our board of directors as well as a two-thirds majority of the votes cast of the shareholders present, represented by proxy or voting by mail at the relevant meeting;
- a merger of our company into a company incorporated outside of the European Union would require the unanimous approval of our shareholders;
- under French law, a cash merger is treated as a share purchase and would require the consent of each participating shareholder;
- our shareholders have granted and may in the future grant to our board of directors broad authorizations to increase our share capital or to issue additional ordinary shares or other securities (for example, warrants) to our shareholders, the public or qualified investors, which could be used as a possible defense following the launching of a tender offer for our shares;
- our shareholders have preferential subscription rights proportional to their shareholding in our company on the issuance by us of any additional shares or securities giving the right, immediately or in the future, to new shares for cash or a set-off of cash debts, which rights may only be waived by the extraordinary general meeting (by a two-thirds majority vote) of our shareholders or on an individual basis by each shareholder;
- our board of directors has the right to appoint directors to fill a vacancy created by the resignation or death of a director, subject to the ratification by the shareholders of such appointment at the next shareholders' meeting, which prevents shareholders from having the sole right to fill vacancies on our board of directors;
- our board of directors can only be convened by its chairman (and our managing director, if different from the chairman, may request the chairman to convene the board) or, when no board meeting has been held for more than two consecutive months, by directors representing at least one-third of the total number of directors;
- our board of directors meetings can only be regularly held if at least half of the directors attend either physically or by way of videoconference or teleconference enabling the directors' identification and ensuring their effective participation in the board of directors' decisions;
- our shares take the form of bearer securities or registered securities, if applicable legislation so permits, according to the shareholder's choice. Issued shares are registered in individual accounts opened by us or any authorized intermediary (depending on the form of such shares), in the name of each shareholder and kept according to the terms and conditions laid down by the legal and regulatory provisions;
- under French law, a non-French resident as well as any French entity controlled by non-French residents may have to file a declaration for statistical purposes with the Bank of France (Banque de France) following the date of certain direct or indirect investments in us; see the section of this Annual Report titled "Ownership of Shares and ADSs by Non-French Persons";
- approval of at least a majority of the votes cast of the shareholders present, represented by a proxy, or voting by mail at the relevant ordinary shareholders' general meeting is required to remove directors with or without cause;
- advance notice is required for nominations to the board of directors or for proposing matters to be acted upon at a shareholders' meeting, except that a vote to remove and replace a director can be proposed at any shareholders' meeting without notice;
- transfers of shares shall comply with applicable insider trading rules;
- in the event where certain ownership thresholds would be crossed, a number of disclosures should be made by the relevant shareholder in addition to other certain obligations; see the section of this Annual Report titled "Declaration of Crossing of Ownership Thresholds"; and
- pursuant to French law, the sections of the By-laws relating to the number of directors and election and removal of a director from office may only be modified by a resolution adopted by a two-thirds majority of the votes cast of our shareholders present, represented by a proxy or voting by mail at the meeting.

The rights of shareholders in companies subject to French corporate law differ in material respects from the rights of shareholders of corporations incorporated in the United States.

We are a French company with limited liability. Our corporate affairs are governed by our By-laws and by the laws governing companies incorporated in France. The rights of shareholders and the responsibilities of members of our board of directors are in many ways different from the rights and obligations of shareholders in companies governed by the laws of U.S. jurisdictions. For example, in the performance of its duties, our board of directors is required by French law to consider the interests of our company, its shareholders, its employees and other stakeholders, rather than solely our shareholders and/or creditors. It is possible that some of these parties will have interests that are different from, or in addition to, the interests of our shareholders. See the sections of this Annual Report titled "Memorandum and Articles of Association" and "Corporate Governance."

French law may limit the amount of dividends we are able to distribute, and we do not currently intend to pay dividends.

We have never declared or paid any cash dividends on our share capital and do not currently intend to do so for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. Therefore, holders of our ordinary shares and ADSs are not likely to receive any dividends for the foreseeable future and any increase in value will depend solely upon any future

appreciation. Consequently, holders of our equity securities may need to sell all or part of their holdings after price appreciation, which may never occur, as the only way to realize any future gains.

Further, under French law, the determination of whether we have been sufficiently profitable to pay dividends is made on the basis of our statutory financial statements prepared and presented in accordance with standard applicable in France. Please see the section of this Annual Report titled "Memorandum and Articles of Association" for further details on the limitations on our ability to declare and pay dividends. Therefore, we may be more restricted in our ability to declare dividends than companies not based in France.

Our failure to maintain certain tax benefits applicable to French technology companies may adversely affect our results of operations.

As a French technology company, we have benefited from certain tax advantages, including the French research tax credit (Crédit d'Impôt Recherche), or CIR. The CIR is a French tax credit aimed at stimulating research and development. The CIR can be offset against French corporate income tax due and the portion in excess (if any) may be refunded at the end of a three fiscal-year period (or, sooner, in certain cases). The Research tax credit receivables as of December 31, 2023 include the accrual for a French research tax credit related to 2022 for $5.6 million and research tax credit related to previous periods for $15 million. The CIR is calculated based on our claimed amount of eligible research and development expenditures in France. The French tax authority with the assistance of the Research and Technology Ministry may audit each research and development program in respect of which a CIR benefit has been claimed and assess whether such program qualifies in their view for the CIR benefit, in accordance with the French tax code (code général des impôts) and the relevant official guidelines.

During December 2018, the French Tax Authority initiated an audit related to the 2014, 2015, 2016 and 2017 French research tax credits. In January 2022, the administrative court (*tribunal administratif*) of Paris confirmed that Cellectis was entitled to receive the amounts related to 2017 and 2018 tax credits. $0.8 million were collected in February 2022. On March 15, 2022, the French tax authorities appealed this decision to the Paris Administrative Court of Appeal (*Cour administrative d'appel de Paris*) and requested that the decision be reversed. On May 18, 2022, the Company filed its observations in defense. By a decision dated December 13, 2023, the Paris Administrative Court of Appeal overturned the first-instance decision and ordered the reimbursement by the Company of $0.7 million.

Furthermore, if the French Parliament decides to eliminate, modify, or reduce the scope of the CIR benefit, which it could decide to do at any time, our results of operations could be adversely affected.

We may be exposed to significant foreign exchange risk, which may adversely affect our financial condition, results of operations and cash flows.

We incur portions of our expenses and may in the future derive revenues in currencies other than the euro, including, in particular, the U.S. dollar. As a result, we are exposed to foreign currency exchange risk as our results of operations and cash flows are subject to fluctuations in foreign currency exchange rates. While we are engaged in hedging transactions to minimize the impact of uncertainty in future exchange rates on cash flows, we may not hedge all of our foreign currency exchange rate risk. In addition, hedging transactions carry their own risks and costs, including the possibility of a default by the counterpart to the hedge transaction. We cannot predict the impact of foreign currency fluctuations, and foreign currency fluctuations in the future may adversely affect our financial condition, results of operations and cash flows.

Although not free from doubt, we do not believe we were a "passive foreign investment company," or PFIC, for U.S. federal income tax purposes for the taxable year ended December 31, 2023. However, we cannot assure you that we will not be classified as a PFIC for the taxable year ended December 31, 2023 or any future taxable year, which may result in adverse U.S. federal income tax consequences to U.S. holders (as defined in the section titled "Taxation—Material U.S. Federal Income Tax Considerations" in this Annual Report).

A non-U.S. corporation will be considered a PFIC for any taxable year if either (1) at least 75% of its gross income for such year is passive income or (2) at least 50% of the value of its assets (based on an average of the quarterly values of the assets during such year) is attributable to assets that produce or are held for the production of passive income. Although the matter is not free from doubt, we do not believe that we were a PFIC for U.S. federal income tax purposes for the taxable year ended December 31, 2023. Because certain aspects of the PFIC rules are not entirely certain and because this determination is dependent upon a number of factors, there can be no assurance that we were not a PFIC for such taxable year or that the IRS will agree with any position we take regarding our PFIC status.

Further, no assurances may be given at this time as to our PFIC status for the current or future taxable years. The determination of PFIC status is fact-specific, and a separate determination must be made each taxable year as to whether we are a PFIC (after the close of each such taxable year). It is possible that we could be classified as a PFIC for taxable year ended December 31, 2023 or future taxable years due to changes in the composition of our assets or income, as well as changes to the market value of our assets. The market value of our assets may be determined in large part by reference to our market capitalization (and, therefore, the market price of the ADSs and our ordinary shares, which has fluctuated and is likely to continue to fluctuate, substantially).

If we are a PFIC for any taxable year during which a U.S. holder holds ADSs, the U.S. holder may be subject to adverse tax consequences, including (1) the treatment of all or a portion of any gain on disposition of the ADSs as ordinary income, (2) the application of an interest charge with respect to such gain and certain dividends and (3) compliance with certain reporting requirements. Each U.S. holder is strongly urged to consult its tax advisor regarding these issues and any available elections to mitigate such tax consequences. See the section titled "Taxation—Material U.S. Federal Income Tax Considerations" in this Annual Report.

We may have to take undesirable actions to avoid being deemed an investment company under the US Investment Company Act of 1940.

We are engaged in the development of therapeutic products based on gene-editing, with a portfolio of allogeneic Chimeric Antigen Receptor T-cell product candidates in the field of immune-oncology and gene-edited hematopoietic stem and progenitor cells product candidates in other therapeutic indications. Although we do not make speculative investments in third-party companies' securities, from time to time, we have entered into licensing or other commercial agreements for which we have agreed to accept company securities as

consideration. Currently, we have entered into such arrangements with Primera Therapeutics, Inc. We believe we are not an investment company within the meaning of Section 3(a)(1)(C) of the Investment Company Act of 1940, or the US Investment Company Act. However, as a result of these and other investments, volatility in the value of our investments could result in us being deemed an investment company within the meaning of Section 3(a)(1)(C). We will monitor our assets regularly and take all necessary steps in order to seek to ensure that we are not deemed an investment company within the meaning of Section 3(a)(1)(C) or otherwise are required to register as an investment company under the US Investment Company Act in the future. The steps we may need to take could include selling all or part of our investments in those companies or investing in a greater proportion of tangible assets relative to our total assets. Depending on timing and other factors, taking one or more of these steps may serve as a distraction of management's attention from our primary business or may require us to transact at undesirable market prices. If we are unable to take the necessary steps to avoid being inadvertently deemed an investment company or otherwise being required to register under the US Investment Company Act, we would not be able to offer our securities in the United States until we were no longer deemed an investment company under the US Investment Company Act. We could also be subject to other adverse consequences as a result thereof.

As a foreign private issuer, we are exempt from a number of rules under the U.S. securities laws and are permitted to file less information with the SEC than a U.S. company. This may limit the information available to holders of ADSs.

We are a "foreign private issuer," as defined in the SEC's rules and regulations and, consequently, we are not subject to all of the disclosure requirements applicable to public companies organized within the United States. For example, we are exempt from certain rules under the Exchange Act that regulate disclosure obligations and procedural requirements related to the solicitation of proxies, consents or authorizations applicable to a security registered under the Exchange Act, including the U.S. proxy rules under Section 14 of the Exchange Act. In addition, our officers and directors are exempt from the reporting and "short-swing" profit recovery provisions of Section 16 of the Exchange Act and related rules with respect to their purchases and sales of our securities. Moreover, while we currently make annual and quarterly filings with the SEC, we are not required to file periodic reports and financial statements with the SEC as frequently or as promptly as U.S. domestic public companies and are not required to file quarterly reports on Form 10-Q or current reports on Form 8-K under the Exchange Act. Accordingly, there may be less publicly available information concerning our company than there would be if we were a U.S. domestic issuer.

As a foreign private issuer, we follow certain home country practices in relation to corporate governance matters that differ significantly from Nasdaq corporate governance standards. These practices may afford less protection to shareholders than they would enjoy if we complied fully with Nasdaq's corporate governance standards.

As a foreign private issuer listed on the Nasdaq Global Market, we are subject to Nasdaq's corporate governance standards. However, as a foreign private issuer, Nasdaq's rules permit us to follow the corporate governance practices of France, which differ significantly from certain corporate governance standards of the Nasdaq. For example, neither the corporate laws of France nor our By-laws require a majority of our directors to be independent and our independent directors are not required to hold regularly scheduled meetings at which only independent directors are present. In addition, French governance practice does not require us to maintain a nominating and corporate governance committee or to maintain a compensation committee composed entirely of independent directors. Currently, we follow home country practice in certain key respects. Therefore, our shareholders may be afforded less protection than they otherwise would have under corporate governance listing standards applicable to U.S. domestic issuers. A discussion of our corporate governance practices is set forth in the section titled "Management—Corporate Governance Practices."

We may lose our foreign private issuer status in the future, which could result in significant additional cost and expense.

Based on our determination made on June 30, 2023 (the last business day of our most recently completed second fiscal quarter), we currently qualify as a foreign private issuer. The next determination will be made with respect to us on June 30, 2024.

We will lose our foreign private issuer status if, as of the relevant determination date, more than 50% of our securities are held by U.S. residents and (i) more than 50% of our executive officers or more than 50% of the members of our board of directors are residents or citizens of the United States, (ii) more than 50% of our assets are located in the United States, or (iii) our business is principally administered within the United States we could lose our foreign private issuer status.

As of June 30, 2023, approximately 22.4% of our securities were held by persons who were U.S. residents.

The regulatory and compliance costs to us under U.S. securities laws as a U.S. domestic public company would be significantly more than the costs we currently incur as a foreign private issuer.

It may be difficult to enforce civil liabilities against our company and directors and senior management and the experts named in this Annual Report.

Certain members of our board of directors and senior management are not residents of the United States, and all or a substantial portion of our assets and the assets of such persons are located outside the United States. As a result, it may not be possible to serve process on such persons or us in the United States, to obtain jurisdiction over us or our non-U.S. resident senior management and directors in U.S. courts or obtain evidence in France or from French citizen or any individual being resident in France or any officer, representative, agent or employee of a legal person having its registered office or an establishment in a territory of France, in connection with those actions in actions predicated on the civil liability provisions of the US federal securities laws. In addition, it may also not be possible to enforce judgments obtained in U.S. courts against our non-U.S. resident senior management and directors or us based on civil liability provisions of the securities laws of the United States. Additionally, it may be difficult to assert U.S. securities law claims in actions originally instituted outside of the United States. Foreign courts may refuse to hear a U.S. securities law claim because foreign courts may not be the most appropriate forums in which to bring such a claim. Even if a foreign court agrees to hear a claim, it may determine that the law of the jurisdiction in which the foreign court resides, and not U.S. law, is applicable to the claim. Further, if U.S. law is found to be applicable, the content of applicable U.S. law must be proved as a fact, which can be a time-consuming and costly process, and certain matters of procedure would still be governed by the law of the jurisdiction in which the foreign court resides. In particular, there is some doubt as to whether French courts would recognize and enforce certain civil liabilities under U.S. securities laws in original actions or judgments of U.S. courts based upon these civil liability provisions. In addition, awards of punitive damages in actions brought in the United States or elsewhere may be unenforceable in France. An award for monetary damages under the U.S. securities laws would be considered punitive if it does not seek to compensate the claimant for loss or damage suffered but is intended to punish the defendant. French law provides that a shareholder, or a group of shareholders, may initiate a legal action to seek

indemnification from the directors of a company in the company's interest if it fails to bring such legal action itself. If so, any damages awarded by the court are paid to the company and any legal fees relating to such action are borne by the relevant shareholder or the group of shareholders.

The enforceability of any judgment in France will depend on the particular facts of the case as well as the laws and treaties in effect at the time. The United States and France do not currently have a treaty providing for recognition and enforcement of judgments (other than arbitration awards) in civil and commercial matters.

Risks Related to Ownership of Our ADSs

Holders of our ADSs do not directly hold our ordinary shares.

Holders of ADSs are not treated as one of our shareholders and do not have ordinary shareholder rights. French law governs shareholder rights. The depositary, through the custodian or the custodian's nominee, is the holder of the ordinary shares underlying all ADSs. Holders of ADSs have only ADS holder rights. Among other things, ADS holder rights do not provide for double voting rights, which otherwise would be available to holders of ordinary shares held in a shareholders' name for a period of at least two years. A double voting right is attached to each registered share which is held in the name of the same shareholder for at least two years. The deposit agreement among us, the depositary and purchasers of ADSs in the U.S. offering, as an ADS holder, and all other persons directly and indirectly holding ADSs, sets out ADS holder rights, as well as the rights and obligations of us and the depositary.

Holders of our ADSs may not be able to exercise their right to vote the ordinary shares underlying such ADSs.

Holders of ADSs may exercise voting rights with respect to the ordinary shares represented by the ADSs only in accordance with the provisions of the deposit agreement and not as a direct shareholder. The deposit agreement provides that, upon receipt of notice of any meeting of holders of our ordinary shares, the depositary will fix a record date for the determination of ADS holders who shall be entitled to give instructions for the exercise of voting rights. Upon timely receipt of notice from us, if we so request, the depositary shall distribute to the holders as of the record date (1) the notice of the meeting or solicitation of consent or proxy sent by us and (2) a statement as to the manner in which instructions may be given by the holders.

Holders of ADSs may instruct the depositary of the ADSs to vote the ordinary shares underlying such ADSs. Otherwise, holders of our ADSs will not be able to exercise their right to vote, unless they withdraw the ordinary shares underlying such ADSs. However, holders of our ADSs may not know about the meeting far enough in advance to withdraw those ordinary shares. If we ask for instructions, the depositary, upon timely notice from us, will notify holders of our ADSs of the upcoming vote and arrange to deliver our voting materials to such holders. We cannot guarantee that holders of our ADSs will receive the voting materials in time to ensure that they can instruct the depositary to vote such ordinary shares or to withdraw such ordinary shares so as to vote them directly. If the depositary does not receive timely voting instructions from holders of our ADSs, it may give a proxy to a person designated by us to vote the ordinary shares underlying such ADSs in accordance with the recommendation of our board of directors. In addition, the depositary and its agents are not responsible for failing to carry out voting instructions or for the manner of carrying out voting instructions. This means that holders of our ADSs may not be able to exercise their right to vote, and there may be nothing such holders can do if the ordinary shares underlying such ADSs are not voted as requested.

The rights of shareholders in companies subject to French corporate law differ in material respects from the rights of shareholders of corporations incorporated in the United States.

We are French *société anonyme* with our registered office in France. Our corporate affairs are governed by our By-laws and by the laws governing companies incorporated in France. The rights of shareholders and the responsibilities of members of our board of directors are in many ways different from the rights and obligations of shareholders in companies governed by the laws of U.S. jurisdictions. For example, in accordance with French law, while a double voting right is attached to each ordinary share which is held in registered form in the name of the same shareholder for at least two years, ordinary shares deposited with the depositary will not be entitled to double voting rights. Therefore, holders of ADSs who wish to obtain double voting rights will need to surrender their ADSs, withdraw the deposited shares, and take the necessary steps to hold such ordinary shares in registered form in the holder's name for at least two years. See "Item 16G—Corporate Governance".

The right of holders of our ADSs to participate in any future preferential subscription rights or to elect to receive dividends in shares may be limited, which may cause dilution to holders of ADSs; Our preferred shares may cause further dilution.

According to French law, if we issue additional shares or securities for cash, current shareholders will have preferential subscription rights for these securities proportionally to their shareholding unless they waive those rights at an extraordinary meeting of our shareholders (by a two-thirds majority vote) or individually by each shareholder. However, our ADS holders in the United States will not be entitled to exercise or sell such rights unless we register the rights and the securities to which the rights relate under the Securities Act or an exemption from the registration requirements is available. In addition, the deposit agreement for our ADSs provides that the depositary will not make rights available to holders of our ADSs unless the distribution to ADS holders of both the rights and any related securities are either registered under the Securities Act or exempted from registration under the Securities Act. Further, if we offer holders of our ordinary shares the option to receive dividends in either cash or shares, the depositary may require satisfactory assurances from us that extending the offer to holders of ADSs does not require registration of any securities under the Securities Act before making the option available to holders of ADSs. We are under no obligation to file a registration statement with respect to any such rights or securities or to endeavor to cause such a registration statement to be declared effective. Moreover, we may not be able to establish an exemption from registration under the Securities Act. Accordingly, ADS holders may be unable to participate in our rights offerings or to elect to receive dividends in shares and may experience dilution in their holdings and may receive no value for these rights.

Our "class A" preferred shares and our "class B" preferred shares once issued pursuant to the Subsequent Investment Agreement would benefit from a preferential distribution right in the event of a liquidation of the Company, which could cause substantial dilution and have an adverse effect on the value of our ordinary shares. In addition, our "class A" preferred shares and our "class B" preferred shares would be convertible, in whole or in part, at their holder's option, into ordinary shares of the Company. Such conversion of our "class A" preferred shares and our "class B" preferred shares could result in significant dilution to our shareholders. For more information

on our "class A" preferred shares and our "class B" preferred shares to be issued, see Exhibit 2.3 to this Annual Report, which is incorporated by reference herein.

Holders of our ADSs may be subject to limitations on the transfer of such ADSs and the withdrawal of the underlying ordinary shares.

ADSs, which may be evidenced by American Depositary Receipts, or ADRs, are transferable on the books of the depositary. However, the depositary may close its books at any time or from time to time when it deems expedient in connection with the performance of its duties. The depositary may refuse to deliver, transfer or register transfers of ADSs generally when our books or the books of the depositary are closed, or at any time if we or the depositary think it is advisable to do so because of any requirement of law, government or governmental body, or under any provision of the deposit agreement, or for any other reason subject to an ADS holders' right to cancel such ADSs and withdraw the underlying ordinary shares. Temporary delays in the cancellation of such ADSs and withdrawal of the underlying ordinary shares may arise because the depositary has closed its transfer books or we have closed our transfer books, the transfer of ordinary shares is blocked to permit voting at a shareholders' meeting or we are paying a dividend on our ordinary shares. In addition, holders of our ADSs may not be able to cancel such ADSs and withdraw the underlying ordinary shares when such holders owe money for fees, taxes and similar charges and when it is necessary to prohibit withdrawals in order to comply with any laws or governmental regulations that apply to ADSs or to the withdrawal of ordinary shares or other deposited securities.

The market price for our ADSs may be volatile or may decline regardless of our operating performance.

The trading price of the ADSs has fluctuated, and is likely to continue to fluctuate, substantially. Since the ADSs were sold in our initial public offering in March 2015 at a price of $41.50 per share, the price per ADS has ranged as low as $0.97 and as high as $47.66 through April 29, 2024. The market price of the ADSs may fluctuate significant in response to numerous factors, including those described in this "Risk Factors" section, many of which are beyond our control. The market price and demand for our ADSs may also fluctuate substantially, regardless of our actual operating performance, which may limit or prevent holders from readily selling their ADSs and may otherwise negatively affect the liquidity of our capital shares.

Share ownership is concentrated in the hands of our principal shareholders and management, who will continue to be able to exercise substantial influence on us.

Our executive officers, directors, current 5% or greater shareholders and affiliated entities beneficially own approximately 42.35% of our ordinary shares outstanding (including those underlying our ADSs, but excluding shares that may be acquired upon exercise of stock options or warrants) as of December 31, 2023. As a result, these shareholders have significant influence over all matters that require approval by our shareholders, including the election of directors and approval of significant corporate transactions. Corporate action might be taken even if other shareholders oppose them. This concentration of ownership might also have the effect of delaying or preventing a change of control of our company that other shareholders may view as beneficial.

ITEM 4. INFORMATION ON THE COMPANY

A. History and Development of the Company

Our legal name is Cellectis SA and our commercial name is Cellectis. We were incorporated as a société anonyme, or S.A., under the laws of the French Republic on January 4, 2000 for a period of 99 years. We are registered at the Paris Registre du Commerce et des Sociétés under the number 428 859 052. Our principal executive offices are located at 8, rue de la Croix Jarry, 75013 Paris, France, and our telephone number is +33 1 81 69 16 00. Our agent for service of process in the United States is Cellectis, Inc. located at 430 East 29th Street, New York, New York 10016. We also maintain a website at www.cellectis.com. The reference to our website is an inactive textual reference only and the information contained in, or that can be accessed through, our website is not a part of this Annual Report.

On May 31, 2023, Calyxt, Inc. completed its all-stock, reverse merger business combination with Cibus Global. Following the closing of the Merger, effective on June 1, 2023, the combined company operates under the name of Cibus, Inc. (referred to as "Cibus"). Cellectis' equity interest in Cibus was reduced to 2.9% after the closing of the Merger, which resulted in Cellectis losing control of Cibus. Cibus was deconsolidated on June 1, 2023. Cibus's results are included in the Group's results until May 31, 2023, and continue to be presented as the results of discontinued operations until that date.

Our capital expenditures and additions to tangible and intangible assets for the years ended December 31, 2021, 2022 and 2023 together amounted to $19.7 million, $3.3 and $1.1 million respectively. These expenditures primarily consisted of the acquisitions of industrial and laboratory equipment and fittings required to conduct our research programs, the improvements of Cellectis' sites and investments in connection with the construction of our new manufacturing facilities in Paris and in the United States. We expect our capital expenditures to increase in absolute terms in the near term as we continue to advance our research and development programs and grow our operations. We anticipate our capital expenditure in 2024 to be financed from our cash and cash equivalents on hand. Primarily, these capital expenditures will be made both in France and in the United States, where our research and development facilities are currently located.

For information on the SEC's website and our website, please refer to "Item 10.H. Documents on Display".

Business Overview

We are a clinical stage biotechnological company, employing our core proprietary technologies to develop products based on gene-editing, with a portfolio of allogeneic Chimeric Antigen Receptor T-cells, or UCART, product candidates in the field of immuno-oncology and gene-edited hematopoietic stem and progenitor cells, or HSPC, product candidates in other therapeutic indications.

Our UCART product candidates, based on gene-edited T-cells that express chimeric antigen receptors, or CARs, seek to harness the power of the immune system to target and eradicate cancer cells. We believe that CAR-based immunotherapy is one of the most promising areas of cancer research, representing a new paradigm for cancer treatment. We are designing next-generation immunotherapies that are based on gene-edited CAR T-cells. Our gene-editing technologies allow us to create allogeneic CAR T-cells, meaning they are derived from healthy donors rather than the patients themselves. We believe that the production of allogeneic CAR T-cells will allow us to develop cost-effective, "off-the-shelf" products that are capable of being stored and distributed worldwide. Our gene-editing expertise also enables us to develop product candidates that feature certain safety and efficacy attributes, including control