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

FORM 10-K

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

For the fiscal year ended
December 31, 2023
OR

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

For the transition period from to
Commission File Number 001-37368

ADAPTIMMUNE THERAPEUTICS PLC

(Exact name of Registrant as specified in its charter)

England and Wales	**Not Applicable**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
60 Jubilee Avenue, Milton Park **Abingdon, Oxfordshire OX14 4RX** **United Kingdom** (Address of principal executive offices)	**(44) 1235 430000** (Registrant's telephone number, including area code)

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
American Depositary Shares, each representing 6 Ordinary Shares, par value £0.001 per share	ADAP	The Nasdaq Stock Market LLC

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

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

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

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

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

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

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

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

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

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

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2023, the last business day of the registrant's most recently completed second fiscal quarter, was approximately $191,284,091.

As of March 4, 2024 the number of outstanding ordinary shares, par value £0.001 per share, of the registrant was 1,480,950,456.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement for the 2024 Annual Meeting of Shareholders to be filed with the U.S. Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K are incorporated by reference in Part III, Items 10-14 of this Annual Report on Form 10-K.

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GENERAL INFORMATION

In this Annual Report on Form 10-K ("Annual Report"), "Adaptimmune," the "Group," the "Company," "we," "us" and "our" refer to Adaptimmune Therapeutics plc and its consolidated subsidiaries, except where the context otherwise requires. "Adaptimmune" is a registered trademark of Adaptimmune.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report contains forward-looking statements that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. All statements other than statements of historical facts contained in this Annual Report are forward-looking statements. In some cases, you can identify forward-looking statements by words such as "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "expect" or the negative of these words or other comparable terminology.

Any forward-looking statements in this Annual Report reflect our current views with respect to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under Part I, Item 1A. Risk Factors and elsewhere in this Annual Report. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This Annual Report also contains estimates, projections and other information concerning our industry, our business, and the markets for certain diseases, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by third parties, industry, medical and general publications, government data and similar sources.

PART I

Item 1. Business

Overview

We are a clinical-stage biopharmaceutical company transitioning in 2024 to a commercial-stage cell therapy company. We focus on providing novel cell therapies to people with cancer. We are a leader in the development of T-cell therapies for solid tumors and are anticipating our first marketing approval followed by the commercial launch of afami-cel in 2024. Our first product, afamitresgene autoleucel or "afami-cel" is specific to synovial sarcoma and will be the first product in our sarcoma product franchise. Lete-cel, which we are planning for U.S. commercial launch in 2026, will be our second product in the sarcoma franchise and will target both synovial sarcoma and myxoid round cell liposarcoma ("MRCLS"), significantly expanding our treatable patient population.

Synovial sarcoma and MRCLS are two of more than fifty types of soft tissue cancers, with approximately 13,000 new soft tissue sarcoma cases in the U.S. each year. Synovial sarcoma accounts for approximately 5-10% of these cases, with MRCLS accounting for another approximately 5-10% of soft tissue sarcomas. Synovial sarcoma impacts younger people with one third of patients diagnosed under the age of 30. The five-year disease specific survival rate for synovial sarcoma patients is currently 20%. MRCLS impacts middle-aged adults and is frequently diagnosed between ages 35-55. It has an 8%, 5 year disease specific survival rate. We believe that afami-cel in synovial sarcoma and lete-cel in synovial sarcoma and MRCLS can make a significant difference to people impacted by these cancers.

All of our products and clinical candidates utilize engineered T-cells designed to find and destroy cancer cells in patients. The T-cells are engineered to recognize particular antigens expressed by the cancer cells and to activate a person's immune system to fight the cancer they have. Our current products and clinical candidates are personalized treatment options where we take a person's white blood cells, modify them to express the engineered T-cells and then return those engineered T-cells to the patient.

Afami-cel and Commercialization

We filed a Biologics License Application ("BLA") with the Food and Drug Administration ("FDA") in December 2023 for afami-cel, a cell therapy that provides a treatment option for people with synovial sarcoma. People with synovial sarcoma are eligible to be treated with afami-cel if they express MAGE-A4 at the required level and have the required Human Leukocyte Antigen ("HLA") type. We reported an approximately 39% overall response rate (ORR) and approximately 12 months duration of response at the Connective Tissue Oncology Society ("CTOS") in 2022 from our SPEARHEAD-1 trial and believe that afami-cel will be transformative for people with advanced synovial sarcoma.

We announced FDA acceptance of the BLA for afami-cel, which has priority review on January 31, 2024. The BLA has a Prescription Drug User Fee Act ("PDUFA") target action date of August 4, 2024. We are currently preparing for the launch of afami-cel for shortly after the PDUFA target action date. We plan to launch at select authorized treatment centers ("ATCs") and anticipate growing to 30 ATCs. The launch will focus on sarcoma centers of excellence to ensure a targeted approach for persons with synovial sarcoma with initial actions to prepare for launch already under way at certain of these centers. We are working with third parties to implement the necessary infrastructure to support the launch, including with a diagnostic laboratory partner for the supply of the required companion diagnostics for eligibility testing.

Lete-cel

We are in the process of transitioning lete-cel, which targets the NY-ESO antigen in people with synovial sarcoma and MRCLS, from GSK. We reported interim analysis data for the IGNYTE-ESO trial with lete-cel at CTOS in 2023. In sub-study 2 of the IGNYTE-ESO trial, we reported a 40% ORR (18/45 patients treated) in synovial sarcoma and MRCLS combined and approximately 11 months median duration of response. The primary efficacy endpoint requires 16/60 patients to have a response. Sub-study 2 explores safety and efficacy in patients who received prior anthracycline treatment and enrollment in sub-study 2 has completed. We also reported data for sub-study 1 of the

IGNYTE-ESO trial which explores lete-cel in the first-line setting for treatment naïve patients with metastatic or unresectable synovial sarcoma or MRCLS. In the five patients treated the response rate was 80% (4/5) by investigator assessment.

Clinical Pipeline

We have clinical trials ongoing for people with ovarian cancer, head and neck cancers and urothelial cancers in which the MAGE-A4 antigen is expressed. The SURPASS trials use a next-generation TCR T-cell with the aim of increasing efficacy.

- ***SURPASS-3 Phase 2 Trial with ADP-A2M4CD8.*** A Phase 2 trial for people with platinum resistant ovarian cancer is recruiting patients. We have received Regenerative Medicine Advanced Therapy ("RMAT)" designation for ADP-A2M4CD8 for the treatment of this indication from the FDA. The Phase 2 trial will evaluate ADP-A2M4CD8 as both monotherapy and in combination with a checkpoint inhibitor, nivolumab, in ovarian cancer. The trial is open in the U.S., Canada, Spain and France.

- ***SURPASS Phase 1 Trial with ADP-A2M4CD8***: Enrollment is ongoing in a Phase 1 trial, focusing on treatment of patients with head and neck and urothelial cancers in earlier line settings and in combination with a checkpoint inhibitor (nivolumab). In the focus areas of ovarian, urothelial and head and neck cancers the reported response rate is 75% in patients with 3 or fewer prior lines of therapy (9 out of 12 patients). The trial includes a combination cohort where participants receive a combination of ADP-A2M4CD8 together with a checkpoint inhibitor (nivolumab). The trial is open at clinical sites in the U.S., Canada, France, the U.K. and Spain.

Pre-clinical Pipeline

Our proprietary platform enables us to identify cancer targets, find and develop cell therapy candidates active against those targets and produce therapeutic candidates for administration to patients. Our cell therapy candidates include TCR T-cells and TruC T-cells. Our cell therapies are currently manufactured on an autologous or per patient basis. Additionally we have a proprietary pre-clinical allogeneic platform for the development of "off the shelf" cell therapies.

Our most advanced pre-clinical programs are for T-cell therapies directed to the PRAME target ("ADP-600") and to CD70 ("ADP-520"). ADAP-600 is an engineered TCR T-cell. PRAME is expressed in a broad range of tumors including synovial sarcoma, breast, NSCLC, gastroesophageal, melanoma, endometrial, ovarian and head & neck cancers. ADP-520 is a TruC, developed by TCR² Therapeutics Inc. ("TCR²") and added to our preclinical pipeline following the combination of Adaptimmune with TCR² in June 2023. CD70 is expressed in renal cell carcinoma ("RCC"), a solid tumor and in hematological malignancies including acute myeloid leukemia ("AML") and lymphoma.

Our allogeneic platform utilizes cells derived from Induced Pluripotent Stem Cells ("iPSCs"), which can be gene-edited to express our engineered TCRs or other constructs and then differentiated into the required end cell type, for example T-cells. The platform is applicable to all of our cell therapies.

Collaborations

We have a strategic collaboration with Genentech Inc ("Genentech"). The collaboration with Genentech covers the research and development of "off-the-shelf" cell therapies for up to five shared cancer targets ("off-the-shelf" products) and the development of a novel allogeneic personalized cell therapy platform. We also have several research and development collaborations directed to particular next-generation technologies. Following the exit from a prior collaboration with GSK, we are in the process of completing transition of the NY-ESO program from GSK. We anticipate final transition of all programs (including all clinical trials) by mid-year 2024.

Corporate

We have facilities in the U.S. in Philadelphia and Boston and in the United Kingdom ("U.K.") in Abingdon and Stevenage. We are an integrated cell therapy company with our own manufacturing facility in the U.S. for autologous products and in the U.K. for allogeneic products together with a dedicated lentiviral vector manufacturing suite in the U.K. within the Cell and Gene Therapy Catapult manufacturing facility at Stevenage. This enables us to continue improving the patient experience associated with our cell therapies including the ability to introduce improvements to the manufacturing process and patient supply chain.

On March 6, 2023 the Company announced entry into a definitive agreement under which it combined with TCR² in an all-stock transaction. TCR² is a Boston, Massachusetts-based T-cell therapy company focused on treating solid tumours. The transaction was approved by the Company's shareholders and TCR² stockholders on May 30, 2023 and the merger became effective on June 1, 2023. Following merger becoming effective TCR² and all entities within the TCR² group, became wholly owned by the Company. Following the completion of the transaction, the former TCR² stockholders held approximately 25% of the Company, whereas the Company's pre-existing shareholders held approximately 75%. The operations of the TCR² are now fully integrated within the Adaptimmune operations.

Business Strategy

Building on our leadership position with engineered T-cell therapies in solid tumor indications, our strategic objective is to be a world leader in designing, developing and delivering cell therapies that redefine the treatment of cancer. Our mission is to revolutionize the treatment of solid tumors with a single dose of engineered TCR T-cells and as a result to address cancers with high unmet needs with both autologous and allogeneic solutions. To achieve our mission, our primary core value drivers are as follows:

Building a commercial franchise in synovial sarcoma and MRCLS. We submitted a BLA for our first product, afami-cel for the treatment of synovial sarcoma and are targeting the commercial launch of afami-cel upon receipt of FDA approval. We continue to build the systems, policies and commercial capabilities to support that launch. We are progressing development of our second product, lete-cel and targeting U.S. commercial launch in 2026.

Progressing the SURPASS-3 Phase 2 trial through to completion. Depending on the data, we plan to rapidly progress ADP-A2M4CD8 through the phase 2 trial and towards BLA filing. We have RMAT designation for ADP-A2M4CD8 for the treatment of ovarian cancer from the FDA.

Progressing the ADP-A2M4CD8 T-cell therapy into earlier lines of therapy. We are recruiting patients in two new cohorts in the SURPASS trial in urothelial and head and neck cancers. These cohorts are looking at treatment in earlier lines of therapy and alongside standard of care treatments.

Progressing PRAME (ADP-600) and CD-70 (ADP-520) directed T-cell therapies into the clinic. We aim to complete preclinical development of our T-cell therapy directed to PRAME, continue development of our next-generation T-cell therapies directed to PRAME and continue pre-clinical development of a T-cell therapy directed to CD70.

Continuing to develop "off-the-shelf" cell immunotherapies and progress allogeneic cell therapies to the clinic. We continue to develop our "off-the-shelf" (allogeneic) platform, which is broadly applicable to cell therapies, both internally and in collaboration with our partner Genentech.

Continuing to improve our manufacturing and patient supply processes to optimize how we deliver our cell therapies to patients. Our integrated cell therapy manufacturing capabilities enable us to continually enhance our cell and vector manufacturing and supply processes which we believe will ultimately enable us to treat patients quicker, at a lower cost and more effectively.

Our Cell Therapies for Cancer

The Immune System and T-cells

The immune system plays an important role in targeting and destroying cancer cells. Specifically, T-cells, which are a type of white blood cell, and their receptors create a natural system that is designed to scan the body for diseased cells. In general, cells process proteins internally and then convert these proteins into peptide fragments which are then presented on the cell surface by a protein complex called the Human Leukocyte Antigen ("HLA"). T-cells naturally scan all other cells in the body for the presence of abnormal peptide fragments, such as those generated from infectious agents. Recognition of this peptide-HLA complex takes place through the T-cell receptor or TCR expressed on the T-cells. However, binding of naturally occurring TCRs to cancer targets tends to be very poor because cancer proteins appear very similar to naturally occurring proteins on healthy cells.

Cancer Target Identification and Validation

Before developing any engineered T-cell therapy, it is important to identify and validate a suitable target cancer peptide or protein. The target or antigen must be expressed only on the cancer cells of interest or at very low expression levels in normal non-cancerous tissue. Careful validation and identification of targets is important to ensure that any engineered cell therapy is specific to the targeted cancer and does not bind to the same target on non-cancer cells, or that the receptor in the cell therapy does not recognize a similar peptide or protein derived in normal cells.

Our Cell Therapies

We have developed a range of cell therapies all of which utilize the interaction between a T-cell via its TCRs and a peptide or protein. Our cell therapies can be made directly from a patient's own T-cells ("autologous" cell therapies) or manufactured from stem cells ("allogeneic" cell therapies).

For all of our autologous cell therapies patient T-cells are extracted and are then engineered to generate the end cell therapy whether this is through engineering of the TCR itself or through the addition of another agent which enhances the efficacy of the TCR or T-cell. The nature of the engineering impacts the type of cell therapy product generated. The engineered T-cells are then expanded and infused back into the patient. When these T-cells encounter a recognized peptide or protein within the patient's body, they multiply and initiate the destruction of the targeted cancer cells.

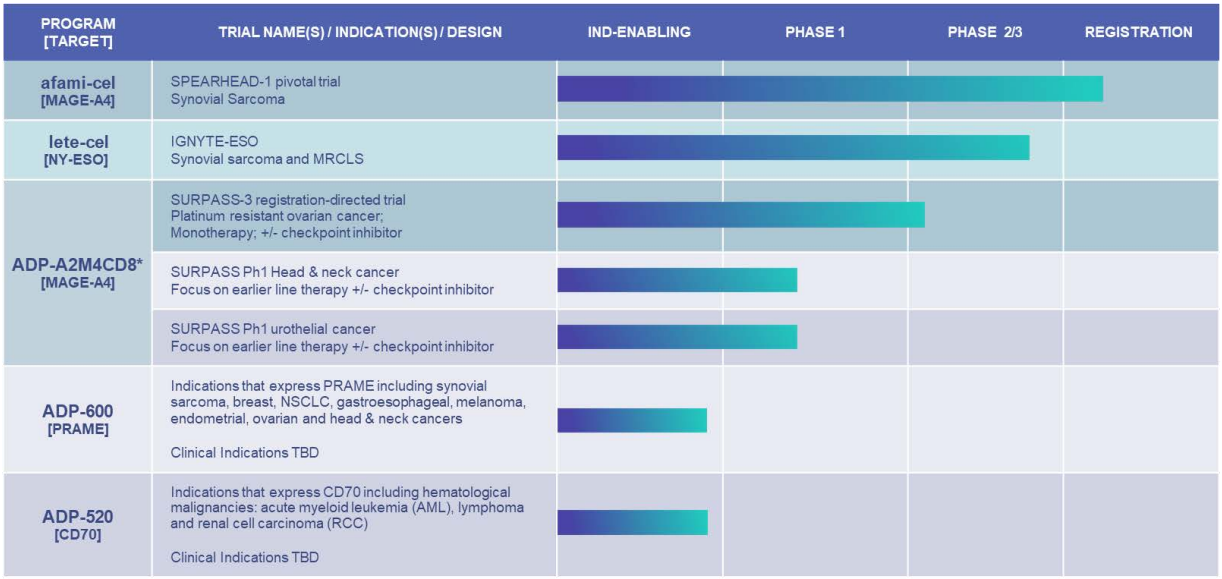
For our allogeneic T-cell therapies, Induced Pluripotent Stem Cells ("iPSCs") are gene edited to express the engineered TCR and potentially a range of next-generation modifications. As part of the gene editing the iPSCs are also edited to remove certain HLA-type expression so that patients expressing any HLA-type can be treated with the same end product. Those gene-edited iPSCs are then differentiated, using a number of directed process steps, into T-cells, which can then be used to treat patients expressing the tumor antigen to which the TCR is directed.

Adaptimmune has two receptor platforms, "TCRs" and "TRuCs", which target different classes of antigen. Engineered TCRs target peptides from intracellular proteins that are naturally processed into peptide fragments and presented on the cell surface by HLA, whereas TRuCs bind to protein targets that are expressed on the cell surface, similar to the way in which Chimeric Antigen Receptor or "CAR" T-cells act. Following identification of a suitable target protein that is expected to have a safe expression profile, we tailor our approach depending on the extracellular or intracellular location of the target. Both platforms are amenable to autologous and allogeneic cell therapies.

For intracellular target proteins we identify potential immunogenic peptides that are processed and presented by specific HLA types and then identify TCRs that are capable of binding to that specific peptide/HLA complex. We engineer and optimize those identified receptors to enhance their ability to recognize and bind to the cancer targets, thereby enabling a highly targeted immunotherapy which complements a patient's immune system. The optimized TCR for the cell therapy then undergoes extensive preclinical safety testing prior to administration to patients who express the right protein target and HLA type. The majority of our products, current clinical candidates and most of our pre-clinical candidates target intracellular antigens presented by HLA-A2.

TRuCs use an antibody binding domain coupled to a CD3 subunit. The antibody portion binds to the target protein on the cancer cell and then the bound complex signals through a CD3/TCR complex using the natural signaling pathway of T cells. The physiological signaling method of TRuCs is distinct from CAR T-cell signaling where multiple signaling units are bolted together in a single protein. Natural TCRs are sensitive to much lower antigen density than CARs. Our ADP-520 preclinical program uses a TRuC directed to the CD70 antigen. There is no HLA restriction with this product meaning that all patients with tumors expressing CD70 could be eligible.

Our Product Pipeline



*SURPASS Ph 1 no longer enrolling for indications other than head & neck and urothelial cancers

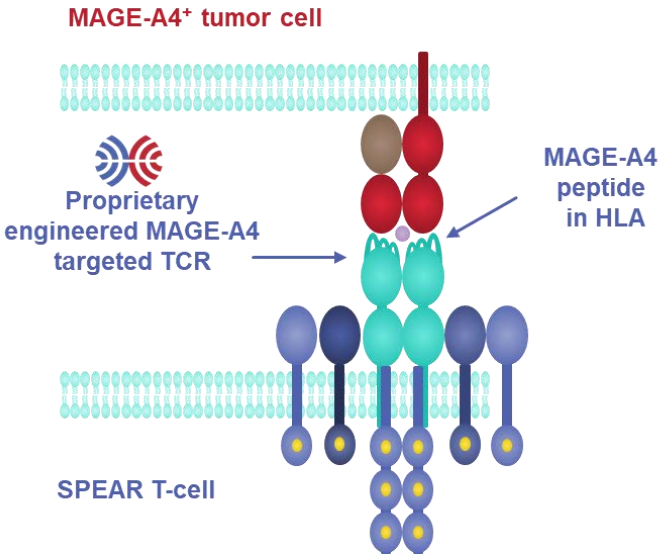
Clinical Pipeline

Sarcoma Franchise – afami-cel and lete-cel

We submitted a Biologics License Application ("BLA") with the FDA for our first product, afami-cel, in December 2023. Acceptance of the BLA was announced on January 31, 2024, with a target PDUFA date of August 4, 2024. We are working towards a commercial launch in the third quarter of 2024. A second product, lete-cel, is in pivotal trial, with the full data set targeted for the third quarter of 2024.

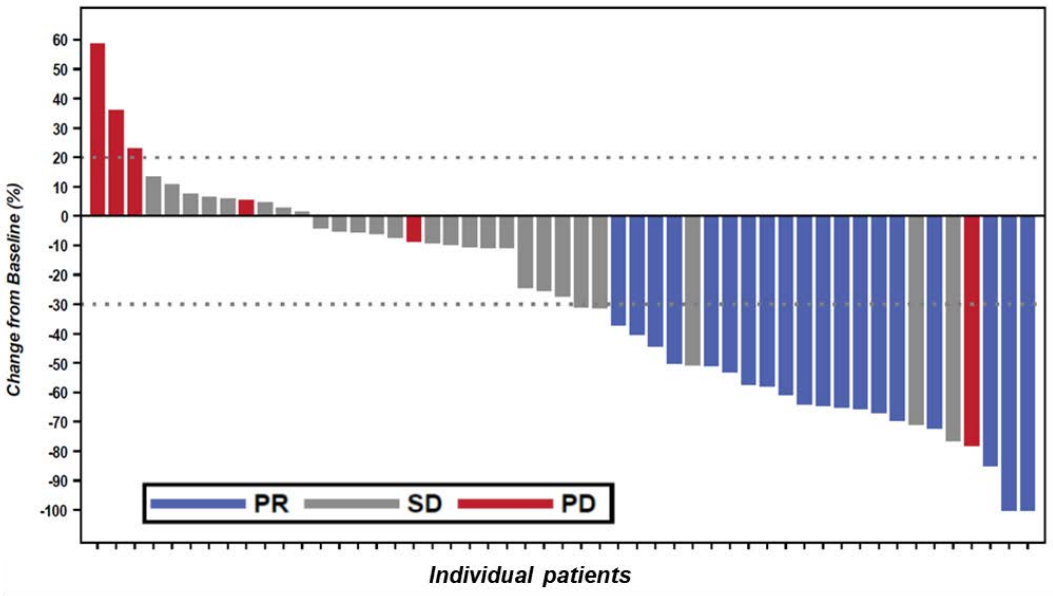
- ***Afami-cel***

Afami-cel is a TCR T-cell therapy directed to a MAGE-A4 peptide presented on HLA. The diagram below illustrates the afami-cel T-cell interacting with the MAGE-A4 antigen on the tumor cell. We believe afami-cel will redefine treatment for people with synovial sarcoma.



Enrollment in a Phase 2 clinical trial (the SPEARHEAD-1 trial) in synovial sarcoma will shortly complete in the U.S. Enrollment in the SPEARHEAD-1 trial will continue in Canada, the U.K., Spain and France. A pediatric trial, SPEARHEAD -3, is currently enrolling in the U.S..

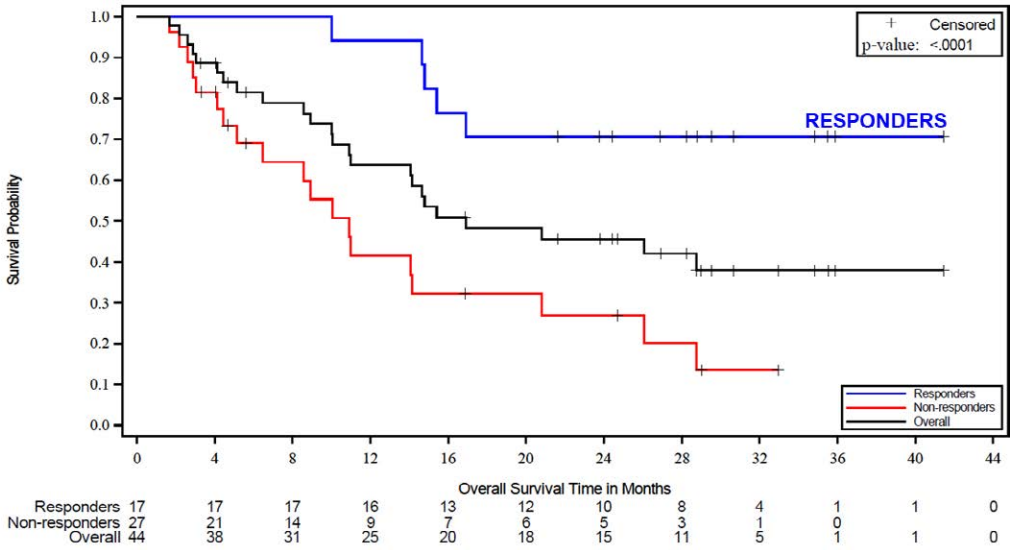
Clinical data from the SPEARHEAD-1 trial was presented at the Connective Tissue Oncology Society ("CTOS") in November 2022. An Overall Response Rate (ORR) per independent review of approximately 39% in synovial sarcoma was presented together with a median duration of response of just over 50 weeks. We believe afami-cel continues to have an acceptable benefit to risk profile. The charts below summarize the best overall responses by RECIST v1.1 as of August 29, 2022 for cohort 1 of the SPEARHEAD -1 trial.



The graph represents data from Cohort 1. PR= partial response; SD=stable-disease; PD=progressive disease. Data represent percent changes from baseline in sum of diameters (sum of the long diameters

for non-nodal lesions and short axis for nodal lesions) in target lesions through progression or prior to surgical resection.

Survival data for afami-cel was reported at CTOS in 2023 with afami-cel responders having a 2-year survival probability of 70% and median overall survival not yet reached in the SPEARHEAD-1 trial. As of August 30, 2023 the median overall survival across the entire SPEARHEAD -1 trial is approximately 17 months.



Orphan Drug designation for afami-cel for the treatment of soft tissue sarcomas has been granted in the European Union ("EU") and U.S. In addition, the FDA has granted RMAT designation U.S. for the treatment of synovial sarcoma and access to the Priority Medicines ("PRIME") regulatory support scheme for the treatment of synovial sarcoma.

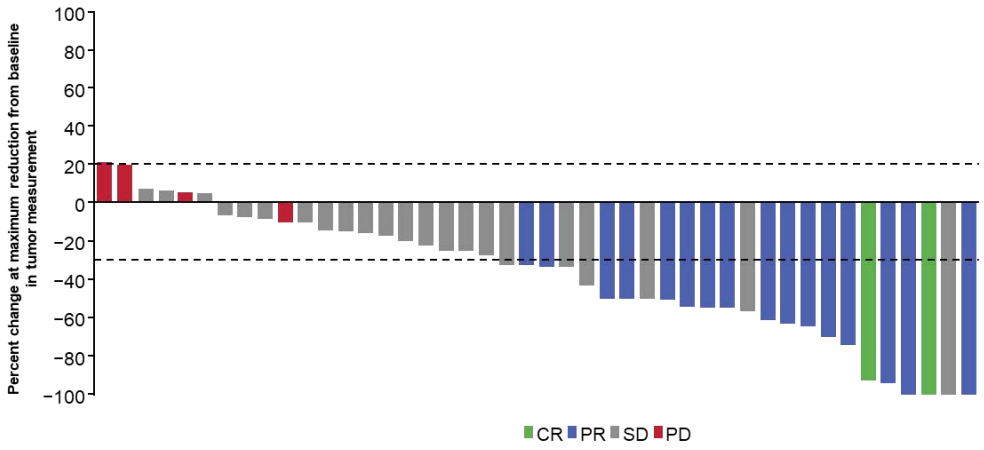
We are currently preparing to launch the product in the third quarter of 2024 in the U.S. Launch will be focused initially on 6-10 ATC and will expand to additional ATCs. Field teams are being recruited and we are working with our ATCs and supporting third party vendors to provide for a successful launch.

- ***Lete-cel***

Lete-cel is a TCR T-cell therapy directed to a NY-ESO peptide presented on HLA. It was originally developed by Adaptimmune, and further developed under a collaboration and license agreement with GSK plc. Lete-cel is being investigated for the treatment of synovial sarcoma or myxoid/round cell liposarcoma (MRCLS) in the pivotal IGNYTE-ESO (NCT03967223) trial in patients who received prior anthracycline treatment. GSK and Adaptimmune agreed terms for the transition of lete-cel back to Adaptimmune in April 2023, transition of the lete-cel clinical trials are ongoing.

Data from an interim analysis of sub-study 2 of the IGNYTE-ESO trial was reported at CTOS in November 2023. Sub-study 2 of the IGNYTE-ESO trial is a registration directed trial in synovial sarcoma and MRCLS exploring the efficacy and safety of lete-cel in later stage patients who have received prior anthracycline treatment. The interim analysis for efficacy includes data from 45 people with synovial sarcoma or MRCLS who have received lete-cel in the IGNYTE-ESO trial and who had at least 6 months follow up. At the time of this analysis, 18/45 (40%) (99.6% CI: 20.3%, 62.3%) people with synovial sarcoma or MRCLS had RECISTv1.1 responses by independent review with two complete responses and 16 partial responses. The response rate was 9/23 (39%) for people with synovial sarcoma and 9/22 (41%)

for people with MRCLS by independent review.



At the time of this data cut, 18/45 of people with synovial sarcoma or MRCLS had RECISTv1.1 responses with lete-cel, by independent review. The pre-defined success criteria for this planned interim analysis required at least 14 responders out of 45 patients and the primary endpoint for efficacy will require 16 responders out of 60 patients by independent review. The full pivotal trial read-out is expected in the third quarter of 2024 and work is underway to further develop lete-cel and submit a BLA in the U.S.

Duration of Response (DoR) is still being followed in 9/18 (50%) of responders at the time of the data cut-off. The median duration of response was 10.6 months (95% CI: 3.3, NE). The DoR ranges from 1.18+ to 16.6+ months and 12 out of 18 patients were censored for this analysis.

Data from sub-study 1 of the IGNYTE-ESO trial was also reported at CTOS 2023. Sub-study 1 was designed to explore the feasibility, efficacy, and safety of lete-cel in the first-line setting for treatment-naïve patients with metastatic or unresectable synovial sarcoma or MRCLS. Of the five evaluable patients in the sub-study, one exhibited a complete response, with an additional three partial responses, yielding an overall response rate of 80% (4/5) by investigator assessment. All five patients experienced cytokine release syndrome, all cases resolved; four were treated with tocilizumab. Overall, the sub-study reveals encouraging efficacy in this small population of treatment-naïve patients in the advanced/metastatic setting with 80% ORR, with all responses ongoing at the time of this analysis.

The IGNYTE-ESO trial, is ongoing but closed to enrollment. It is being transitioned from GSK to Adaptimmune together with the remainder of the NY-ESO directed cell therapy program previously controlled by GSK. Transition is subject to the terms of and is anticipated to be completed during 2024.

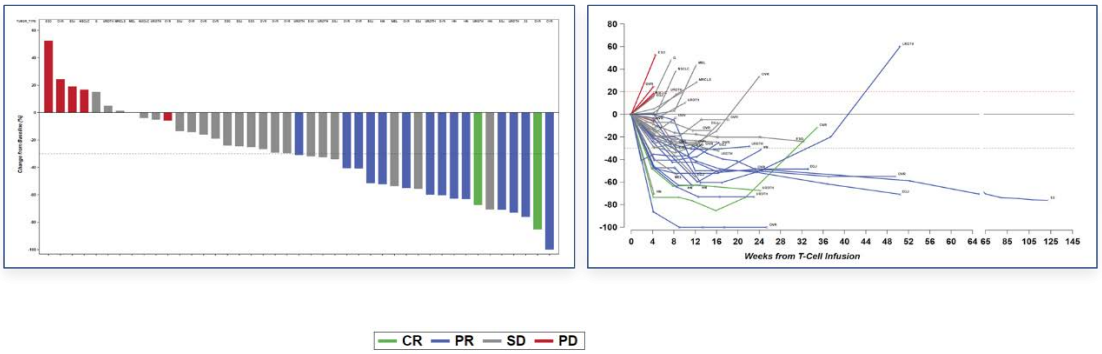
- ***SURPASS trials***

  Phase 1 Trial with ADP-A2M4CD8 **(SURPASS trial)**

  Enrollment is ongoing in the Phase 1 SURPASS trial for ADP-A2M4CD8, a next-generation TCR T-cell therapy. This T-cell therapy utilizes the same engineered T-cell receptor as afami-cel, but with the addition of a CD8α homodimer. The addition of the CD8α homodimer has been shown in vitro to increase cytokine release and T-cell potency.

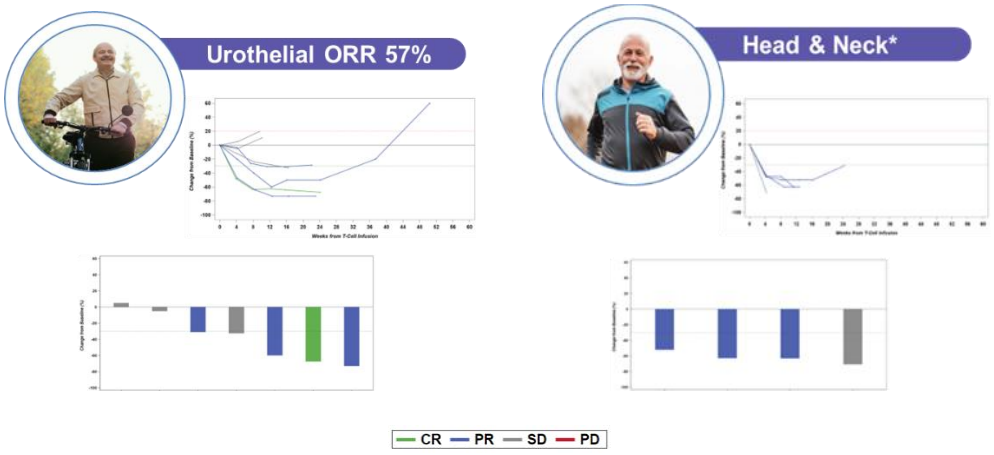
  Data from the trial was reported at ESMO in 2023, with a 35% overall response rate and approximately 5 months median duration of response in 43 evaluable patients. A 50% response rate was seen in the focus indications of ovarian, urothelial and head and neck cancer. The following chart shows the responses seen

in the trial.



Recruitment in the SURPASS trial is now focused on head and neck cancer and urothelial cancer in earlier line settings and also with checkpoint inhibitors.

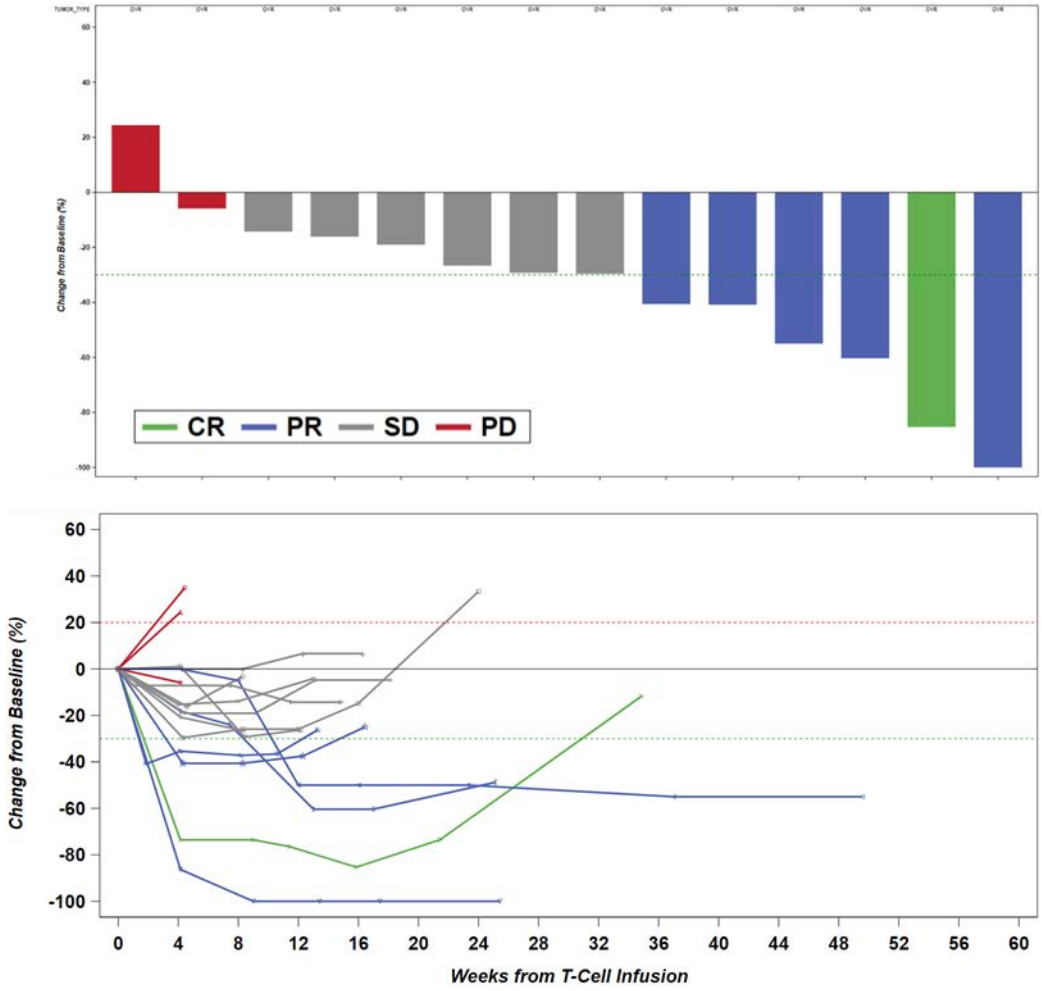
The charts below show the responses seen in ovarian, urothelial and head and neck indications. Data provided is as of August 14, 2023.



Phase 2 Trial with ADP-A2M4CD8 in ovarian cancer ("SURPASS-3"):

A Phase 2 trial with ADP-A2M4CD8 in ovarian cancer is enrolling in the U.S., France, Spain and Canada. The U.S. arm of the trial has been initiated in collaboration with The GOG Foundation Inc. The trial evaluates the T-cell therapy in both monotherapy and in combination with nivolumab (a checkpoint inhibitor) in platinum resistant ovarian cancer. We recently received FDA RMAT designation for ADP-A2M4CD8 for the treatment of patients with platinum resistant ovarian cancer.

The trial was initiated based on the clinical data seen in persons with ovarian cancer in the Phase 1 SURPASS trial. A 40% overall response rate (including one complete response) and median duration of 17 weeks was reported as of August 14 2023 in the 15 patients treated.



Other Clinical Programs

The ADP-A2AFP Phase 1 trial and the SURPASS-2 Phase 2 trial, have closed to enrollment. The gavo-cel and TC-510 trials have also closed to enrollment and in all cases trials will be closed once all patients have been fully treated and followed in accordance with the protocol and regulatory requirements.

Preclinical Candidate Pipeline

Our aim is to utilize the insights we obtain from our clinical trials and translational sciences work to improve the efficacy of our existing products and approaches; and to increase the scope of our cell therapies and ability to treat an increasing number of patients. We are currently focusing our preclinical pipeline on the development of T-cell therapies directed to PRAME and CD70 and on our allogeneic cell therapy platform.

PRAME program

PRAME is highly expressed across a broad range of solid tumors including ovarian, endometrial, lung and breast cancers. We are developing TCR T-cells directed to PRAME, with the initial candidate currently in preclinical testing and next-generation candidates being developed over the longer term.

CD70 program

The CD70 program targets the CD70 antigen which is expressed across a range of hematological malignancies (acute myeloid leukemia and lymphoma) and solid tumors (renal cell carcinoma). We are using TRuC technology to develop a T-cell therapy against CD70, with membrane bound IL-15 to enhance persistence. The T-cell therapy is currently in pre-clinical testing.

Allogeneic iPSC Platform

We continue to develop our allogeneic platform which can be used to generate 'off-the-shelf' cell therapies that are universally applicable to all eligible patients by developing gene-edited iPSCs which are differentiated to T-cells by our in-house proprietary process. These "off-the-shelf" cells are being developed to overcome the current limitation of autologous therapies that need to be manufactured specifically for each patient. Additionally, our process starts with iPSCs instead of donor-derived T-cells, which potentially reduces product variability.

The enhanced T-cell technology being developed involves selective engineering for the removal of potentially immunogenic cell surface proteins (for example, HLA molecules) and the addition of our TCRs, without the use of nucleases, to develop these T-cell products. If successful, this will enable us to treat our patients with an "off-the-shelf" or on demand cell therapy product without the need to acquire a patient's own cells.

We have a collaboration program with Genentech, in which "off-the-shelf" cell therapies for up to five shared cancer targets ("off the shelf" products) and a novel allogeneic personalized cell therapy platform are being developed.

Integrated Cell Therapy Company

We are committed to building an integrated cell therapy company with a broad range of capabilities that enable the research and development of cell therapies, the translational analyses of clinical responses, control of the manufacturing and supply chain and commercialization**.** The ability to take learnings from every stage of the process and feed these learnings back into further research and development enables decisions to be taken at the appropriate time and improvements and enhancements to processes and products to be made effectively and in a timely manner.

We have our own autologous cell therapy manufacturing facility at the Navy Yard in Philadelphia, Pennsylvania which is capable of supplying the majority of our autologous cell therapies currently in the clinic. The Navy Yard facility will also support the anticipated commercial launch in the U.S. of afami-cel. A new manufacturing facility dedicated to allogeneic drug product manufacture opened in 2022 and is co-located with our research facility in Milton Park in the U.K. We also have our own dedicated vector manufacturing capability in the U.K., within the Catapult Cell and Gene Therapy Manufacturing Centre in Stevenage, which is producing lentiviral vector for our SURPASS trials using a proprietary suspension process.

Control of our own end-to-end manufacturing processes (including vector, T-cell and analytical quality control testing) enables us to improve and further develop these processes for manufacture of our cell therapies. The ability to manufacture in-house provides security of supply at a lower cost than using a third-party provider. In addition, the ability to continually evaluate and optimize processes enables ongoing reduction in the times taken to treat our patients and the overall cost of goods applicable to manufacture and supply of our cell therapies.

In addition to our in-house capabilities, and as a result of the strategic combination with TCR^2 and transition of the lete-cel program back to Adaptimmune, we are also utilizing third party manufacturing capacity to manufacture lete-cel and ADP-520. We utilize a third party contract manufacturer for supply of lenti-viral vector for use in the manufacture of afami-cel and lete-cel. We will continue to evaluate the most efficient and effective supply chains for all of our products.

Core Alliances and Collaborations

Genentech Strategic Collaboration and License Agreement

On September 3, 2021, Adaptimmune Limited, a wholly-owned subsidiary of Adaptimmune Therapeutics plc, entered into a Strategic Collaboration and License Agreement with Genentech, Inc. and F. Hoffman-La Roche Ltd (the "Agreement").

The collaboration has two components:

1) Development of allogeneic T-cell therapies for up to five shared cancer targets
2) Development of personalized allogeneic T-cell therapies utilizing αβ T-cell receptors (TCRs) isolated from a patient, with such therapies being administered to the same patient.

The parties will collaborate to perform a research program, initially during an eight-year period (which may be extended for up to two additional two-year terms at Genentech's election upon payment of an extension fee for each two-year term), to develop the cell therapies, following which Genentech will determine whether to further develop and commercialize such therapies.

Under the terms of the Agreement, Adaptimmune received a $150 million upfront payment. Adaptimmune may also receive:

- $150 million in additional payments spread over a period of five years from the effective date of the Agreement, unless the Agreement is earlier terminated;
- research milestones of up to $50 million;
- development milestones of up to $100 million in relation to the development of off-the-shelf T-cell therapies per collaboration target (unless Adaptimmune exercises its right to opt-in to receive a profit share) and up to $200 million in relation to the development of personalized T-cell therapies;
- commercialization milestones of up to $1.1 billion for "off-the-shelf" T-cell therapies (unless Adaptimmune exercises its right to opt-in to receive a profit share and assuming off-the-shelf T-cell therapies are developed to five targets) and for personalized T-cell therapies; and
- net sales milestones of up to $1.5 billion for "off-the-shelf" T-cell therapies (unless Adaptimmune exercises its right to opt-in to receive a profit share and assuming "off-the-shelf" T-cell therapies are developed to five targets) and for personalized T-cell therapies

In addition, Adaptimmune will receive tiered royalties on net sales in the mid-single to low-double digits.

Adaptimmune also has a right to opt-in to receive a profit share and to co-promote "off-the-shelf" T-cell therapies. If Adaptimmune elects to opt in, then Adaptimmune will be eligible to share 50 percent of profits and losses from U.S. sales on such products and to receive up to $800 million in ex-U.S. regulatory and sales-based milestone payments, as well as royalties on ex-U.S. net sales.

The parties can terminate the Agreement in the event of material breach or insolvency of the other party. Genentech is entitled to terminate the Agreement in its entirety, on a product-by-product basis or collaboration target by collaboration target basis on provision of 180 days notice.

Development and Research Collaborations

We entered into the GSK Collaboration and License Agreement regarding the development, manufacture and commercialization of TCR therapeutic candidates in May 2014. The collaboration was terminated in October 2022, following which an amendment to the collaboration agreement was entered into in December 2022 and entry into a transition agreement was announced in April 2023. The agreement covered the return of the PRAME and NY-ESO programs to Adaptimmune.

Per the terms of the 2023 transition agreement, Adaptimmune has received an upfront amount and will receive milestone-based payments totaling £30 million in relation to the transfer of the clinical trials for the NY-ESO targeted programs. Adaptimmune and GSK have collaborated to transition data and materials relating to the PRAME program to Adaptimmune. In addition the parties are also collaborating to transfer the NY-ESO program to Adaptimmune including the transfer of sponsorship for the ongoing GSK IGNYTE-ESO clinical trial and associated long-term follow-up clinical trial to Adaptimmune. Transition of sponsorship started in the fourth quarter of 2023 and is anticipated to complete during the first half of 2024.

We have third-party collaborations in place with Noile-Immune and Alpine Immune Sciences in relation to next-generation T-cell therapies.

Intellectual Property

We seek to protect the intellectual property and proprietary technology that we believe is important to our business, including seeking, maintaining, enforcing and defending patent rights for our cell therapies and processes, whether developed internally or licensed from third parties. Our success will depend on our ability to obtain and maintain patent and other protection including data/market exclusivity for our cell therapies, manufacturing and platform technology, preserve the confidentiality of our know-how and trade secrets and operate without infringing the valid and enforceable patents and proprietary rights of third parties. See "Risk Factors—Risks Related to Our Intellectual Property."

Our policy is to seek to protect our proprietary position generally by filing an initial priority filing at the U.K. Intellectual Property Office ("UKIPO") and/or the U.S. Patent Trademark Office ("USPTO"). This is followed by the filing of a patent application under the Patent Co-operation Treaty ("PCT") claiming priority from the initial application(s) and then application for patent grant in, for example, the U.S., Europe (including major European territories), Japan, Australia, New Zealand, India and Canada. In each case, we determine the strategy and territories required after discussion with our patent professionals to ensure that we obtain relevant coverage in territories that are commercially important to us and reflect the scope of cell therapies being developed. We will additionally rely on data exclusivity, market exclusivity and patent term extensions when available, including as relevant exclusivity through orphan or pediatric drug designation. We also rely on trade secrets and know-how relating to our underlying platform technologies, manufacturing processes and pre-clinical candidates.

Product Patent Families

Afami-cel - We own three patent families covering the composition of matter of ADP-A2M4 and other related TCRs and T-cell therapies. The patent application claims are primarily directed to the engineered TCR therapeutic candidate and in particular the amino acid substitutions required for such engineered TCR therapeutic candidate. National/regional applications have been filed via the PCT in all commercially relevant territories and claims have been granted in Europe and the U.S. and other major jurisdictions. The patents within these families, if the appropriate maintenance, renewal, annuity, or other governmental fees are paid, will expire in 2037 (worldwide, excluding possible patent term extensions). National/regional patent applications have also been filed via the PCT in relation to the use of ADP-A2M4 TCR in the treatment of head and neck, lung and ovarian cancers.

Lete-cel – We own a patent family covering the composition of matter of NY-ESO TCRs and T-cell therapies, with claims directed to engineered NY-ESO TCR therapeutics. Claims have been granted in Europe and the U.S. and other major jurisdictions, and the patents are expected to expire in 2025 (worldwide, excluding possible patent term extensions). We also own two patent families directed to next-generation technology and methods relating to the use of NY-ESO TCR therapeutics. We project the patents in these families, if issued, will expire in 2039 and 2043 (worldwide, excluding possible patent term extensions).

ADP-A2M4CD8 – We own a patent family covering the composition of matter of ADP-A2M4CD8 and other related TCR T-cell therapies. The patent application claims are directed to the engineered TCR therapeutic candidate in combination with the CD8 next-generation technology. We project the patents within this family, if issued, and if the appropriate maintenance, renewal, annuity, or other governmental fees are paid, to expire in 2039 (worldwide, excluding

possible patent term extensions). PCT applications have also been filed in relation to the use of A2M4CD8 TCR in the treatment of esophageal and gastric cancers, head and neck, urothelial and ovarian cancers.

PRAME TCR T-cell – We have filed a PCT application covering the composition of matter of the TCR T-cell therapy family directed to the PRAME target. The patent application claims are primarily directed to the engineered TCR candidate and in particular to the amino acid substitutions required for such TCR candidate. National and regional applications will be filed via the PCT in due course.

CD70 TRuC T cell – We own a patent family covering the composition of matter of the T cell therapy directed to CD70. National and regional applications have been filed in commercially relevant jurisdictions, and patents within these families, if issued, are expected to expire in 2041 (worldwide, excluding possible patent term extensions).

Platform Technologies

We own a number of platform technology patents and patent applications which are directed to certain aspects of the process that we use to engineer our TCRs and other cell therapies. Some of these are owned jointly with Immunocore Limited, with whom we have historically had a shared development history. We also own a patent family covering our TRuC-T cell platform, in which national/regional applications have been filed via the PCT in all commercially relevant territories. Patents with claims covering the TRuC-T cell platform have been granted in Europe, the US, and other major jurisdictions, and are expected to expire in 2036 (worldwide, excluding possible patent term extensions).

Manufacturing Process Patents and Patent Applications

We have trade secrets and patent applications relating to the manufacture of our cell therapies. For example, we have filed patent applications in commercially relevant territories, which claim priority from initial priority patent applications filed at the USPTO and UKIPO, which are directed to a particular modification to the lentiviral vector technology. We believe this modification enhances the safety profile of the lentiviral vector technology. This has been granted in the U.S. and other major jurisdictions. Further patent applications have been filed on the manufacturing and quality control of our products.

Preclinical and Next-Generation Approaches

We have filed six patent families covering a range of next-generation technology approaches and/or combination approaches. For one of these patent families, we hold an exclusive, worldwide, royalty free, sublicensable license from Drs. Stefan Endres and Sebastian Kobold at the Klinikum der Universität München. We own the remaining five of these patent families.

Allogeneic iPSC Platform Approaches

We have filed a number of patent applications covering our proprietary iPSC stem cell differentiation technology which enables the differentiation of stem cells into T-cells which can then be administered to patients. The patent applications are primarily directed to the various stages required for the differentiation of the iPSC stem cells into different cell line types including NK cells, NKT cells, macrophages, dendritic cells and T-cells. The earliest of these applications have now been filed via the PCT in commercially relevant territories, and patent protection is projected to extend to 2040 (worldwide, excluding possible patent term extensions) for these families. Further priority, PCT, and national/regional patent applications have also been filed covering additional aspects of our allogeneic platform.

Third-Party Intellectual Property Rights

We have a non-exclusive license from ThermoFisher Inc. under certain of its intellectual property rights covering its Dynabeads® CD3/CD28 technology. This technology is used in our manufacturing process to isolate, activate and expand patient T-cells. We also have a supply agreement which runs until December 31, 2025. See "Risk

Factors—Risks Related to Our Reliance Upon Third Parties—We rely heavily on ThermoFisher and the technology we license from them."

Whether licenses are required under any third-party patents depends on what steps we take going forward in relation to our manufacturing processes, development processes and development products including our allogeneic manufacturing and differentiation process. We may need to negotiate a license under any third-party patents or develop alternative strategies for dealing with any third party patents if licenses are not available on commercially acceptable terms or at all.

Competition

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies and intense competition. Competitors include large pharmaceutical companies with established development and commercialization programs, biotechnology companies with varying development and commercialization capabilities, and academic centers developing novel technologies and products.

We face competition in all of the following areas:

(a) From other autologous cell therapies: There are a number of other cell therapies that have already received marketing approval or are currently in clinical trial development. For example, autologous CAR T-cells modalities on the market include Abecma™, Breyanzi™, CARVYKTI™, Tecartus™, Kymria™, and Yescarta™. In addition, other autologous cell therapies include TIL therapy (e.g. Iovance's Lifileucel).

(b) From other TCR T-cell therapies: Third parties and academic institutions are developing cell therapies for single or multiple cancer and tumor microenvironment targets including personalized neoantigen targets. These cell therapies are at a variety of preclinical and clinical development stages. Examples include Immatics' IMA203 and IMA203CD8 assets that recognize a PRAME pHLA complex, which is currently being investigated across various solid tumor indications.

(c) From other cell-based immunotherapy approaches: The immune system utilizes a complex range of different cell types and processes. Other immunotherapy approaches may target different parts of the immune system including different types of T-cells (for example, gamma delta T-cells), macrophage-based systems, NK-cell-based products, Marrow-infiltrating lymphocytes (MILs), dendritic-cell based systems.

(d) From other allogeneic cell therapy approaches: Multiple third parties are currently developing allogeneic cell therapy approaches. These can be derived from healthy donors (for example Allo-501A from Allogene Therapeutics), umbilical cord blood, or induced pluripotent stem cells (for example, FT819 being developed by Fate Therapeutics). In Dec 2022, Atara Bio's donor-derived Ebvallo™ was granted approval from the European Commission for both adults and children with Epstein-Barr positive post-transplant lymphoproliferative disorder.

(e) From other therapeutic product types. In any indication that we address, there may be multiple other product modalities that are already being marketed or in clinical trial development. For example, small molecule chemotherapy agents, biologics (e.g. peptides, antibodies, antibody-drug conjugates), vaccines, oncolytic viruses, other cell therapies (for example, gamma delta T-cells, macrophage-based systems, NK-cell-based products, Marrow-infiltrating lymphocytes, and dendritic-cell therapies). Product approvals and new clinical trials can impact our ability to complete clinical development and obtain information about the safety and efficacy of our products.

Where we see competition in any indication and a competitor receives marketing approval before our cell therapy, we will need to demonstrate increased efficacy over the competing product.

Government Regulation and Product Approvals

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

FDA Approval Process

In the U.S., therapeutic products, including drugs, biologics, and medical devices are subject to extensive regulation by the FDA. The Federal Food, Drug, and Cosmetic Act (the "FDCA"), and other federal and state statutes and regulations, govern, among other things, the research, development, testing, manufacture, storage, recordkeeping, approval, labeling, promotion and marketing, distribution, post-approval monitoring and reporting, sampling, and import and export of pharmaceutical products, including biological products. Biological products are subject to regulation under the FDC Act, and are approved for marketing under provisions of the Public Health Service Act ("PHSA") via a BLA. The application process and requirements for approval of BLAs are generally similar to those for new drug applications ("NDAs"), and biologics are associated with generally similar, if not greater, approval risks and costs as drugs. Failure to comply with applicable U.S. requirements may subject a company to a variety of administrative or judicial sanctions, such as FDA refusal to approve pending NDAs or BLAs, clinical holds, warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties, and criminal prosecution.

In the U.S., the development of a new biological product and certain changes to an approved biological product typically involves:

- preclinical studies, including laboratory and animal tests,
- the submission to the FDA of an Investigational New Drug application ("IND"), which must become effective before human clinical testing may commence, and
- adequate and well-controlled clinical trials to establish the safety and effectiveness of the biological product for each indication for which FDA approval is sought.

Satisfaction of FDA pre-market approval requirements typically takes many years and the actual time required may vary substantially based upon the type, complexity, and novelty of the product or disease.

Preclinical Studies

Preclinical studies include laboratory evaluation of product biochemistry, formulation and stability, as well as *in vitro* and animal studies to assess the potential for toxicity and to establish a rationale for therapeutic use for supporting subsequent clinical testing. In the United States, certain preclinical trials must comply with the FDA's Good Laboratory Practice requirements ("GLPs") and the U.S. Department of Agriculture's Animal Welfare Act, as well as other federal regulations and requirements.

IND Submission

In order to begin clinical testing of an investigational biologic product, the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, among other things, are submitted to the FDA as part of an IND application. An IND application is a request for authorization from the FDA to administer an investigational product to humans and must become effective before human clinical trials may begin. Some long-term preclinical testing, such as animal tests of reproductive adverse events and carcinogenicity, may continue after the IND is submitted. An IND automatically becomes effective 30 days after

receipt by the FDA, unless before that time the FDA raises concerns or questions related to one or more proposed clinical trials and places the trial on "clinical hold". In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to commence.

Clinical Studies

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

Clinical trials to support BLAs for marketing approval are typically conducted in three sequential phases, but the phases may overlap. In Phase 1, the initial introduction of the biologic into healthy human subjects or patients, the product is tested to assess metabolism, pharmacokinetics, pharmacological actions, side effects associated with increasing doses, and, if possible, early evidence on effectiveness. Phase 2 usually involves trials in a limited patient population to determine the effectiveness of the biologic for a particular indication, dosage tolerance, and optimum dosage, and to identify common adverse effects and safety risks. If a compound demonstrates evidence of effectiveness and an acceptable safety profile in Phase 2 evaluations, Phase 3 trials are undertaken to obtain the additional information about clinical efficacy and safety in a larger number of patients, typically at geographically dispersed clinical trial sites, to permit the FDA to evaluate the overall benefit-risk profile of the biologic and to provide adequate information for the labeling of the product.

The FDA may order a clinical hold, resulting in the temporary, or permanent, discontinuation of a clinical trial at any time, or impose other sanctions, if it believes that the clinical trial either is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial patients. An Investigational Review Board ("IRB") may also require the clinical trial at the site to be halted, either temporarily or permanently, for failure to comply with the IRB's requirements, or may impose other conditions.

Foreign studies conducted under an IND must meet the same requirements that apply to studies being conducted in the U.S. Data from a foreign study not conducted under an IND may be submitted in support of a BLA if the study was conducted in accordance with GCPs and the FDA is able to validate the data. The sponsor of a clinical trial or the sponsor's designated responsible party may be required to register certain information about the trial and disclose certain results on government or independent registry websites, such as clinicaltrials.gov.

In December 2022, Congress passed the Food and Drug Omnibus Reform Act ("FDORA"), which includes provisions related to diversity in clinical trial enrollment. Once the new provisions go into effect, sponsors conducting a phase three study or another pivotal study must submit a diversity action plan to the FDA by the time they submit their study protocol. The FDA may waive the requirement to submit a diversity action plan if a waiver is necessary due to the prevalence or incidence of the disease or condition that is the subject of the trial or the patient population that may use the drug or device, or if implementing a diversity action plan would be impracticable, or against the public health interest during a public health emergency. The FDA may apply a waiver on its own initiative or at the request of a sponsor. If a sponsor requests a waiver, the FDA must grant or deny a waiver within 60 days of receiving such a request.

BLA Review Process

After completion of the required clinical testing, a BLA is prepared and submitted to the FDA. FDA licensure or approval of the BLA is required before marketing of the product may begin in the U.S. The BLA must include the results of all preclinical, clinical, and other testing, compilation of data relating to the product's chemistry, manufacture, and controls, as well as proposed labeling for the product.

Under the PDFUA, the FDA has 60 days from its receipt of a BLA to determine whether the application will be accepted for filing based on the agency's threshold determination that the application is sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth review. Under PDUFA, the FDA has agreed to certain performance goals in the review of BLAs. Under Standard Review, applications for new biologic products are reviewed within 10 months of the date the FDA "filed" the BLA (approximately 60 days after receipt); under Priority Review, BLAs are reviewed within six months of the date the FDA "filed" the BLA. Priority Review can be granted to a BLA if the FDA determines that the proposed biological product has the potential to treat a serious or life-threatening condition and, if approved, would be a significant improvement in safety or effectiveness compared to available therapies. The FDA does not always meet its PDUFA goal dates for Standard and Priority BLAs, and the review process can be extended by FDA requests for additional information or clarification.

Before approving a BLA, the FDA will conduct a pre-approval inspection of the manufacturing facilities for the new product to determine whether they comply with current Good Manufacturing Practices ("cGMP") requirements. The FDA will not approve the application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and are adequate to assure consistent production of the product within required specifications. The FDA also may audit data from clinical trials to ensure compliance with GCP requirements. Additionally, the FDA may refer applications for novel biological products or biological products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes physicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions, if any. The FDA is not bound by recommendations of an advisory committee, but it considers such recommendations when making decisions on approval.

After the FDA evaluates the BLA, it issues either an approval letter or a Complete Response Letter ("CRL"). An approval letter authorizes commercial marketing of the drug with specific prescribing information ("labeling") for specific indications. A CRL indicates that the review cycle of the application is complete and FDA has determined that the application will not be approved in its present form. A CRL generally outlines the deficiencies in the submission and may identify substantial additional non-clinical or clinical testing, or data, that must be developed in order for the FDA to reconsider the application. If, or when, those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the BLA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included.

As a condition of BLA approval, the FDA may require a Risk Evaluation And Mitigation Strategy ("REMS") to help ensure that the benefits of the biologic outweigh the potential risks. REMS can include medication guides, communication plans for healthcare professionals, and elements to assure safe use ("ETASU"). ETASU can include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring, and the use of patient registries.

Expedited Development Programs

The FDA is required to facilitate the development, and expedite the review, of certain biologics that are intended for the treatment of a serious or life-threatening disease or condition for which there is no effective treatment, which demonstrate the potential to address unmet medical needs for the condition, and/or would provide an improvement over existing therapies. These expedited programs include Fast Track designation, Breakthrough Therapy designation, Accelerated Approval, and Priority Review:

- Pursuant to Section 506(b) of the FDCA, Fast Track designation is available for drug and biological products that are intended to treat a serious or life-threatening condition and for which preclinical or clinical data

demonstrate the potential to address an unmet medical need. Fast Track designation applies to both the product and the specific indication for which it is being studied. For biologics, the sponsor can request the FDA to designate the product for Fast Track status any time before receiving a BLA approval, but ideally no later than the pre-BLA meeting. Fast Track designation provides for additional interactions with FDA to expedite development and review of the BLA, and may also allow for rolling submission and review of the BLA.

- Pursuant to Section 506(a) of the FDCA, Breakthrough Therapy designation is available if the product is intended, alone or in combination with one or more other drug products, to treat a serious or life-threatening condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over currently approved therapies on one or more clinically significant endpoints. The benefits of Breakthrough Therapy designation include the same benefits as Fast Track designation, plus intensive guidance from the FDA to ensure an efficient drug development program. Requests for Breakthrough Therapy designation should ideally be made prior to the End-of-Phase 2 Meeting.
- Accelerated Approval is available for drug or biological products that treat a serious or life-threatening condition and generally provide a meaningful advantage over available therapies. In addition, the product must demonstrate an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality ("IMM"), which is reasonably likely to predict an effect on IMM or other clinical benefit. As a condition of approval, the FDA may require that a sponsor of a biologic receiving Accelerated Approval perform adequate and well-controlled confirmatory clinical trials in the post-marketing phase. If the FDA concludes that a biologic shown to be effective can be safely used only if distribution or use is restricted, it may require such post-marketing restrictions as it deems necessary to assure safe use of the product. In December 2022, the passage of FDORA made several changes to the FDA's Accelerated Approval program. Among other things, FDORA provides the FDA greater authority to ensure that sponsors begin confirmatory trials promptly, including prior to BLA approval. FDORA also provides the FDA with additional authority to withdraw approval of a product for which confirmatory studies are not completed or are inadequate to demonstrate a satisfactory benefit/risk profile.
- Under PDUFA, a BLA that receives Priority Review will have a 6-month goal date for first cycle review, rather than the 10-month goal date under Standard Review. To qualify for Priority Review, the FDA must determine that the biologic product has the potential to treat a serious or life-threatening condition and, if approved, would be a significant improvement in safety or effectiveness compared to available therapies. The decision to grant Priority Review is made by the FDA within 60 days of receipt of the BLA.

Fast Track designation, Breakthrough Therapy designation, Priority Review, and Accelerated Approval generally do not change the standards for approval, but may expedite the development or approval process. Fast Track and Breakthrough Therapy designations may be rescinded later in product development if the product no longer meets the designation-specific qualifying criteria.

Regenerative Medicine Advanced Therapy designation

Under Section 506(g) of the FDCA, added as part of the 21st Century Cures Act, Congress created the RMAT designation to facilitate an efficient development program for, and expedite review of, a product candidate that meets the following criteria:

- it qualifies as an RMAT, 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, with limited exceptions;
- it is intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition; and
- preliminary clinical evidence indicates that the product has the potential to address unmet medical needs for such a disease or condition.

A sponsor may request that the FDA designate a drug as a RMAT concurrently with or at any time after submission of an IND. The FDA has 60 calendar days to determine whether the drug meets the criteria. A BLA for a regenerative medicine therapy that has received RMAT designation may be eligible for Priority Review or Accelerated Approval through use of surrogate or intermediate endpoints reasonably likely to predict long-term clinical benefit, or

reliance upon data obtained from a meaningful number of sites. Benefits of RMAT designation include all the benefits of Fast Track and Breakthrough Therapy designation, including early interactions with FDA to discuss any potential surrogate or intermediate endpoints that could be used to support Accelerated Approval. In addition, a regenerative medicine therapy with RMAT designation that is granted Accelerated Approval and is subject to post-approval requirements may, as appropriate, fulfill such requirements through the submission of clinical evidence from clinical trials, patient registries, or other sources of real world evidence, such as electronic health records; the collection of larger confirmatory data sets; or post-approval monitoring of all patients treated with such therapy prior to its approval. Like FDA's other expedited development programs, RMAT designation does not change the standards for approval but may help expedite the development or approval process. The RMAT designation may be rescinded later in product development if the product no longer meets the designation-specific qualifying criteria.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan drug designation to a drug or biological products intended to treat a rare disease or condition. A rare disease or condition is one that affects fewer than 200,000 individuals in the U.S., or if it affects more than 200,000 individuals in the U.S., there must be no reasonable expectation that the cost of developing and making a product available in the U.S. for such disease or condition will be recovered from sales of the product. Orphan drug designation must be requested before submitting a BLA. After the FDA grants orphan drug designation, the identity of the biological product 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.

Orphan drug designation confers several benefits, including certain tax credits for clinical research, a waiver of the BLA application fee, and exemption from certain pediatric study requirements, among others. The key benefit of orphan drug designation is orphan drug exclusivity, which is a seven-year exclusive marketing period in the U.S. for that product for that indication. Generally, the first BLA applicant with FDA orphan drug designation for a particular biological product to treat a particular disease that obtains FDA approval is entitled to orphan drug exclusivity. During the orphan drug exclusivity period, the FDA may not approve any other applications to market the same biological product for the same rare disease or condition, with limited exceptions. One exception is if the later application can demonstrate clinical superiority to the biological product with orphan drug exclusivity. Clinical superiority may be shown by greater efficacy, greater safety, or a major contribution to patient care.

Orphan drug exclusivity does not prevent the FDA from approving a different drug or biological product for the same disease or condition, or the same biological product for a different disease or condition.

Pediatric Data and Study Requirements

Under the Pediatric Research Equity Act ("PREA"), NDAs or BLAs (as well as efficacy supplements) must contain data to assess the safety and effectiveness of the drug or biological product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the drug or biological product is approved as safe and effective. The FDA may, on its own initiative or at the request of the applicant, grant full or partial waivers, or deferrals, for submission of these assessments. Sponsors must also submit pediatric study plans ("PSPs") within sixty days of an end-of-phase 2 meeting, or as may be agreed between the sponsor and FDA. Those plans must contain an outline of the proposed pediatric study or studies the applicant plans to conduct, including study objectives and design, any deferral or waiver requests, and other information required by regulation. The applicant, the FDA, and the FDA's internal pediatric review committee must then review the information submitted, consult with each other, and agree upon a final PSP. The FDA or the applicant may request an amendment to the plan at any time. Unless otherwise required by regulation, PREA does not apply to any biological product for an indication for which orphan designation has been granted.

Under the Best Pharmaceuticals for Children Act ("BPCA"), a sponsor may qualify for "pediatric exclusivity" if it conducts pediatric studies in response to a Written Request issued by FDA. Pediatric exclusivity extends by 6 months the period of other regulatory exclusivities, such as orphan drug exclusivity, so long as those exclusivity periods will not expire within 9 months of the award of pediatric exclusivity. For drug products, pediatric exclusivity will also

extend the preclusive effect of patents on the FDA's authority to approve certain competitor applications. Pediatric exclusivity does not extend patents for biological products approved under BLAs. To qualify for pediatric exclusivity, a sponsor must conduct studies that fairly respond to a Written Request, which outlines in detail the nature and type of studies that must be conducted. The studies need not show the product to be effective in the pediatric population; so long as the clinical studies are determined to fairly respond to the Written Request, pediatric exclusivity will be awarded. The FDA may issue a Written Request on its own initiative or at the sponsor's request. A Written Request can include multiple studies in both approved and "off-label" indications.

Additional Controls for Biologics

To help reduce the increased risk of the introduction of adventitious agents, the PHSA emphasizes the importance of manufacturing controls for products whose attributes cannot be precisely defined. The PHSA also provides authority to the FDA to immediately suspend licenses in situations where there exists a danger to public health, to prepare or procure products in the event of shortages and critical public health needs, and to authorize the creation and enforcement of regulations to prevent the introduction or spread of communicable diseases in the U.S. and between states.

After a BLA is approved, the product may also be subject to official lot release as a condition of approval. As part of the manufacturing process, the manufacturer is required to perform certain tests on each lot of the product before it is released for distribution. If the product is subject to official release by the FDA, the manufacturer submits samples of each lot of product to the FDA together with a release protocol showing a summary of the history of manufacture of the lot and the results of all of the manufacturer's tests performed on the lot. The FDA may also perform certain confirmatory tests on lots of some products, such as viral vaccines, before releasing the lots for distribution by the manufacturer. In addition, the FDA conducts laboratory research related to the regulatory standards on the safety, purity, potency, and effectiveness of biological products. As with drugs, after approval of biologics, manufacturers must address any safety issues that arise, are subject to recalls or a halt in manufacturing, and are subject to periodic inspection after approval.

Biosimilars

The Biologics Price Competition and Innovation Act of 2009 ("BPCIA") created an abbreviated approval pathway for biological products shown to be "highly similar" to or "interchangeable" with an FDA-licensed reference biological product. Under the BPCIA, an application for a biosimilar product must contain evidence to show that the biosimilar product is "highly similar" to an approved reference biological product, notwithstanding minor differences in clinically inactive components and that there are no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency. Data to show biosimilarity can include: (1) analytical studies; (2) animal studies; and (3) a clinical study or studies. The FDA has the discretion not to require each of these categories of data. A biosimilar can be approved by the FDA for some or all of the same conditions of use, strengths, dosage forms, and routes of administration as the FDA-approved reference product. The FDA will determine that a biosimilar product is interchangeable with its reference biological product, if the biosimilar product can be expected to produce the same clinical results as the reference product in any given patient and, for products that are administered multiple times to an individual, the biosimilar and the reference biologic may be alternated or switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. AWhether products deemed "interchangeable" by the FDA will, in fact, be substituted by pharmacies is governed by state pharmacy law.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing that applicant's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of the product.

The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. The first biologic product submitted under the abbreviated approval pathway that is determined to be interchangeable with the reference product has exclusivity against a finding of interchangeability for other biosimilar products for the same condition of use for the lesser of (i) one year after first commercial marketing of the first interchangeable biosimilar, (ii) 18 months after the first interchangeable biosimilar is approved if there is no patent challenge, (iii) 18 months after resolution of a lawsuit over the patents of the reference biologic in favor of the first interchangeable biosimilar applicant, or (iv) 42 months after the first interchangeable biosimilar has been approved if a patent lawsuit is ongoing within the 42-month period.

The BPCIA is complex and continues to be interpreted and implemented by the FDA. In addition, government proposals have sought to reduce the 12-year reference product exclusivity period. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. As a result, the ultimate impact, implementation, and impact of the BPCIA is subject to significant uncertainty.

Post-Approval Requirements

Approved drug and biological products are subject to ongoing regulation by the FDA, including, among other things, requirements relating to quality control and quality assurance, record-keeping, reporting of adverse experiences, periodic reporting, product sampling and distribution, and advertising and promotion of the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing user fee requirements, under which FDA assesses an annual program fee for each product identified in an approved BLA. Biologic manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP, which impose certain procedural and documentation requirements upon us and our third-party manufacturers. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting requirements upon us and any third-party manufacturers that we may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

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

- restrictions on the marketing or manufacturing of a product, mandated modification of promotional materials or issuance of corrective information, issuance by FDA or other regulatory authorities of safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings or other safety information about the product, or complete withdrawal of the product from the market or product recalls;
- fines, warnings or untitled letters or holds on post-approval clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of existing product approvals;
- product seizure or detention, or refusal of the FDA to permit the import or export of products; or
- injunctions, consent decrees or the imposition of civil or criminal penalties.

The FDA closely regulates the marketing, labeling, advertising and promotion of biologics. A sponsor may only make claims relating to safety and efficacy, purity and potency that are approved by the FDA and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of "off-label" uses. Failure to comply with these requirements can result in, among other things, adverse publicity, untitled and warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe legally available products for uses that are not described in the product's labeling and that differ from those

tested by us and approved by the FDA. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer's communications on the subject of "off-label" use of their products.

FDA Regulation of Companion Diagnostics

If safe and effective use of a therapeutic product depends on an *in vitro* diagnostic, the FDA generally will require approval or clearance of the diagnostic, known as a companion diagnostic, at the same time that the FDA approves the therapeutic product. The FDA has generally required *in vitro* companion diagnostics intended to select the patients who will respond to cancer treatment to obtain marketing approval through the pre-market approval ("PMA") process for that diagnostic simultaneously with approval of the therapeutic. The review of these *in vitro* companion diagnostics in conjunction with the review of a cancer therapeutic involves coordination of review by the FDA's Center for Biologics Evaluation and Research ("CBER") and by the FDA's Center for Devices and Radiological Health ("CDRH").

The PMA process involves a rigorous premarket review during which the applicant must prepare and provide the FDA with reasonable assurance of the device's safety and effectiveness and information about the device and its components regarding, among other things, device design, manufacturing and labeling. In addition, PMAs for certain devices must generally include the results from extensive preclinical and adequate and well-controlled clinical trials to establish the safety and effectiveness of the device for each indication for which FDA approval is sought.

Successful PMA approval is uncertain, and the FDA may ultimately respond to a PMA submission with a not approvable determination based on deficiencies in the application and require additional clinical trial or other data that may be expensive and time-consuming to generate and that can substantially delay approval. If the FDA finds the PMA application is approvable, the FDA typically issues an approvable letter requiring the applicant's agreement to specific conditions, such as changes in labeling, or specific additional information, such as submission of final labeling, in order to secure final approval of the PMA. If the FDA concludes that the applicable criteria have been met, the FDA will issue a PMA for the approved indications, which can be more limited than those originally sought by the applicant. The PMA can include post-approval conditions that the FDA believes necessary to ensure the safety and effectiveness of the device, including, among other things, restrictions on labeling, promotion, sale and distribution.

Anti-Kickback, False Claims Laws

In addition to FDA restrictions on marketing of pharmaceutical products, several other types of state and federal laws have been applied to restrict certain marketing practices in the pharmaceutical industry in recent years. These laws include anti-kickback statutes, false claims statutes, and other statutes pertaining to health care fraud and abuse. The federal healthcare program anti-kickback statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce, or in return for, purchasing, leasing, ordering or arranging for the purchase, lease or order of any healthcare item or service reimbursable under Medicare, Medicaid, or other federally financed healthcare programs. Violations of the anti-kickback statute are punishable by imprisonment, criminal fines, civil monetary penalties, and exclusion from participation in federal healthcare programs.

Federal false claims laws prohibit any person from knowingly presenting, or causing to be presented, a false claim for payment to the federal government, or knowingly making, or causing to be made, a false statement to have a false claim paid. In addition, certain marketing practices, including off-label promotion, may also violate false claims laws. Additionally, the Healthcare Reform Act amended the federal false claims law such that a violation of the federal healthcare program anti-kickback statute can serve as a basis for liability under the federal false claims law.

Other federal statutes pertaining to healthcare fraud and abuse include the civil monetary penalties statute, which prohibits the offer or payment of remuneration to a Medicaid or Medicare beneficiary that the offeror/payor knows or should know is likely to influence the beneficiary to order a receive a reimbursable item or service from a particular supplier, and the healthcare fraud statute, which prohibits knowingly and willfully executing or attempting to execute a scheme to defraud any healthcare benefit program or obtain by means of false or fraudulent pretenses,

representations, or promises any money or property owned by or under the control of any healthcare benefit program in connection with the delivery of or payment for healthcare benefits, items, or services.

Pricing and Reimbursement

Sales in the United States of approved biological products are dependent, in large part, on the availability and extent of reimbursement from third-party payors, including private payor healthcare and insurance programs, health maintenance organizations, pharmacy benefit management companies, and government programs such as Medicare and Medicaid.

Participation in the Medicaid Drug Rebate program, state Medicaid supplemental rebate program(s), and other governmental pricing programs will include certain price reporting obligations, as well as obligations to report the average sales price for certain drugs to the Medicare program. Under the Medicaid Drug Rebate program, sponsors are required to pay a rebate to each state Medicaid program for our covered outpatient drugs and biologics that are dispensed to Medicaid beneficiaries and paid for by a state Medicaid program as a condition of having federal funds being made available for our drugs under Medicaid and Part B of the Medicare program.

Medicaid is a joint federal and state program that is administered by the states for low-income and disabled beneficiaries. Medicaid rebates are based on pricing data reported by sponsors on a monthly and quarterly basis to the Centers for Medicare & Medicaid Services ("CMS"), the federal agency that administers the Medicaid and Medicare programs. These data include the average manufacturer price and, in the case of innovator products, the best price for each drug or biologic which, in general, represents the lowest price available from the manufacturer to any entity in the U.S. in any pricing structure, calculated to include all sales and associated rebates, discounts, and other price concessions. The amount of the rebate is adjusted upward if average manufacturer price increases more than inflation (measured by reference to the Consumer Price Index - Urban). Until December 31, 2023, the rebate was capped at 100 percent of the average manufacturer price, but effective January 1, 2024, this cap on the rebate has been removed, and the rebate liability of manufacturers could increase accordingly.

If a sponsor becomes aware that Medicaid reporting for a prior quarter was incorrect, or has changed as a result of recalculation of the pricing data, the sponsor is obligated to resubmit the corrected data for up to three years after those data originally were due, which revisions could affect rebate liability for prior quarters. If a sponsor fails to pay the required rebate amount or report pricing data on a timely basis, the sponsor may be subject to civil monetary penalties and/or termination of its Medicaid Drug Rebate program agreement, in which case federal payments may not be available under Medicaid or Medicare Part B for covered outpatient drugs. The federal Patient Protection and Affordable Care Act ("PPACA") made significant changes to the Medicaid Drug Rebate program, and CMS subsequently issued a final regulation to implement the changes to the Medicaid Drug Rebate program under PPACA. CMS has since modified its Medicaid Drug Rebate program regulations to, among other things, permit reporting multiple best price figures with regard to value-based purchasing arrangements and provide definitions for "line extension," "new formulation," and related terms with the practical effect of expanding the scope of drug and biological products considered to be line extensions. In addition to Medicaid we are required to provide rebates to Veteran Affairs/Department of Defense and 340B facilities.

Medicare is a federal program that is administered by the federal government that covers individuals age 65 and over or that are disabled as well as those with certain health conditions. Medicare Part A and Part B will apply to our cell therapies. Medicare Part A will apply for inpatient care for Medicare beneficiaries. Medicare Part B generally covers drugs and biologics that must be administered by physicians or other health care practitioners; are provided in connection with certain durable medical equipment; or are certain oral anti-cancer drugs and certain oral immunosuppressive drugs. Medicare Part B pays for such drugs and biologics under a payment methodology based on the average sales price of the drugs. Manufacturers are required to report average sales price information to CMS on a quarterly basis. The manufacturer-submitted information may be used by CMS to calculate Medicare payment rates. Manufacturers must pay refunds to Medicare for single-source drugs or biological products, or biosimilar biological products, reimbursed under Medicare Part B and packaged in single-dose containers or single-use packages for units of discarded drug reimbursed by Medicare Part B in excess of 10 percent of total allowed charges under Medicare Part B for that drug. Manufacturers that fail to pay refunds could be subject to civil monetary penalties. Further, the Inflation

Reduction Act ("IRA") has established a Medicare Part B inflation rebate scheme under which, generally speaking, manufacturers owe rebates if the average sales price of a Part B drug increases faster than the pace of inflation. Failure to timely pay a Part B inflation rebate is subject to a civil monetary penalty.

The IRA also created a drug price negotiation program requiring the government to set prices for select high-expenditure drugs covered under Medicare Parts B and D. Starting in 2023 and 2026, the government is authorized to select Part D and Part B drugs, respectively, for inclusion in the drug price negotiation program, with established prices to go into effect for selected Part D drugs in 2026 and for selected Part B drugs in 2028, in each case absent certain disqualifying events. Failure to comply with requirements under the drug price negotiation program is subject to an excise tax and a civil monetary penalty. The IRA's drug price negotiation program is the subject of ongoing litigation, and its implementation remains unclear.

Private payor healthcare and insurance providers, health maintenance organizations, and pharmacy benefit managers in the United States are adopting more aggressive utilization management techniques and are increasingly requiring significant discounts and rebates from manufacturers as a condition to including products on formulary with favorable coverage and copayment/coinsurance. These payors may not cover or adequately reimburse for use of our products or may do so at levels that disadvantage them relative to competitive products.

Moreover, obtaining coverage and adequate reimbursement is a time-consuming and costly process. We may be required to provide scientific and clinical support for the use of any product to each third-party payor separately with no assurance that approval will be obtained, and we may need to conduct expensive pharmacoeconomic studies in order to demonstrate the cost-effectiveness of our products. We cannot be certain that our product candidates will be considered cost-effective by third-party payors. This process could delay the market acceptance of any product candidates for which we may receive approval and could have a negative effect on our future revenues and operating results.

Sunshine Act and Transparency Laws

The US Physician Payments Sunshine Act ("Sunshine Act") requires applicable manufacturers of covered drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to CMS information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), non-physician healthcare professionals (such as physician assistants and nurse practitioners, among others) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. The Sunshine Act thus requires tracking of such payments and transfers of value, reporting to the federal government, and public disclosure of certain data.

A number of states now require pharmaceutical companies to report expenses relating to the marketing and promotion of pharmaceutical products and to report gifts and payments to healthcare providers in the states. Government agencies and private entities may inquire about our marketing practices or pursue other enforcement activities based on the disclosures in those public reports.

Other Federal and State Regulatory Requirements

Various federal, state and local laws, regulations, and recommendations relating to safe working conditions, laboratory practices, the experimental use of animals, the environment and the purchase, storage, movement, import, export, use, and disposal of hazardous or potentially hazardous substances, including radioactive compounds and infectious disease agents, used in connection with our research are applicable to our activities. They include, among others, the U.S. Atomic Energy Act, the Clean Air Act, the Clean Water Act, the Occupational Safety and Health Act, the National Environmental Policy Act, the Toxic Substances Control Act, and Resources Conservation and Recovery Act, national restrictions on technology transfer, import, export, and customs regulations, and other present and possible future local, state, or federal regulation.

European Union, U.K. and Rest of the World Regulation

In addition to regulations in the U.S., we are subject to a variety of regulations in other jurisdictions both due to the location of our facilities and the fact that we are engaging in clinical programs outside of the U.S. and will need to obtain worldwide regulatory approval for our TCR therapeutic candidates. In particular we have clinical trials ongoing in the United Kingdom and in certain countries in the European Union ("EU") and are subject to regulations relating to performance of those clinical trials and manufacture and supply of our cell therapies in those countries. Prior to supplying any cell therapy in any country or starting any clinical trials in any country outside of the U.S. we must obtain the requisite approvals from regulatory authorities in such countries. The existence of a U.S. regulatory approval does not guarantee that regulatory approvals will be obtained in other countries in which we wish to conduct clinical trials or market our cell therapies. In the EU, for example, a clinical trial application must be submitted to each country's national health authority and an independent ethics committee, much like the FDA and IRB, respectively prior to any clinical trial being conducted in the relevant country. A marketing authorization application is then submitted to the EMA for approval by the European Commission. Finally, prior to any commercial supply, a pricing and reimbursement application is submitted to each relevant country's national or local health authorities.

The requirements and process governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, the clinical trials are conducted in accordance with Good Clinical Practice ("GCP") and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki. However, the interpretation of these requirements may well differ from country to country.

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

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

Procedures Governing Approval of Products in the EU and U.K.

Pursuant to the European Clinical Trials Directive, a system for the approval of clinical trials in the EU has been implemented through national legislation of the member states. Under this system, an applicant must obtain approval from the competent national authority of a EU member state in which the clinical trial is to be conducted. Furthermore, the applicant may only start a clinical trial after a competent ethics committee has issued a favorable opinion. A clinical trial application must be accompanied by an investigational medicinal product dossier with supporting information prescribed by the European Clinical Trials Directive and corresponding national laws of the member states and further detailed in applicable guidance documents. Similar approval requirements apply in the U.K. and a clinical trial application must be made to the U.K. regulatory authority ("MHRA") prior to starting any clinical trial.

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

Under the centralized procedure, the Committee for Medicinal Products for Human Use, or the CHMP, established at the EMA is responsible for conducting the scientific assessment of a product. The CHMP is also responsible for several post-authorization and maintenance activities, such as the assessment of modifications or extensions to an existing marketing authorization. For advanced therapy medicinal products ("ATMPs"), the scientific evaluation of MAA is primarily performed by the Committee for Advanced Therapies ("CAT"). The CAT prepares a draft opinion of each ATMP subject to a MAA which is sent for final approval to the CHMP.

Under the centralized procedure in the EU, the maximum timeframe for the evaluation of an MAA is 210 days, excluding clock stops, when additional information or written or oral explanation is to be provided by the applicant in response to questions of the CHMP. Accelerated evaluation might be granted by the CHMP in exceptional cases, when a medicinal product is of major interest from the point of view of public health and in particular from the viewpoint of therapeutic innovation. In this circumstance, the EMA ensures that the opinion of the CHMP is given within 150 days. Then, the European Commission grants or refuses the marketing authorization, following a procedure that involves representatives of the member states. Although the CHMP's opinion is not binding, the Commission's decision to grant or refuse the market authorization is frequently in accordance with the CHMP's assessment except in very rare cases. For marketing approval in the U.K, an application for marketing approval will be made for the MHRA and follows a similar process to that used in the EU.

Marketing authorization is valid for five years in principle and the marketing authorization may be renewed after five years on the basis of a re-evaluation of the risk-benefit balance by the EMA or by the competent authority of the authorizing member state or in the U.K. To this end, the marketing authorization holder must provide the EMA or the competent authority with a consolidated version of the file in respect of quality, safety and efficacy, including all variations introduced since the marketing authorization was granted, at least six months before the marketing authorization ceases to be valid. Once renewed, the marketing authorization is valid for an unlimited period, unless the Commission or the competent authority decides, on justified grounds relating to pharmacovigilance, to proceed with one additional five-year renewal. Any authorization which is not followed by the actual placing of the drug on the EU market (in case of centralized procedure) or on the market of the authorizing member state within three years after authorization ceases to be valid (the so-called sunset clause).

As a result of Brexit, as of January 1, 2021, marketing authorizations granted on the basis of a centralized procedure in the EU are only valid in Northern Ireland, but not in Great Britain (England, Scotland and Wales). However, prior EU authorizations have all been automatically converted into U.K. marketing authorizations effective in Great Britain. U.K. rules require marketing authorization holders to be established in the U.K. or in the EU/European Economic Area. EU rules require marketing authorization holders to be established in the EU/European Economic Area and, in addition, that certain activities be performed in the EU, related for example to pharmacovigilance, batch release and quality control. Marketing authorization holders may need to take steps to comply with these requirements aiming at holding both a EU and a U.K. marketing authorization.

With regard to the sunset clause, from the perspective of the U.K, the period of three years during which the drug has not been marketed in Great Britain will be restarted from the date of conversion to a Great Britain marketing authorization. From the perspective of the EU, in case the drug has been marketed in the U.K, the placing on the U.K. market before the end of the Brexit transition period will be taken into account. If, after the end of the Brexit transition period, the drug is not placed on any other market of the remaining member states of the EU, the three year period for the sunset clause will start running from the last date the drug was placed on the U.K. market before the end of the Brexit transition period.

Outside the U.S., interactions between biopharmaceutical companies and physicians are also governed by strict laws, regulations, industry self-regulation codes of conduct and physicians' codes of professional conduct. The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products, which is prohibited in the EU, is governed by the national anti-bribery laws of the EU member states. Violation of these laws could result in substantial fines and imprisonment. Certain EU member states, or industry codes of conduct, require that payments made to physicians be publicly disclosed. Moreover, agreements with physicians must often be the subject of prior notification and approval by the physician's employer, his/her competent professional organization, and/or the competent authorities of the individual EU member

states. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

Privacy and Data Protection laws

There are numerous state, federal and foreign laws governing the collection, processing, dissemination, use, access to, confidentiality and security of personal information, including health-related information. In the U.S., numerous federal and state laws and regulations, including data breach notification laws, health information privacy and security laws that govern the collection, use, disclosure, and protection of health-related and other personal information could apply to our operations or the operations of our partners. Further, certain foreign laws govern the privacy and security of personal data, including health-related data. Failure to comply with these laws, where applicable, can result in the imposition of significant civil and/or criminal penalties and private litigation. These laws are constantly evolving and often require extensive resources to maintain and manage.

Legal Proceedings and Related Matters

From time to time, we may be party to litigation that arises in the ordinary course of our business. We do not have any pending litigation that, separately or in the aggregate, would, in the opinion of management, have a material adverse effect on our results of operations, financial condition or cash flows.

Employees and Human Capital Management

As of December 31, 2023, we had 449 employees. Of these employees, 348 were in research and development (including in manufacturing and operations, and quality control and quality assurance) and 101 were in management and administrative functions (including business development, finance, intellectual property, information technology and general administration). We have never had a work stoppage and none of our employees are covered by collective bargaining agreements or require representation by a labor union.

We value our employees and as a company work hard to employ those individuals that will work with us to achieve the objectives of the Company and share our values. We engage with our employees in multiple ways including through companywide business meetings, social events and smaller team events. We employ individuals based on their experience and ability to perform the applicable job and encourage diversity in our workforce whenever possible. We have an equal opportunities policy which promotes the right of every employee to be treated with dignity and respect and not to be harassed or bullied on any grounds. We employ individuals from approximately 26 different nationalities within our U.K. and U.S. offices and are working to encourage diversity within our workforce. We have a Diversity and Inclusion Council with membership comprising diverse employees from all levels in the Company and a Diversity and Inclusion Plan has been created and championed across the business by the executive team and presented to the Board. D&I progress updates are reviewed regularly by the Board Remuneration Committee.

We have a performance-based reward scheme, bonus scheme and share option plan which all employees are entitled to participate in. These schemes and other employee incentive programs are designed to retain employees. For 2023, the total global attrition rate was approximately 20%.

Other Information

The Company's primary website is www.adaptimmune.com. Information in the investor section and on our website is not part of this Annual Report on Form 10-K or any of our other securities filings unless specifically incorporated herein or therein by reference. The Company makes available, free of charge, at its corporate website, its Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as soon as reasonably practicable after they are electronically filed with the Securities and Exchange Commission ("SEC"). The SEC maintains an internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at www.sec.gov.

Item 1A. Risk Factors.

Our business has significant risks. You should carefully consider the following risk factors as well as all other information contained in this Annual Report, including our consolidated financial statements and the related notes, before making an investment decision regarding our securities. The risks and uncertainties described below are those material risk factors currently known and specific to us that we believe are relevant to our business, results of operations and financial condition. Additional risks and uncertainties not currently known to us or that we now deem immaterial may also impair our business, results of operations and financial condition.

Risk Factors Summary

The following is a summary of the principal risks that could adversely affect our business.

Risks Related to Our Financial Condition and Capital Requirements

- We have incurred net losses every year since inception and expect to continue to incur net losses in the future. If we are unable to obtain additional financing or funding we may be unable to complete the development and commercialization of our cell therapies.

- We may never generate revenue from sales of our cell therapies and become profitable and our generation of revenue depends on our ability to timely progress our cell therapies through development and successful commercialization.

Risks Related to the Commercialization and Marketing of Our Cell Therapies

- We are dependent on successful commercialization of afami-cel and lete-cel, which requires FDA approval of the BLAs and sufficient market acceptance and uptake.

- We have never commercialized a product as a company and our ability to commercialize is dependent on our ability to increase manufacturing capacity, set up processes and recruit employees required for such commercialization.

- We may not be able to obtain marketing approvals of our cell therapies as broadly as planned or on the timescales we plan.

- We may not be able to adequately price our cell therapies due to regulatory changes affecting pricing, coverage, and reimbursements or to other impacts such as inflation, increasing underlying raw material costs, availability of materials, or increasing third party supply chain costs.

- We may not be able to prepare and develop a network of clinical sites for administration of our cell therapy product as planned.

- We will have a narrow network of sites which may not be assessable to all patients.

- Our addressable patient population will be dependent on the final FDA approved label which may be narrower than our current assumptions.

- We may not be able to realize the projected market demand for our cell therapy products.

- We may not be able to set up and maintain a distribution and logistics network capable of supply and storage of our cell therapy products to enable timely delivery to clinical sites and patients.

- Sales of our cell therapies are dependent on the availability and extent of coverage and reimbursement from third-party payors, including private payors and government programs such as Medicare and Medicaid.

- Product reimbursement and coverage policies and practices could change due to various factors such as drug price control measures that have been or may be enacted or introduced in the U.S. by various federal and state authorities.

- The commercial success of our cell therapies is subject to significant competition from product candidates that may be superior to, or more established, or cost effective than, our cell therapies.

- If the testing or use of our cell therapies harms people, or is perceived to harm them even when such harm is unrelated to our products, we could be subject to costly and damaging product liability claims.

Risks Related to the Development of Our Cell Therapies

- Our ability to fund our business and continue to develop our cell therapies is dependent on the data obtained from our ongoing clinical trials (including the IGNYTE-ESO and SURPASS trials).

- Our clinical trials and clinical data for ADP-A2M4CD8 (SURPASS trials) are at an early stage and future data may not support continued development of our cell therapies.

- Clinical trials are time consuming and expensive, and we may not be able to recruit patients as planned. External factors such as a resurgence of the COVID-19 or other pandemic or geopolitical instability, for example the Russian/Ukrainian conflict or Israel/Hamas conflict may also impact ability to perform clinical trials as planned.

- Our cell therapies are novel, and there is an increased risk that we may see unacceptable toxicities.

Risks Related to the Manufacture and Supply of Our Cell Therapies

- Manufacture of cell therapies is complex, and we may encounter difficulties manufacturing and supplying our cell therapies to patients, whether for clinical trials or for commercial purposes.

- We have our own manufacturing facility which is the sole source of supply for our afami-cel and ADP-A4CD8 cell therapies.Our ability to manufacture cell therapies is dependent on our ability to operate the facility in compliance with Good Manufacturing Practice ("GMP"), maintain regulatory approvals for the facility, recruit and train employees required for manufacture, manufacture cell therapies reliably and reproducibly, and ensure manufacturing and supply capacity to meet the required demand.

- We opened a new manufacturing facility for allogeneic cell therapies during 2022, and our ability to manufacture allogeneic cell therapies on current timelines is dependent on our ability to obtain regulatory approval for the facility and develop and scale-up suitable manufacturing processes.

- We are reliant on third parties for the manufacture of the vector for afami-cel and lete-cel and for the manufacture of our lete-cel cell therapy.

Risks Related to Government Regulation

- We are subject to significant regulatory, compliance and legal requirements and will continue to be subject to these requirements.

- We are subject to review of our BLA by the FDA, and the outcome of that review may impact the steps we need to take ahead of obtaining approval for marketing afami-cel and after receiving approval as well as the costs and resources that may be needed to commercialize afami-cel.

- Any commercialization of our cell therapies will also require approval for companion diagnostics, which may result in additional regulatory, commercialization and other risks. We are reliant on a third party for development of any companion diagnostic.

- We may have post-marketing obligations imposed by the FDA in the context of the review of our BLA and the commercialization of afami-cel. Any such obligations may increase the costs and resources associated with launch of afami-cel and the costs of commercializing afami-cel.

Risks Related to Our Reliance Upon Third Parties

- We are reliant on third parties for provision of services including manufacturing services and clinical research services, for the provision of components and materials required for manufacturing, research and development and for the performance of our collaborations.

Risks Related to Our Intellectual Property

- We may be forced to litigate to defend our intellectual property rights and we may be subject to patent infringement proceedings brought against us by third parties.

- Our ability to be competitive depends, in part, on our ability to protect our proprietary technology including through patents and through maintaining confidentiality in our trade secrets.

General Business Risks

- Our inability to continue to attract and retain qualified personnel may hinder our business.

- We expect to face intense competition from third parties and this competition may come from companies with significantly greater resources and experience than we have.

- Information technology systems may fail or suffer cybersecurity incidents including related to data protection and privacy laws and adversely affect our business and operations.

- The market price of our ADSs is subject to volatility.

- We are heavily reliant on third parties for the operation of our business including the manufacture of our cell therapies and our future supply and commercialization of afami-cel

- We have a sole source of supply for many of our cell therapy products and for some of the critical materials needed to manufacture those products.

For a more complete discussion of the risks we face as a business, please see the discussion below.

Risks Related to Our Financial Condition and Capital Requirements

We have incurred net losses every year since our inception and expect to continue to incur net losses in the future.

We have generated losses since our inception in 2008, during which time we have devoted substantially all of our resources to research and development efforts relating to our cell therapies, including engaging in activities to manufacture and supply our cell therapies for clinical trials, conducting clinical trials of our cell therapies, providing

general and administrative support for these operations, enhancing capabilities to support commercialization for ADP-A2M4 and protecting our intellectual property. For the years ended December 31, 2023, 2022 and 2021, we incurred net losses of $113.9 million, $165.5 million and $158.1 million respectively. As of December 31, 2023, we had accumulated losses of $1,023.1 million. We do not have any products approved for sale and have not generated any revenue from product supplies or royalties. Based on our current plans, we do not expect to generate product or royalty revenues unless and until we obtain marketing approval for, and commercialize, any of our T-cells or other cell therapies. Even once we have obtained marketing approval for our cell therapies, for example if afami-cel approval is obtained, it will take a period of time before any significant revenue is realized and the amount of revenue is heavily dependent on the success of our commercialization and the costs of supplies including any post-marketing requirements we are subject to.

We are currently operating in a period of heightened economic, energy supply and material supply uncertainty as a result of the Russian/Ukrainian conflict and the Israel-Hamas conflict.

The short and long-term implications of the conflict in Ukraine and the Israel-Hamas conflict are difficult to predict at this time. We continue to monitor any adverse impacts on the global economy, on our business and operations and on the businesses and operations of our suppliers and other third parties with which we conduct business. For example, the conflict in Ukraine and Israel has resulted in increased inflation, escalating energy prices and constrained availability, and thus increasing costs of the raw materials we require in our business. In the event of prolonged conflict other risks to the business may also increase including adverse effects on macroeconomic conditions, including inflation; disruptions to our global technology infrastructure, including through cyberattack, ransom attack, or cyber-intrusion; adverse changes in international trade policies and relations; disruptions in global supply chains; and constraints, volatility, or disruption in the capital markets, any of which could negatively affect our business and financial condition.

Unstable market and economic conditions may have a serious adverse impact on our business and financial condition

Economic uncertainty in various global markets or the global economy may adversely affect our business. Any severe or prolonged economic downturn could result in a variety of risks to our business including the inability to raise additional capital when needed or on acceptable terms. Uncertainty or a prolonged downturn may impact third party suppliers and service providers resulting in their inability to meet their commitments to us. The global credit and financial markets have experienced significant volatility and disruptions in the past years, especially between 2020 and 2023 due to for example the COVID-19 pandemic and more recently the Ukrainian/Russian conflict (including restrictions imposed on Russia) and the Israel-Hamas conflict. Going forward there may be significant volatility as a result of upcoming U.S. presidential elections. This volatility has resulted in increasing political instability, periods of higher inflation, diminished liquidity and credit availability, declines in consumer confidence, reduction in economic growth and increases in unemployment. The full impact of the Ukrainian/Russian conflict and Israel-Hasmas conflict are unknown and are difficult to predict. There can be no assurances that further deterioration in credit and financial markets and confidence in economic conditions will not occur. For example, U.S. debt ceiling and budget deficit concerns have increased the possibility of additional credit-rating downgrades and economic slowdowns, or a recession in the United States. Although U.S. lawmakers passed legislation to raise the federal debt ceiling on multiple occasions, including a suspension of the federal debt ceiling in June 2023, ratings agencies have lowered or threatened to lower the long-term sovereign credit rating on the United States. The impact of this or any further downgrades to the U.S. government's sovereign credit rating or its perceived creditworthiness could adversely affect the U.S. and global financial markets and economic conditions. Absent further quantitative easing by the Federal Reserve, these developments could cause interest rates and borrowing costs to rise, which may negatively impact our results of operations or financial condition. Moreover, disagreement over the federal budget may cause the U.S. federal government to shut down for periods of time.

If we fail to obtain additional financing, we may be unable to complete the development and commercialization of our cell therapies.

We expect to continue incurring significant losses as we continue with our research and development programs and to incur general and administrative costs associated with our operations. The extent of funding required to develop

our cell therapies is difficult to estimate given the novel nature of our cell therapies and their un-proven route to market and we may not have anticipated all the costs required to meet our planned objectives. As of December 31, 2023, the Company had cash and cash equivalents of $144.0 million, marketable securities of $2.9 million, and stockholders' equity of $39.5 million. We expect to use these funds to advance and accelerate the clinical development of our cell therapies, to further develop and enhance our manufacturing capabilities and secure a commercially viable manufacturing platform for all of our cell therapies, to support commercialization for afami-cel, to support development of lete-cel and to fund working capital, including for other general corporate purposes. We believe that our cash and cash equivalents and marketable securities will be sufficient to fund our operations, based upon our currently anticipated research and development activities and planned capital spending, into early 2026. This belief is based on estimates that are subject to risks and uncertainties and may change if actual results differ from management's estimates.

Our expenses may increase significantly in the event of any of the following:

- any additional requirement to outsource manufacture of our cell therapies to third parties, or acquire additional raw materials to support manufacture in the event of any inability to manufacture at our own facilities;
- any requirement to conduct additional or further clinical trials or to treat additional patients to satisfy the regulatory authorities that a cell therapy is safe or that it is efficacious and can be approved for marketing or to proceed to the next stage of development;
- any post-marketing requirement or additional regulatory requirement imposed in relation to the commercialization or approval of afami-cel;
- any requirement to vary, change or amend our current manufacturing processes;
- any requirement to materially vary any ongoing clinical trial protocol;
- third party litigation, including patent litigation, being brought against the company;
- a requirement to pay any third party upfront, milestone, royalty or other payments in order to continue to develop or commercialize any of our cell therapies, including our allogeneic cell therapies;
- a requirement to create additional infrastructure to support our ongoing operations, including future commercialization efforts;
- any inability to recruit patients to our clinical trials on a timely basis necessitating the need to open additional clinical sites or otherwise enable increased recruitment or to extend the duration of such trials;
- faster than expected recruitment of patients in our clinical trials necessitating recruitment of additional resources to ensure cell therapies can be manufactured and provided to patients;
- higher initial commercial demand for afami-cel necessitating an increase in manufacturing capacity and resources earlier than planned;
- any unplanned capital expenditure including any requirement to increase or enhance manufacturing capability or invest in additional manufacturing facilities;
- changes in the timing on when we receive payments from our third party collaborators, in particular Genentech;

- business activities and negotiations including agreements with third parties for collaborations, combinations, mergers or acquisitions which do not execute or finalize on suitable terms or do not complete as expected; or

- inability of third parties to provide critical supplies on a timely basis necessitating alternative or additional third party supplies to be put in place.

We cannot be certain that additional funding will be available on acceptable terms, or at all. We have no committed source of additional capital and if we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of our cell therapies or other research and development initiatives. Our license and supply agreements may also be terminated if we are unable to meet the payment obligations under these agreements. We could be required to seek collaborators for our cell therapies at an earlier stage than otherwise would be desirable or on terms that are less favorable to us than might otherwise be available or relinquish or license on unfavorable terms our rights to our cell therapies in markets where we otherwise would seek to pursue development or commercialization ourselves.

Our current cash projections include reliance on the ability to obtain certain tax credits and the operation of certain tax regimes within the U.K. Should these cease to be available or be reduced, this could impact our ongoing requirement for investment and the timeframes within which additional investment is required.

As a company that carries out extensive research and development activities, we benefit from the U.K. research and development tax credit regime for small and medium sized companies, whereby our principal research subsidiary company, Adaptimmune Limited, is able to surrender the trading losses that arise from its research and development activities for a payable tax credit of up to approximately 33.4% of eligible research and development expenditures, decreasing to 18.6% after April 1, 2023. Qualifying expenditures largely comprise employment costs for research staff, consumables and certain internal overhead costs incurred as part of research projects. Subcontracted research expenditures are eligible for a cash rebate of up to approximately 21.7%, decreasing to 12.1% after April 1, 2023. The majority of our pipeline research, clinical trials management and manufacturing development activities, all of which are being carried out by Adaptimmune Limited, are eligible for inclusion within these tax credit cash rebate claims.

We may not be able to continue to claim research and development tax credits (R&D tax credits) or the amount we can claim may reduce in the future as we expand our business because we may no longer qualify as an SME (small or medium-sized enterprise) or as a result of announced changes to the U.K. R&D tax credit regime lowering the amount of tax credits SMEs can claim. In order to qualify as an SME for R&D tax credits, we must continue to be a company with fewer than 500 employees and also have either an annual turnover not exceeding €100 million or a balance sheet not exceeding €86 million. Once we no longer qualify for SME R&D tax credits, it is likely we would qualify for the U.K. research and development expenditure credit scheme (the "RDEC Scheme") which is claimable by large companies. The cash credit rate for the RDEC Scheme prior to April 1, 2023 was approximately 15% of qualifying expenditure. The types of qualifying expenditure are restricted under the RDEC Scheme. The U.K. government has introduced some changes to the U.K. research and development credit rules. These changes may give rise to a reduction in our U.K. research and development credit claims in the future.

On July 18, 2023, the U.K. Government released draft legislation on proposed changes to the U.K. research and development regimes which was subsequently enacted on February 22, 2024. These changes include combining the current SME R&D Tax Credit Scheme and RDEC Schemes with a single 20% gross rate applying to all claims with an exception for R&D Intensive SMEs. For entities which qualify as R&D Intensive SMEs, a higher effective cash tax benefit of 27% will be available. The legislation also includes changes to other rules and types of qualifying expenditure, such as the treatment of subcontracted and overseas costs. These changes may give rise to an increase in our U.K. research and development credit claims in the future if the Company qualifies as an R&D Intensive SME.

We may also benefit in the future from the U.K.'s "patent box" regime, which would allow certain profits attributable to revenues from patented products to be taxed at a rate of 10%. As we have many different patents covering our products, future upfront fees, milestone fees, product revenues, and royalties could be taxed at this favorably low tax rate. When taken in combination with the enhanced relief available on our research and development expenditures, we expect a long-term lower rate of corporation tax to apply to us. If, however, there are unexpected adverse changes to the U.K. research and development tax credit regime or the "patent box" regime, or we are unable to qualify for such advantageous tax legislation, our business, results of operations and financial condition may be adversely affected.

Our ability to generate revenue from sales of our cell therapies and become profitable depends on our ability to progress our cell therapies through development.

We have no cell therapies approved for commercial sale, have not generated any revenue from sales of our cell therapies, and do not anticipate generating any revenue from sales of our cell therapies until sometime after we receive regulatory approval, if at all, for the commercial sale of a cell therapy. We may never become profitable.

Our ability to generate revenue and achieve profitability depends on many factors, including:

- progressing our cell therapies through preclinical development and clinical development without substantial delays;
- demonstrating a favorable benefit (efficacy parameters): risk (safety) profile for our cell therapies;
- obtaining regulatory approvals and marketing authorizations for our cell therapies;
- developing sustainable and scalable manufacturing and supply processes for our cell therapies to support commercial supply;
- obtaining market acceptance, pricing and reimbursement of our cell therapies as viable treatment options;
- the costs of commercializing any cell therapy including any post-marketing approval obligations;
- the indications any cell therapy is approved in, the patient population treatable with any cell therapy and the speed with which we are able to launch a cell therapy and commercialize that cell therapy with treatment centers; and

Risks Related to the Commercialization and Marketing of Our Cell Therapies

We are dependent on successful commercialization of afami-cel and lete-cel, and there is no guarantee that we will achieve approval or be able to generate sufficient revenue from commercialization

We are aiming to launch afami-cel in the third quarter of 2024, subject to FDA review and approval of our BLA. We are currently planning for the BLA filing of lete-cel. There is no guarantee that we will be able to obtain marketing authorization for either cell therapy or that approvals will be obtained in accordance with current timelines.

We have received approval from the FDA to file a BLA for afami-cel. The BLA filing is being reviewed by the FDA. The FDA could refuse to grant marketing approval for afami-cel. In addition, should that review identify any additional requirements for information or further work, the date on which we receive marketing approval, could be significantly delayed pending provision of that information, conduct of any further work and further review by the FDA of the additional information and data from work. There is no guarantee that we will obtain marketing authorization for afami-cel within the currently anticipated timelines of the third quarter of 2024, or that the marketing authorization will

not impose further or additional requirements associated with the commercialization of afami-cel. For example, the FDA may require a REMS or may require additional assays or tests to be conducted.

We may not be able to obtain marketing approvals of our cell therapies as broadly as planned or on the timescales we plan.

The process of obtaining marketing approvals, both in the U.S. and in countries outside of the U.S., is expensive, may take many years and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the cell therapies involved. For example, clinical trials may be required in pediatric populations before any marketing approval can be obtained, which can be time consuming and costly. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA and foreign regulatory authorities also have substantial discretion in the drug and biologics approval process. The number and types of preclinical programs and clinical trials that will be required for regulatory approval varies depending on the cell therapy, the disease or condition that the cell therapy is designed to address, and the regulations applicable to any particular cell therapy. Approval policies, regulations or the type and amount of clinical data necessary to gain approval may change during the course of a cell therapy's clinical development and may vary among jurisdictions, and there may be varying interpretations of data obtained from preclinical programs or clinical trials, either of which may cause delays or limitations in the approval or the decision not to approve an application.

In addition, approval of our cell therapies could be delayed or refused for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our or our collaborators' clinical trials;
- we or our collaborators may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that our T-cells have a beneficial benefit/risk profile for any of their proposed indications;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical programs or clinical trials;
- the data collected from clinical trials of our cell therapies may not be sufficient to the satisfaction of the FDA or comparable foreign regulatory authorities to support the submission of a BLA or other comparable submission in foreign jurisdictions or to obtain regulatory approval in the U.S. or elsewhere;
- our manufacturing processes or facilities or those of the third-party manufacturers we use may not be adequate to support approval of our cell therapies;
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval
- requirement for additional clinical trials ahead of the grant of any regulatory approval;
- requirement for further development or characterization of processes. For example, the potency of our cell therapies will need to be assessed by a potency assay and although we believe that our assay will be satisfactory to assess potency, the regulatory authorities may disagree which will necessitate development of a further assay or process;

- third parties we rely on being unable to meet regulatory requirements or provide information or documentation to support regulatory applications or questions from regulatory authorities. For example, we rely on a third party vector manufacturer who will be required to provide certain information to enable us to file the BLA;

- access to an approved companion diagnostic to support the launch of any cell therapy. Commercialization of our cell therapies will require approval for and access to a companion diagnostic. We are reliant on a third party for development of our companion diagnostic assay and there is no certainty that development will be possible in the timelines we require or that end regulatory approval will be available in the timelines we require; and

- data from clinical trials sponsored by third party competitors for similar cell therapy products which might impact a regulators view of the safety or efficacy profile or our cell therapies or the grant of marketing approvals to competitors ahead of any application we make for marketing approval which may preclude our ability to obtain marketing approval in the same indication unless we can show increased efficacy.

Our estimates of the patient population that may be treated by our cell therapies including afami-cel is based on estimates informed by published information. This information may not be accurate in relation to our cell therapies and our estimates of potential patient populations could therefore be much higher or lower than those that are actually available or possible for commercialization. In addition, these estimates are based on assumptions about the number of eligible patients which have the peptide and HLA type targeted by the applicable cell therapy. Different patient populations will present different peptides according to their specific HLA type. HLA types vary across the patient population and, due to this variability, any therapy will initially only be suitable for treatment of patients expressing the particular HLA type presenting the relevant peptide.

We have submitted a BLA for afami-cel, but the review and approval of this BLA may not occur on the anticipated timelines, and we cannot be certain that the FDA will grant final marketing approval.

We have submitted a BLA for afami-cel which is being reviewed by the FDA. The FDA could refuse to grant marketing approval for afami-cel. In addition, should that review identify any additional requirements for information or further work, the date on which we receive marketing approval, could be significantly delayed pending provision of that information, conduct of any further work and further review by the FDA of the additional information and data from work. There is no guarantee that we will obtain marketing authorization for afami-cel within the currently anticipated timelines of August 2024, or that the marketing authorization will not impose further or additional requirements associated with the commercialization of afamicel.

Approval of this BLA can be delayed or denied by the FDA for several reasons, including but not limited to those outlined above. In particular, the FDA may conclude that the data submitted in support of the BLA are insufficient to demonstrate a favorable benefit/risk profile in the proposed patient population without the submission of additional information or data, which could require the conduct of additional clinical studies and the resubmission of the BLA.

In addition the BLA approval may provide a product label with reduced scope to the label currently anticipated. This will impact the number of patients that we can treat with afami-cel.

Development of a commercially available cell therapy process is difficult, and we may be unable to develop the process on currently anticipated timescales or at all.

Developing a commercially viable process is a difficult and uncertain task, and there are risks associated with scaling to the level required for advanced clinical trials or commercialization, including, among others, requirements to characterize the manufacturing process, increased costs, potential problems with process scale-out, process reproducibility, stability issues, lot consistency, loss of product, and timely availability of reagents or raw materials or contract manufacturing services or facilities. A failure to develop such a commercially viable process within anticipated timescales may prevent or delay progression of our T-cell therapies into pivotal clinical trials and ultimately commercialization. This failure to develop a timely process may result from, for example, inability to scale-up within

required timelines, inability to put in place the required processes and control measures for a commercial process, inability to timely develop systems for automation of the process or failure of third parties (including vector suppliers) to put in place adequate facilities or processes to enable commercial manufacture. In addition, we may ultimately be unable to reduce the expenses associated with our cell therapies to levels that will allow us to achieve a profitable return on investment. Reduction of the costs associated with manufacture requires significant financial investment which may not be available to us.

Following grant of marketing authorization we will be subject to ongoing regulatory obligations, which may result in significant additional expense as well as significant penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our cell therapies.

If the FDA or a comparable foreign regulatory authority approves our cell therapies, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion, import, export and recordkeeping for our cell therapies will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration and listing, as well as continued compliance with cGMPs and cGCPs for any clinical trials that we conduct post-approval. In addition regulatory authorities may impose additional restrictions or require amendments to our product label after marketing approval in the event of additional adverse events with our cell therapy or of other adverse events seen with similar cell therapy products.

We and our contract manufacturers will be subject to periodic unannounced inspections by the FDA to monitor and ensure compliance with cGMPs. We must also comply with requirements concerning advertising and promotion for any cell therapies for which we obtain marketing approval. Promotional communications with respect to prescription drugs, including biologics, are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved labeling. Thus, we will not be able to promote any cell therapies we develop for indications or uses for which they are not approved.

We may not be able to develop or obtain approval for the analytical assays and companion diagnostics required for commercialization of our cell therapies including afami-cel.

Administration of our cell therapies requires the use of an immuno-chemistry or other screening assay in which patients are screened for the presence of the cancer peptide targeted by our cell therapies. For example, in our SPEARHEAD trial patients are screened for the presence of MAGE-A4. This assay requires the identification of suitable antibodies which can be used to identify the presence of the relevant target cancer peptide. Our patients are also screened for their HLA-type as only patients with certain HLA-types can receive afami-cel.

If safe and effective use of a biologic product depends on an *in vitro* diagnostic, such as a test to detect patients with a particular cancer peptide, then the FDA generally requires approval or clearance of the diagnostic, known as a companion diagnostic, concurrently with approval of the therapeutic product. To date, the FDA has generally required *in vitro* companion diagnostics that are intended for use in selection of patients who will respond to cancer treatment to obtain a pre-market approval, or PMA, which can take up to several years, for that diagnostic approval or clearance to occur simultaneously with approval of the biologic product.

We expect that, for all our cell therapies, the FDA and similar regulatory authorities outside of the U.S. will require the development and regulatory approval of a companion diagnostic assay as a condition to approval. We also expect that the FDA may require PMA supplemental approvals for use of that same companion diagnostic as a condition of approval of additional cell therapies. We do not have experience or capabilities in developing or commercializing these companion diagnostics and plan to rely in large part on third parties to perform these functions.

If we or our collaborators, or any third parties that we engage to assist us, are unable to successfully develop companion diagnostic assays for use with any cell therapy, or are unable to obtain regulatory approval or experience delays in either development or obtaining regulatory approval, we may be unable to identify patients with the specific profile targeted by the relevant cell therapy for enrollment in our clinical trials. In addition, delay in development and approval of any companion diagnostic may also impact our ability to obtain a marketing approval for the therapeutic

product and to commercialize the therapeutic product. For example, delays in the development of a companion diagnostic for detection of the MAGE-A4 antigen in synovial sarcoma and MRCLS indications may result in delays to any marketing approval for afami-cel and lete-cel in those indications. Accordingly, further investment may be required to further develop or obtain the required regulatory approval for the relevant companion diagnostic assay, which would delay or substantially impact our ability or our collaborators' ability to conduct further clinical trials or obtain regulatory approval.

Afami-cel requires a companion diagnostic assay to be approved for both the MAGE-A4 antigen and the HLA-type required by patients. Although regulatory filings are in progress for both assays, the FDA may not approve the use of these diagnostic assays which could delay the launch of afami-cel.

Obtaining and maintaining regulatory approval of our cell therapies in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of our cell therapies in other jurisdictions.

We or our collaborators may submit marketing authorization applications in multiple countries. Regulatory authorities in different countries have different requirements for approval of cell therapies with which we must comply prior to marketing in those jurisdictions. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our cell therapies in certain countries. For example, in certain jurisdictions additional clinical trials in different patient populations may be required. If we fail to comply with the regulatory requirements in international markets and/or receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our cell therapies will be harmed.

The market opportunities for cell therapies may be limited to those patients who have failed prior treatments.

Initial approval of new cancer therapies may be limited to what is referred to as third-line use. Third-line treatment is the third type of treatment following initial, or first-line, treatment and second-line treatment, which is given when first-line treatment does not work or ceases working. However, cancer therapies may be used from the point at which cancer is detected in its early stages (first-line) onward. Whenever the first-line therapy fails or the process is unsuccessful, second-line therapy may be administered, such as additional rounds of chemotherapy, radiation and antibody drugs or a combination of these treatments. If second-line therapies fail, patients are generally given the opportunity to receive third-line therapies, which tend to be more novel therapies. Our current clinical trials generally require that patients have received chemotherapy prior to enrollment and are primarily directed to third-line use. Depending upon the outcome of current trials, we or our collaborators may conduct future clinical trials using cell therapies for first-line therapy, but clinical trials might not be approved or if approved such trials might not lead to regulatory approval. If our cell therapies only receive third-line or second-line approval, the patient population into which we or our collaborators can supply our cell therapies will be significantly reduced, which may limit commercial opportunities.

In addition, our patient population may be derived from those who have previously failed checkpoint therapy, which may result in tumor resistance mechanisms which also impart resistance to our cell therapies and hence may reduce the effectiveness of our cell therapies.

We currently have a limited marketing and sales organization and as an organization have no experience in marketing products.

As an organization, we have never marketed or supplied commercial pharmaceutical or biologic products or therapies. We will need to transition from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We are recruiting a sales and field force and will need to hire and develop the sales function and associated support network if we are to supply cell therapies, including afami-cel on a commercial basis. As our cell therapies proceed through clinical programs, we intend to develop an in-house marketing organization and sales force, which will require significant capital expenditures, management resources, and time. We will have to compete with other

pharmaceutical and biotechnology companies to recruit, hire, train, and retain suitably skilled and experienced marketing and sales personnel. This process may result in additional delays in bringing our cell therapies to market or in certain cases require us to enter into alliances with third parties in order to do so. However, there can be no assurance that we will be able to establish or maintain such collaborative arrangements, or even if we are able to do so, that they will result in effective sales forces. Any revenue we receive will depend upon the efforts of such third parties, which may not be successful. We may have little or no control over the marketing and sales efforts of such third parties, and our revenue from cell therapy sales may be lower than if we had commercialized our cell therapies ourselves.

For afami-cel we are using certain third parties to supplement the internal commercial facing teams. We are also using a third party distributor to supply afami-cel and third parties to provide some of the systems required to supply a cell therapy. We are reliant on those third parties to provide the services we require in accordance with our planned timelines. If any critical third party supplier fails to provide the services as required that may result in a delay to the commercialization of afami-cel. Any inability on our part to develop in-house sales and commercial distribution capabilities or to establish and maintain relationships with third-party collaborators that can successfully commercialize any cell therapy in the U.S. or elsewhere will have a materially adverse effect on our business and results of operations.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our cell therapies.

We face an inherent risk of product liability as a result of the clinical testing of our cell therapies and our ongoing manufacture of cell therapies and will face an even greater risk upon any commercialization, including commercialization of afami-cel. For example, we may be sued if any of our cell therapies causes or is perceived to cause injury or is found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our cell therapies. Even a successful defense would require significant financial and management resources and, regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our cell therapies;
- injury to our reputation;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- exhaustion of any available insurance and our capital resources;
- the inability to commercialize our cell therapies; and
- a decline in our share price.

Our inability to obtain sufficient product liability insurance at an acceptable price to protect against potential product liability claims could also prevent or inhibit the commercialization of our cell therapies. We currently hold £15.0 million in clinical trial insurance coverage in the aggregate per year, with a per trial limit of £5.0 million. We also hold products and services liability insurance capped at £5.0 million in the aggregate and public liability insurance capped at £5.0 million per occurrence. These levels may not be adequate to cover all liabilities that we may incur. We will need to increase our insurance coverage as we expand the scope of our clinical trials and ahead of commercialization of afami-cel. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

Even if we or our collaborators obtain regulatory approval of our cell therapies, they may not gain market acceptance among physicians, patients, hospitals, cancer treatment centers and others in the medical community.

The use of engineered T-cells and cell therapies more generally as a potential cancer treatment is a recent development and may not become broadly accepted by physicians, patients, hospitals, cancer treatment centers and others in the medical community. Additional factors will influence whether our cell therapies are accepted in the market, including:

- the clinical indications for which our cell therapies are approved;
- physicians, hospitals, cancer treatment centers and patients considering the cell therapies as a safe and effective treatment;
- the potential and perceived advantages of our cell therapies over alternative treatments;
- the prevalence and severity of any side effects;
- product labeling or prescribing information requirements of the FDA or other regulatory authorities;
- limitations or warnings contained in the labeling approved by the FDA;
- the timing of market introduction of our cell therapies as well as competitive products;
- the cost of treatment in relation to alternative treatments;
- the availability of coverage, adequate reimbursement and pricing by third-party payors and government authorities;
- the willingness of patients to pay for cell therapies on an out-of-pocket basis in the absence of coverage by third-party payors and government authorities;
- relative convenience and ease of administration as compared to alternative treatments and competitive therapies; and
- the effectiveness of our sales and marketing efforts.

In addition, although we are not utilizing embryonic stem cells or replication competent vectors in our manufacturing process, adverse publicity due to the ethical and social controversies surrounding the therapeutic use of such technologies, and reported side effects from any clinical trials using these technologies or the failure of such trials to demonstrate that these therapies are safe and effective may limit market acceptance of cell therapies. If our cell therapies are approved but fail to achieve market acceptance among physicians, patients, hospitals, cancer treatment centers or others in the medical community, we will not be able to generate significant revenue.

Even if our cell therapies 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 cell therapies, are more cost effective or render our cell therapies obsolete.

Coverage, price flexibility, and reimbursement may be limited or unavailable in certain market segments for cell therapies.

Successful sales of cell therapies, if approved, depend on the availability of coverage and adequate reimbursement from third-party payors. In addition, because cell therapies represent new approaches to the treatment of cancer, we cannot accurately estimate the potential revenue from cell therapies. 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. Obtaining coverage and adequate reimbursement from governmental healthcare programs, such as Medicare and Medicaid, and commercial payors is critical to new product acceptance.

Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which drugs and treatments they will cover and the amount of reimbursement. Reimbursement by a third-party payor may depend upon a number of factors, including, but not limited to, the third-party payor's determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

Obtaining coverage and reimbursement approval of a cell therapy from a government or other third-party payor is a time-consuming and costly process which could require us to provide to the payor supporting scientific, clinical and cost-effectiveness data for the use of our products. Even if we obtain coverage for a given cell therapy, the resulting reimbursement payment rates might not be adequate for us to achieve or sustain profitability or may require co-payments that patients find unacceptably high. Patients are unlikely to use cell therapies unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of the cell therapy.

In the U.S., no uniform policy of coverage and reimbursement for products exists among third-party payors. Therefore, coverage and reimbursement for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our cell therapies to each payor separately, with no assurance that coverage and adequate reimbursement will be obtained.

In some foreign countries, particularly those in the EU, the pricing of biologics is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after obtaining marketing approval of a cell therapy. In addition, market acceptance and sales of our cell therapies will depend significantly on the availability of coverage and adequate reimbursement from third-party payors for the cell therapies and may be affected by existing and future health care reform measures.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, national and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare, including the Affordable Care Act ("ACA") or provisions of the Inflation Reduction Act ("IRA"). Such regulatory changes may bring prescription drug pricing reform or healthcare affordability programs that, for example, seek to lower prescription drug costs by allowing governmental healthcare programs to negotiate prices with drug companies, put an

inflation cap on drug prices, and lower out-of-pocket expenses for recipients of governmental healthcare programs. We cannot predict the initiatives that may be adopted in the future. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

- the demand for cell therapies, if we or our collaborators obtain regulatory approval;
- our or our collaborators' ability to set a price that is fair for our cell therapies;
- our or our collaborators' ability to generate revenue and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from payors, which may adversely affect our future profitability.

Our cell therapies for which we intend to seek approval as biologic products may face competition sooner than anticipated.

The enactment of the Biologics Price Competition and Innovation Act of 2009, or BPCIA, created an abbreviated pathway for the approval of biosimilar and interchangeable biological products. The abbreviated 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 existing reference product. Under the BPCIA, an application for a biosimilar product cannot be approved by the FDA until 12 years after the original branded product or "reference" is approved under a BLA. On March 6, 2015, the FDA approved the first biosimilar product under the BPCIA. However, the law is complex and is still being interpreted and implemented by the FDA and as a result, its ultimate impact, implementation and meaning are subject to uncertainty. While it is uncertain when such processes intended to implement BPCIA may be fully adopted by the FDA, any such processes could have a material adverse effect on the future commercial prospects for our biological products.

There is a risk that the FDA will not consider each of our cell therapies to be entitled to 12-year reference product exclusivity, potentially creating the opportunity for biosimilar competition sooner than anticipated. Additionally, this period of regulatory exclusivity does not apply to companies pursuing regulatory approval via their own full BLA, rather than via the abbreviated biosimilar pathway. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological drug products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

Foreign countries also have abbreviated regulatory pathways for biosimilars and hence even where the FDA does not approve a biosimilar biologic, a biosimilar could be approved using an abbreviated regulatory pathway in other markets where our cell therapies are approved and marketed.

Risks Related to the Development of Our Cell Therapies

We are heavily reliant on the data obtained from our ongoing ADP-A2M4CD8 clinical trials.

Our ability to obtain additional financing is dependent on the data from our ADP-A2M4CD8 ("SURPASS" and "SURPASS-3") clinical trials among other factors. Data from any of these trials might not be sufficient to enable us to further develop ADP-A2M4CD8 or other cell therapies within the pipeline. If we do not see sufficiently positive data in any of these clinical trials or if we see an adverse side effect profile preventing continuation of any clinical trials, we may not be able to obtain the additional financing required to fund our anticipated business operations. This in turn may necessitate delays in planned activities, including the commercialization of afami-cel in synovial sarcoma, the development of lete-cel and our ability to progress other cell therapies into and through clinical development.

Our cell therapy products require significant additional clinical testing before we can seek regulatory approval and begin commercialization.

Our cell therapies may not achieve regulatory approval or proceed to the next stage of development. We have filed our first BLA for afami-cel and the FDA is currently reviewing that BLA. We do not know if the FDA will grant approval for afami-cel or whether additional activities, if any, will be required to be performed prior to such approval being granted or after such approval being granted. All of our other cell therapies require further development before a BLA can be filed with any regulatory authority to permit commercialization. Results seen in early clinical trials, for example, with our ADP-A2M4CD8 cell therapy candidate may not be predictive of the data we will obtain in our later phase clinical trials. Negative results in any cell therapy clinical program may also impact our ability to continue with clinical development of other similar cell therapies. Although each cell therapy may target a different cancer peptide or protein, the underlying technology platform and other aspects of our clinical programs are the same or substantially similar for many of our cell therapies. Accordingly, a failure or delay in any one program may affect the ability to obtain regulatory approval to continue or conduct clinical programs for other cell therapies.

The data produced in our ongoing clinical trials is at an early stage, and future data may not support continued progression of any of our therapies through development.

The patient response data that has been reported in our SURPASS and SURPASS-3 trials represents data from small numbers of patients within each study at the applicable dosing level. As such, the data is initial data, and there is no assurance that any responses will persist, that we will see responses in any other patients or that such patients will not suffer severe adverse events which may result in a delay or halt to any clinical trial. Further data may be required in order to progress cell therapies to the next stage of development. Negative results in one clinical trial may also impact ability to proceed with development in other clinical trials given the common technology platform and similarity of other aspects of our clinical programs.

Like other biologic products, we expect there may be greater variability in results for cell therapies which are administered on a patient-by-patient basis than for "off-the-shelf" products, like many other biologics. There is typically an extremely high rate of attrition from the failure of any products proceeding through clinical trials. Cell therapies in later stages of clinical trials may fail to show the desired safety and efficacy profile despite having progressed through preclinical programs and initial clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or unacceptable safety issues, notwithstanding promising results in earlier trials. Most biologic candidates that begin clinical trials are never approved by regulatory authorities for commercialization. We may therefore be unsuccessful in demonstrating the required efficacy and safety profile from the performance of any of our clinical programs.

We are aware that certain patients do not respond to our cell therapies and that other patients may relapse or cease to present the peptide being targeted by such cell therapies. The percentage of the patient population in which these events may occur is unknown, but the inability of patients to respond and the possibility of relapse may impact our ability to conduct clinical trials, to obtain regulatory approvals, if at all, and to successfully commercialize any cell therapies.

We plan to provide further data updates as and when the applicable data is believed to be sufficiently mature. Given the nature of T-cell therapies and the time taken to observe patient responses to our cell therapies, we cannot provide any assurance that further data updates will be provided frequently or that such data updates will be available at any particular time.

We may not be able to commence additional clinical trials for cell therapies on the timeframes we expect.

Progression of new cell therapies into clinical trials is inherently risky and dependent on the results obtained in preclinical programs, the results of other clinical programs and any other activities which may impact our ability to commence clinical trials, for example, availability of manufacturing process and components. If any issues are identified during any cell therapy development, we may experience significant delays in development of pipeline candidates including our PRAME and CD70 programs and in existing clinical programs including our SURPASS and SURPASS-3 programs. This may also impact our ability to achieve certain financial milestones and the expected timeframes to market any of our cell therapies.

The FDA or other regulatory authorities may not approve any IND (or equivalent application) for any of our future cell therapies, or for new indications for our cell therapies already in clinical trials, or may require amendments to existing protocols (including as a result of the COVID-19 pandemic or other similar pandemics). For example, we amended the protocols for our clinical trials in response to reported serious adverse events ("SAEs") of prolonged serious pancytopenia in our clinical trials. Such amendments and updates may delay our clinical trials, may require changes or resubmission of our INDs, or may result in or be related to a halt in our planned or contemplated clinical trials.

We conduct clinical trials at sites in the U.K. and European Union. This requires gaining the approval of country specific review bodies for GMO application and Clinical Trial Application ("CTA"). As this is not a harmonized process, the requirements can vary considerably, and delays can be incurred at a country level. For example, the information required in relation to manufacturing processes or assays may differ between countries and may require additional testing to be conducted in order for approval to be obtained.

T-cell therapy is a novel approach to cancer treatment that creates significant increased risk in terms of side-effect profile.

Development of a pharmaceutical or biologic therapy or product has inherent risks based on differences in patient population and responses to therapy and treatment. The mechanism of action and impact on other systems and tissues within the human body following administration of our cell therapies is complex and not completely understood, which means that we cannot predict the long-term effects of treatment with any of our cell therapies (whether by us or a collaborator). In addition, it is not possible for any pre-clinical safety package to completely identify all potential safety risks. For example, there is a risk that the target (or similar) peptide to which any T-cell is directed may be present in both patients' cancer cells and other non-cancer cells and tissues. Cross-reactivity or allo-reactivity (binding to peptides presented on other HLA types) could also occur where the affinity-enhanced engineered TCR contained within any cell therapy including our T-cells binds to peptides presented by HLAs other than the HLA type for which the relevant TCR was developed. Should any of these cross-reactivities occur, patients may suffer a range of side effects associated with the T-cell binding to both the cancer cells and/or other cells and tissues and such side effects could cause patient death. The extent of these side effects will depend on which cells and tissues are affected as well as the degree to which the target (or similar) peptide is expressed in these cells and tissues.

Any unacceptable toxicities arising in ongoing clinical programs could result in suspension or termination of those clinical programs. The more serious adverse events ("SAEs") that are reported the greater the risk of suspension of termination of clinical programs, even where the SAEs are unrelated to each other or to our cell therapies. Our patients undergo lymphodepletion prior to receiving our cell therapies which leaves them immuno-compromised for a period of time after the lymphodepletion and increases their risk of contracting other unrelated diseases or pathogens including COVID-19. The treatment regimen used in our protocols, in particular the use of chemotherapy, also carries an inherent risk of cytopenia (including pancytopenia), where blood cell levels reduce to lower than normal. If blood cell levels do not recover sufficiently the patient may suffer serious adverse events, which may even be life threatening. There have

been multiple events of pancytopenia as well as SAEs similar to those reported across our clinical trials; these are multifactorial in etiologies and could result in regulatory authorities imposing a hold on one or more clinical programs whilst the events are investigated further. Serious adverse events seen with other immunotherapy products, such as the severe cytokine release syndrome ("CRS") and neurotoxicity events observed with CD19-directed CAR T-cell treatments, may also occur at any stage of the clinical program. Further, following infusion of any of our T-cells, there may be a transient inflammatory reaction of the disease to the treatment. Symptoms in any given subject would be dependent on the location and other characteristics of their tumor. For example, subjects with lung tumors may experience dyspnea. Cardiac toxicities may be observed in patients with pre-existing cardiac or pericardial masses. These inflammatory reactions and related symptoms may be mild and self-limited, but can be severe, potentially life-threatening and require medical intervention.

Any side effects may also result in the need to perform additional trials, which will delay regulatory approval for such cell therapies and require additional resources and financial investment to bring the relevant cell therapy to market.

Use of cell therapies in combination with other third party products or therapies may increase or exacerbate side effects that have been seen with our cell therapies alone or may result in new side effects that have not previously been identified with our cell therapies alone. Any undesirable side effects seen in combination trials may affect our ability to continue with and obtain regulatory approval for the combination therapy, but may also impact our ability to continue with and obtain regulatory approval for our cell therapies alone.

Summary information on adverse events ("AEs") seen in relation to each of our cell therapies are provided below

Afami-cel:

- As of December 27, 2023, 156 patients received at least one dose of transduced cells of afami-cel across multiple studies. 138 (88.5%) patients experienced adverse events. Adverse events occurring in >10% of subjects considered by investigators to be at least possibly related to afami-cel include CRS, pyrexia, neutropenia/neutrophil count decreased, fatigue, leukopenia/WBC decreased, sinus tachycardia/tachycardia, lymphopenia/ lymphocyte count decreased, nausea, hypotension rash, thrombocytopenia/platelet count decreased, chills, febrile neutropenia, anaemia/RBC decreased, decreased appetite and headache.

- Serious adverse event (SAEs), considered by investigators to be at least possibly related to afami-cel were reported for 38 (24.4%) subjects under the program. These events include empyema, sepsis, cytokine release syndrome, pleural effusion, pneumothorax, pulmonary embolism, pyrexia, anemia, aplastic anemia, pancytopenia, cerebrovascular accident, encephalopathy, neurotoxicity, arrhythmia, alanine aminotransferase increased, aspartate aminotransferase increased, blood alkaline phosphatase increased, platelet count decreased, lymphoproliferative disorder, deep vein thrombosis, superior vena cava occlusion, acute kidney injury, arthralgia, pulmonary hemorrhage, adrenal insufficiency, white blood cell count decreased and rash. Two of these subjects have had treatment related fatal SAEs: one patient experienced pancytopenia/aplastic anemia and the other experienced a cerebrovascular accident (stroke).

- Five subjects experienced long term follow up events. The events were thrombocytopenia/Platelet count decreased, sepsis, bacteraemia, Covid-19, hyperthyroidism, and myelodysplastic syndrome.

ADP-A2M4CD8:

- As of November 22, 2023, in the SURPASS study, there have been 46 patients treated with ADP-A2M4CD8 monotherapy. The adverse events occurring in >10% of patients treated with ADP-A2M4CD8 monotherapy (n=46) and considered by investigators to be at least possibly related to ADP-A2M4CD8 include CRS, neutropenia/neutrophil count decreased, fatigue, anemia/red blood cell count decreased, thrombocytopenia/platelet count decreased, immune effector cell-associated

neurotoxicity syndrome (ICANS), pleural effusion, pyrexia, rash, dyspnea, hypoxia, leukopenia/ white blood cell count decreased, sinus tachycardia/tachycardia, decreased appetite, febrile neutropenia, and lymphopenia/ lymphocyte count decreased.

- SAEs, considered by investigators to be at least possibly related to ADP-A2M4CD8 monotherapy, were reported for 23 (50.0%) patients in the study. These events include CRS, ICANS, drug reaction with eosinophilia and systemic symptoms (DRESS Syndrome), rash, hypoxia, dyspnea, plueral effusion, device related infection, pneumonia, sepsis, anemia, pancytopenia, pyrexia, myocarditis, small intestinal obstruction, infusion related reaction, blood creatinine increased, tumor lysis syndrome, and myositis. Three of these patients had treatment-related fatal SAEs (pancytopenia, CRS, and myositis).In addition, there have been 10 patients treated with nivolumab in combination with ADP-A2M4CD8. Nine out of 10 subjects had AEs related to T-cell infusion, including CRS, rash, pyrexia, fatigue, C-reactive protein increased, decreased appetite, febrile neutropenia, headache, hypotension, ICANS, infusion related reaction, lymphopenia/lymphocyte count decreased, sinus tachycardia/tachycardia, stomatitis and thrombocytopenia/platelet count decreased. Febrile neutropenia, fatigue, and hypotension were the only AEs related to T-cell infusion and nivolumab.

- In the SURPASS-2 study (ADP-0055-002), there have been 3 patients treated with ADP-A2M4CD8 monotherapy. The adverse events considered by investigators to be at least possibly related to ADP-A2M4CD8 include rash, sciatica, CRS, pyrexia and respiratory failure. CRS was the only SAE considered by investigators to be at least possibly related to ADP-A2M4CD8 monotherapy.

- Across all ADP-A2M4CD8 trials, 32 total patients treated with ADP-A2M4CD8 monotherapy continue in long term follow up as at date of data cut-off. No related AE/SAEs have been reported.

Lete-cel:

- As of January 27, 2023, 198 patients out of 199 patients experienced treatment emergent adverse events. Adverse events (AEs) occurring in >10% of subjects considered by investigators to be at least possibly related to Lete-cel include cytokine release syndrome (CRS),neutropenia/neutrophil count decreased, leukopenia/white blood cell decreased, thrombocytopenia/platelet count decreased, anaemia/red blood cell count decreased, pyrexia, rash/rash maculo-papular, fatigue, diarrhea, nausea, febrile neutropenia, hypophosphatemia, alanine aminotransferase increased, tachycardia, dyspnoea, decreased appetite, aspartate aminotransferase increased, lymphopenia/lymphocyte count decreased, hypotension, hypokalaemia, alopecia, chills, hypocalcemia, headache, hyponatremia , hypoalbuminemia, cough, vomiting, hypomagnesaemia, pruritus, blood alkaline phosphatase increased.

- Serious adverse event (SAEs), considered by investigators to be at least possibly related to lete-cel, were reported for 92 (46%) subjects under the program. These events include CRS, febrile neutropenia, neutropenia/neutrophil count decreased, pyrexia, rash/rash maculo-papular, thrombocytopenia/platelet count decreased, anemia/RBC decreased, dyspnea, hypotension, pancytopenia, unspecified GVHD – other (lung, bone marrow, not specified), pleural effusion, acute GVHD –other (lung, bone marrow, not specified), device related infection, diarrhoea, nausea, bacteraemia, blood bilirubin increased , bone marrow failure, cardiac arrest, dermatitis exfoliative generalized,Guillain-Barre syndrome, hemorrhage intracranial, hyponatremia, hypoxia, immune effector cell-associated neurotoxicity syndrome (ICANS), leukopenia/white blood cell decreased, neutropenic sepsis, pericardial effusion, pneumonitis, staphylococcal infection, and tumor pain.

- As of January 27, 2023, one hundred and eighty-two patients treated with lete-cel were in long term follow-up (LTFU) phase. In 90 safety population, potential Grade ≥3 delayed AEs includes pulmonary alveolar hemorrhage, BK virus infection, febrile neutropenia, herpes zoster, Guillain-Barre syndrome, peripheral motor neuropathy, and peripheral sensory neuropathy.

We may encounter substantial delays in our clinical trials or may not be able to conduct our trials on the timelines we expect.

Any delay in our clinical trials will impact our ability to obtain clinical data from those trials and our ability to progress our business along anticipated timelines and to raise capital. Delays in clinical trials can also increase the costs incurred in performing those clinical trials or necessitate a need to initiate additional clinical trial sites. Our ability to progress our clinical trials is dependent on a number of factors including:

- Finding clinical sites prepared to carry out the relevant clinical trials, screening of patients by the clinical sites, recruitment of patients both in terms of number and type of patients and general performance of the relevant clinical site.

- The ability of our clinical sites to recruit patients on the timelines we expect. It can be difficult for clinical sites to find patients that express both the required HLA-type (if required) and required antigen type and which also meet the inclusion criteria for our clinical trials. In addition, during the COVID-19 pandemic, resources at clinical sites are being prioritized towards treatment of COVID-19 and as a result there may be a delay in their ability to progress our clinical trials, recruit and enroll patients into clinical trials or to start new clinical trials.

- The patient population in which any required peptide antigen is presented. The patient population may be lower than expected which will increase the timescales required to find and recruit patients into the applicable clinical trial. Screening of a large number of patients is required to identify HLA and tumor antigen positive patients for all of our clinical trials with our engineered T-cells.

- Our ability to select, initiate and activate clinical sites on the timelines we expect. Selection and activation of clinical trial sites can take a long period of time and includes requirements to assess the clinical trial site, obtain IRB approval of clinical trial protocols, negotiate and execute clinical trial agreements and educate study staff to enable them to carry out the clinical trial.

- Any requirement to change clinical trial design as the clinical trial progresses. It is also difficult to predict whether changes may be required to any clinical trial design as our clinical trials progress. The need to make changes to any clinical trial design can result in delays to the performance of that clinical trial whilst any changes are approved by the FDA or other relevant authority and implemented at applicable clinical trial sites.

- Any competition for patients at our clinical sites. Many of our clinical trial sites have multiple clinical trials ongoing which compete for patients in any specific indication. We may have to wait before treating patients while patients complete existing clinical trials or receive other treatment therapies for their cancer. Moreover, because our cell therapies represent a departure from more commonly used methods for cancer treatment, potential patients and their physicians may opt to use conventional therapies, such as chemotherapy and hematopoietic cell transplantation, rather than enrollment in any of our current or future clinical trials. This may also mean we cannot recruit patients at a suitable time in their disease progression.

- Any change in the standard of care for patients. Where standard of care for patients changes clinical sites may no longer be prepared to continue with any clinical trial or require amendments to agreed protocols for clinical trials. Such circumstances can lead to the suspension of the relevant clinical trial at a site, inability to recruit further patients at that clinical site or a requirement to amend the protocol, all of which will delay or potentially halt progression of a cell therapy through clinical trials.

- Any country-specific requirement. In certain countries, additional data, studies or documentation may be required ahead of any clinical trial starting. For example, comparability studies may be required in relation to any changes in manufacturing process and the extent of these comparability studies can

vary between different countries. This can result in delays to the start of any clinical trials in those countries and lead to increased research and development being required ahead of the start of those clinical trials.

- The severity of the disease we are trying to treat and the type of patient we are trying to recruit. For many of our clinical trials patients have received numerous prior therapies and have few or no other remaining treatment options. Given the late stage of their disease the patients also tend to be very ill and hence require treatment quickly and have the potential for increased SAEs following treatment. Depending on the protocol it can be difficult to find patients that meet the inclusion requirements for our clinical trials and can wait for manufacture of our cell therapy products.

- The clinical trial protocol design and in particular the inclusion and exclusion requirements applicable to the clinical trial.

- Patient referral practices. It is common for investigators or physicians not to refer patients to other investigators or physicians either within their own clinical sites or to other clinical sites. This increases the number of clinical sites which have to be initiated in order to recruit patients to our clinical trials.

- Availability of reimbursement from insurance companies. The availability of reimbursement for patients to participate in clinical trials can impact on their ability to enroll in our clinical trials.

Even if we are able to enroll a sufficient number of patients in our clinical trials, delays in patient enrollment may result in, and have resulted 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 our cell therapies.

Certain of our clinical trials include dose escalation studies in which the dose of cell therapies administered to patients is varied or initial studies in which the pre-treatment regimen may be varied, for example, a regimen with and without fludarabine. The outcome of such dose escalation or initial studies will inform the clinical study going forward. However, the need to carry out dose escalation or other initial studies may result in delays in data from such clinical programs while the most suitable dose or regimen is assessed. For example, the trial design for our cell therapy trials includes dose escalation and therefore efficacy data may not be obtained from initial patients treated in such studies during the dose escalation phase.

Our cell therapies represent a novel approach to cancer treatment that could result in heightened regulatory scrutiny and delays in clinical development.

Use of any of our cell therapies to treat a patient involves genetically engineering a patient's T-cells. This is a novel treatment approach that carries inherent development risks including the following, any of which can result in delays to our ability to develop our cell therapies:

- Further development, characterization and evaluation may be required at any point in the development of any cell therapy where clinical or preclinical data suggest any potential safety risk for patients. The need to develop further assays, or to modify in any way the protocols related to our cell therapies to improve safety or effectiveness, may delay the clinical program, regulatory approval or commercialization, if approved at all, of any cell therapy.

- End users and medical personnel require a substantial amount of education and training in their administration of cell therapies either to engage in clinical trials and recruit patients or ultimately to provide cell therapies to patients once our cell therapies have been approved.

- Regulators may be more risk averse or require substantial dialogue and education as part of the normal regulatory approval process for each stage of development of any cell therapy. Many regulators have

additional requirements or processes relating to cell therapy products which need to be addressed during development. To date, only a limited number of gene therapy products have been approved in the U.S. and EU. Consequently, it is difficult to predict and evaluate what additional regulatory hurdles may apply to the development of our cell therapies and whether additional investment, time or resources will be required to overcome any such hurdles.

- Regulatory requirements governing gene and cell therapy products have changed frequently and may continue to change in the future.

- Random gene insertion associated with retrovirus-mediated genetically modified products, known as insertional oncogenesis, could lead to lymphoma, leukemia or other cancers, or other aberrantly functioning cells. Insertional oncogenesis was seen in early gene therapy studies conducted outside of the U.S. in 2003 although these studies utilized a murine gamma-retroviral vector rather than a lentiviral vector.

- Although our viral vectors are not able to replicate, there may be a risk with the use of retroviral or lentiviral vectors that they could undergo recombination and lead to new or reactivated pathogenic strains of virus or other infectious diseases.

- There is the potential for delayed adverse events following exposure to gene therapy products due to persistent biological activity of the genetic material or other components of products used to carry the genetic material. In part for this reason, the FDA recommends a 15-year follow-up observation period for all surviving patients who receive treatment using gene therapies in clinical trials.

- Clinical trials using genetically modified cells may be subject to additional or further regulatory processes, for example, by the NIH Office of Biotechnology Activities' Recombinant DNA Advisory Committee, or RAC or the need to apply for a specific applications relating to the use of Genetically Modified Organism application in the EU. These additional processes may delay or impede the initiation of a clinical trial.

- Increased risk to patient safety caused by the need to lymphodeplete patients prior to administration of our cell therapies including in circumstances in which there is a heightened safety risk or in which medical resources could be prioritized elsewhere, for example, during a pandemic such as COVID-19.

- Negative results seen in third party clinical trials utilizing gene therapy products may result in regulators halting development of our cell therapies or in requiring additional data or requirements prior to our cell therapies progressing to the next stage of development. For example, regulators could require changes to be made to our clinical trial protocols or increase requirements for dose escalation studies as part of our clinical trial protocols.

Our clinical trials may fail to demonstrate adequately the safety and efficacy of any cell therapies which would prevent or delay regulatory approval and commercialization.

There is a risk in any clinical trial that side effects from cell therapies will require a hold on, or termination of, clinical programs or further adjustments to clinical programs in order to progress any cell therapy. Our cell therapy must demonstrate an acceptable benefit/risk profile in its intended patient population and for its intended use. The benefit/risk profile required for product licensure will vary depending on these factors and may include not only the ability to show tumor shrinkage, but also adequate duration of response, a delay in the progression of the disease and/or an improvement in survival. For example, response rates from the use of our cell therapies may not be sufficient to obtain regulatory approval unless we show an adequate duration of response.

The regulatory authorities (including the FDA) may issue a hold on our clinical trials as a result of safety information and data obtained in third party clinical trials or in relation to third party products. Any such hold will

require addressing by us and will inevitably delay progression of the clinical trials concerned, if such clinical trials progress at all.

In addition, even if such trials are successfully completed, the FDA or foreign regulatory authorities may not interpret the results as we do. Accordingly, more trials may be required before we can submit any cell therapy for regulatory approval or additional data may be required in order to obtain full approval. To the extent that the results of the trials are not satisfactory to the FDA or foreign regulatory authorities for support of a marketing authorization application, we may be required to expend significant resources, which may not be available to us, to conduct additional trials and development in support of potential approval of our cell therapies. We cannot predict whether any of our cell therapies will satisfy regulatory requirements at all or for indications in which such cell therapies are currently being evaluated as part of any clinical programs.

We have limited experience conducting later stage clinical trials which may cause a delay in any clinical program and in the obtaining of regulatory approvals.

Although we have recruited a team that has significant experience with clinical trials, as a company we have limited experience in conducting clinical trials through to regulatory approval. In part because of this lack of experience, we cannot be certain that planned clinical trials will begin or be completed on time, if at all. Large-scale trials would require significant additional financial and management resources, and reliance on third-party clinical investigators, contract research organizations, or CROs, or consultants. Relying on third-party clinical investigators, consultants or CROs may force us to encounter delays that are outside of our control.

Clinical trials are expensive, time-consuming and difficult to implement.

Clinical trials, depending on the stage, can be costly as well as difficult to implement and define, particularly with technologies that are not tried and tested, such as our cell therapies. These factors can lead to a longer clinical development timeline and regulatory approval process, including a requirement to conduct further or more complex clinical trials in order to obtain regulatory approval. Regulatory authorities may disagree with the design of any clinical program, and designing an acceptable program could lead to increased timeframes for obtaining of approvals, if any. In addition, progression of clinical trials depends on the ability to recruit suitable patients to those trials and delay in recruiting will impact the timeframes of such clinical trials and as a result the timeframes for obtaining regulatory approval, if any, for the relevant cell therapy.

In particular, eligible patients may need to be screened for the target peptide and HLA type, which may reduce the number of patients who can be recruited for any clinical program. The ability to administer cell therapies to patients in accordance with set protocols for the clinical trials and the results obtained depends on patient participation for the duration of the clinical trial, which many of these patients are unable to do because of their late-stage cancer and limited life expectancy.

Validation of our cell therapies requires access to human samples which we may be unable to obtain or, if they can be obtained, that the terms under which they are provided will be favorable to us.

Certain of the steps involved in validating and carrying out safety testing in relation to our cell therapies require access to human samples (e.g., tissues samples or cell samples) from third parties. Such samples may be obtained from universities or research institutions and will often be provided subject to certain terms and conditions. We may not be able to obtain samples in sufficient quantities to enable preclinical testing in sufficient quantities for planned activities. In addition, the terms under which such samples are available may not be acceptable to us or may restrict our use of any generated results or require us to make payments to the third parties.

Our cell therapies and their application are not fully scientifically understood and are still undergoing validation and investigation.

Our cell therapies and their potential associated risks are still under investigation. Our cell therapies may not work in the way that we currently anticipate and affinity modification of the receptors within T-cells or other cellular

therapies may not produce the anticipated enhancements in activity. For example, there is a potential risk that, given that the TCR chains in our T-cells are produced separately and then assembled within patient T-cells into full TCRs, the TCR chains from both transduced and naturally occurring T-cells could be assembled into an unintended end TCR due to mispairing of TCR chains, which could create unknown recognition and cross-reactivity problems within patients. Although this phenomenon has not been reported in humans, it remains a theoretical risk for our cell therapies and other similar cell therapies and is still being studied and investigated. This could delay regulatory approval, if any, for the relevant cell therapy. To the extent that any mispairing is identified, either in our or our competitors' clinical trials, additional investment may be required in order to modify relevant cell therapies and to further assess and validate the risk of such mispairing to patients. Following modification of the relevant cell therapy, such modified cell therapy may not remain suitable for patient treatment and may not eliminate the risk of mispairing of TCR chains and regulatory approval may not be obtained on a timely basis or at all in relation to such modified cell therapy. The occurrence of such events would significantly harm our business, prospects, financial condition and results of operations.

We may not be able to identify and validate additional target peptides or isolate and develop affinity-enhanced TCRs or other cell therapy candidates that are suitable for validation and further development.

The success of our cell therapies depends on both the identification of target peptides presented on cancer cells, which can be bound by our cell therapy products, and isolation and affinity enhancement of receptors including TCRs, which can be used to treat patients if regulatory approval is obtained. Any failure to identify and validate further target peptides will reduce the number of potential cell therapies that we can successfully develop, which in turn will reduce the commercial opportunities available to us and increase our reliance on our existing cell therapies. Delays in our ability to identify and develop target peptides and cell therapies, including as caused by lack of financing, COVID-19 or similar pandemics, may also impact our ability to progress development of programs and obtain additional funds to support our business.

We may not develop new cell therapy candidates for which the safety and efficacy profiles enable progression to and through preclinical testing and into clinical development. Failure to identify further candidates for progression into preclinical testing and clinical programs will significantly impact our pipeline of cell therapies and also increase our reliance on the cell therapies currently in clinical development. If resources become limited or if we fail to identify suitable target peptides, receptors including TCRs or affinity-enhanced receptors, our ability to submit INDs for further cell therapies may be delayed or never realized, which would have a materially adverse effect on our business.

Development of an "off-the-shelf" cell therapy takes a considerable amount of time and such development may not be successful.

We have a platform process which may enable us to treat patient populations with an "off-the-shelf" product. However, our research program may not be successful, might not be carried out within the timescales currently anticipated, or even if successful might not result in a cell therapy that can be used to treat patients or achieve a profitable return on investment. In particular the various cell lines developed during this process will need to be properly characterized and produced in accordance with regulatory requirements and this development process can take a significant amount of time and resource to ensure that any process or cell lines can be used for the production of clinical stage and ultimately commercial stage products. It is not known at this time whether the cell therapy candidates resulting from the process will have a similar profile of activity to our existing cell therapy products or whether such cell therapy candidates will be safe to administer to patients. Delays may occur at any part of the process, including obtaining results during development that necessitate a requirement to repeat or modify steps in the process. The regulatory requirements for an off-the-shelf product are not known and regulators could require significant additional development steps, which in turn could delay our ability to enter clinical development with our off-the-shelf cell therapies.

Risks Related to the Manufacture and Supply of Our Cell Therapies

Manufacturing and supply of cell therapies is complex, and if we encounter any difficulties in manufacture or supply of cell therapies our ability to provide supply of our cell therapies for clinical trials or for commercial purposes could be delayed or stopped.

The process of manufacturing and administering cell therapies is complex and highly regulated. The manufacture of cell therapies requires the harvesting of white blood cells from the patient, isolating certain T-cells from these white blood cells, combining patient T-cells with our lentiviral delivery vector through a process known as transduction, expanding the transduced T-cells to obtain the desired dose, and ultimately infusing the modified T-cells back into the patient. As a result of the complexities, our manufacturing and supply costs are likely to be higher than those at more traditional manufacturing processes and the manufacturing process is less reliable and more difficult to reproduce.

Delays or failures in the manufacture of cell therapies (whether by us, any collaborator or our third party contract manufacturers) can result in a patient being unable to receive their cell therapy or a requirement to re-manufacture which itself then causes delays in manufacture for other patients. Any delay or failure or inability to manufacture on a timely basis can adversely affect a patient's outcomes and delay the timelines for our clinical trials. With a commercial product delays or failure to manufacture could additionally lead to claims by patients for reimbursement or damages. Such delays or failure or inability to manufacture can result from:

- a failure in the manufacturing process itself for example, by an error in manufacturing process (whether by us or our third party contract manufacturing organization), equipment or reagent failure, failure in any step of the manufacturing process, failure to maintain a GMP environment, failure in quality systems applicable to manufacture, sterility failures, contamination during process;

- a lack of reliability or reproducibility in the manufacturing process itself leading to variability in end manufacture of cell therapy. Should the process be unreliable, the relevant regulatory agency (such as the FDA in the U.S.) may place a hold on a clinical trial or request further information on the process which could in turn result in delays to the clinical trials;

- variations in patient starting material or apheresis product resulting in less product than expected or product which is not viable, or which cannot be used to successfully manufacture a cell therapy;

- product loss or failure due to logistical issues including issues associated with the differences between patients' white blood cells or characteristics, interruptions to process, contamination, failure to supply patient apheresis material within required timescales (for example, as a result of an import or export hold-up) or supplier error;

- inability to have enough manufacturing slots to manufacture cell therapies for patients as and when those patients require manufacture;

- inability to procure components, consumables, ingredients, or starting materials, or to manufacture starting materials (including at our U.K. vector facility), as a result of supply chain issues;

- loss of or close-down of any manufacturing facility used in the manufacture of our cell therapies. For example, we will be manufacturing a fami-cel at our Navy Yard manufacturing facility. Should there be a contamination event at the facility resulting in the close-down of that facility, it would not be possible to find alternative manufacturing capability for a fami-cel within the timescales required for patient supply including for commercial supply. The Navy Yard is also used for manufacture of ADP-A2M4CD8 for the SURPASS trials and any loss of capacity or closure will impact ability to supply cell therapies for the SURPASS and SURPASS-3 trials. In addition, as with many pharmaceutical manufacturing facilities, the

facility will have periods of time within which it cannot be used for manufacture of patient product to enable routine checks to be performed on the facility;

- loss or contamination of patient starting material, requiring the starting material to be obtained again from the patient or the manufacturing process to be re-started. In the context of commercial supply, this could result in cancellation of order for the commercial cell therapy or a claim from the patient;

- a requirement to modify or make changes to any manufacturing process. Such changes may additionally require comparability testing which then may reduce the amount of manufacturing slots available for manufacture of our cell therapies. Delays in our ability to make the required modifications or perform any required comparability testing within currently anticipated timeframes or that such modifications or comparability testing, when made, will obtain regulatory approval or that the new processes or modified processes will successfully be transferred to the third party contract suppliers within currently anticipated timeframes can also impact timelines for manufacture;

- reduction or loss of the staff resources required to manufacture our cell therapies at our facilities or those of our CMOs;

- allocation of the resources, materials, and services of any collaborator or our third party contract manufacturers away from our cell therapy programs;

- reduction in available workforce to perform manufacturing processes, for example, as a result of a COVID-19 outbreak or workforce exhibiting potential COVID-19 symptoms, and pending receipt of test results for COVID-19 infection;

- increased country-specific requirements. For example, our current manufacturing site is in the U.S. and this means that for patients outside of the U.S. there is a need to transfer patient-specific apheresis material from clinical sites in Europe to the manufacturer in the U.S., for the patient product to be converted into our end cell therapy product, for that product to be released for use in Europe and then for that cell therapy product to be transported back to the site in Europe for administration to the patient. The supply and manufacturing chain required to achieve this is very complex and could be subject to failures at any point

- inability to engage with third party manufacturers within the timelines required to support planned activities. For example, we are using a series of third party contract manufacturing organizations to manufacture the vector and cell therapy for lete-cel. It takes time to set up and finalize manufacturing with a new vendor and there is no guarantee that we will be able to achieve that within currently planned timelines or that once set-up the manufacturing process will provide comparable to that used in prior clinical trials; and

- changes in the manufacturing and supply process. As our cell therapies progress through preclinical programs and clinical trials towards approval and commercialization, it is expected that various aspects of the manufacturing and administration process will be altered in an effort to optimize processes and results. We have already identified some improvements to our manufacturing and administration processes, but these changes may not achieve the intended objectives, may not be transferable to third parties or able to be used at larger scales and could cause our cell therapies to perform differently or affect the results of planned clinical trials or other future clinical trials. Any changes to the manufacturing process may require amendments to be made to regulatory applications or comparability tests to be conducted which can further delay timeframes. If cell therapies manufactured under the new process have a worse safety or efficacy profile than the prior investigational product or the process is less reproducible than the previous process, we may need to re-evaluate the use of that manufacturing process, which could significantly delay or even result in the halting of our clinical trials.

We have insurance to cover certain business interruption events which is capped at £10 million in the U.K. and $5 million in the U.S. We will need to obtain additional product liability insurance in the context of the commercial supply of afami-cel. However, because our level of insurance is capped, it may be insufficient to fully compensate us if any of these events were to occur in the future.

Our manufacturing process needs to comply with regulations, and any failure to comply with relevant regulations could result in delays in or termination of our clinical programs and suspension or withdrawal of any regulatory approvals.

In order to commercially produce our products, we will need to comply with the FDA's and other regulatory authorities' cGMP requirements at our Navy Yard facility, vector facility and third party contract manufacturing facilities. We may encounter difficulties in achieving quality control and quality assurance and may experience shortages in qualified personnel. We and our third party contract manufacturers are subject to inspections by the FDA and comparable agencies in other jurisdictions to confirm compliance with applicable regulatory requirements once the process has been approved. Any failure to follow cGMP or other regulatory requirements, reliably manufacture product or delay, interruption or other issues that arise in the manufacture, fill-finish, packaging, or storage of our cell therapies as a result of a failure of our facilities or the facilities or operations of third parties to comply with regulatory requirements or pass any regulatory authority inspection could significantly impair our ability to develop and commercialize our cell therapies, including leading to significant delays in the availability of our cell therapies for our clinical trials or the termination of or suspension of a clinical trial, or the delay or prevention of a filing or approval of marketing authorization applications for our cell therapies. Significant non-compliance could also result in the imposition of sanctions, including warning letters, fines, injunctions, civil penalties, failure of regulatory authorities to grant marketing approvals for our cell therapies, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of products, operating restrictions and criminal prosecutions, any of which could damage our reputation and our business.

Given we now manufacture cell therapies at our own U.S. manufacturing facility and our allogeneic facility in the U.K., and lentiviral vectors at a dedicated U.K. vector facility, regulatory authorities might raise non-compliance issues or require us to make changes to the way in which we operate our facilities. This may result in a delay in our ability to manufacture cell therapies at our own facility or in our ability to supply vector material for use in the manufacturing process. In addition, any cell therapy or vector produced in any of our facilities might not be able to meet regulatory requirements and we may be unable to recruit and maintain sufficient staff to enable manufacture of products within required timescales. Resourcing of cell manufacturing facilities is increasingly competitive, which may restrict the number of available skilled operators which can be recruited at our manufacturing facilities. Any failure to meet regulatory requirements or produce cell therapies and vector according to regulatory requirements could result in delays to our clinical programs, potential side effects and even fatalities to patients and may result in withdrawal of regulatory approval for our manufacturing facility.

As part of our BLA review process for afami-cel, our Navy Yard manufacturing facility will be inspected for compliance with regulatory requirements. Should the facility fail to pass such inspection and changes be required to the facility or manufacturing process, there will be a delay in the approval of marketing authorization for afami-cel.

We have our own manufacturing capabilities which may result in increased costs being incurred by us.

During 2017, we opened a manufacturing facility for our T-cell products within our Navy Yard facility in Philadelphia, Pennsylvania and have started manufacturing T-cells for use in our clinical trials. Regulatory authorities, in particular the FDA, might not continue to approve our ability to manufacture T-cells or other cell therapies at the Navy Yard facility. We opened a manufacturing facility in the U.K. for our off-the-shelf cell therapies in 2022 and manufacture of cell therapies at that facility will require the obtaining of regulatory approval and maintenance of the regulatory approval once obtained.

Our ability to successfully manufacture our own cell therapies at our facilities within a reasonable period of time and within currently projected costs is dependent on a number of factors including:

- our ability to recruit the required employees at a suitable level and experience and within required timescales and to maintain employment of such required employees;
- our ability to obtain regulatory approval for the facility and for the manufacture of cell therapies at the facility and to satisfy regulatory authorities on an ongoing basis;
- our ability to manufacture cell therapies reliably and reproducibly and to timescales sufficient to support required patient administration;
- our ability to manufacture cell therapies in compliance with the applicable regulatory requirements, including requirements applicable in the U.S., U.K. and EU;
- our ability to develop internal quality controls and processes sufficient to enable manufacture and supply of cell therapies at our facilities;
- our ability to establish comparability with currently used manufacturing processes and for such comparability data to be accepted by the appropriate regulatory authorities; and
- our ability to be able to fund the ongoing development including equipment requirements necessary for successful manufacture of cell therapies at our facilities.

Any delay or failure in manufacture at our facility could result in delays to the supply of cell therapies for our clinical programs or for commercial supply. Should any of our third party manufacturers also cease to be able to or be unable to supply cell therapies at a time where our own manufacturing facility is unable to produce cell therapies for use in our clinical programs or is unable to produce cell therapies at the required level, then we will be unable to support such clinical programs until alternative manufacturing capability is secured.

Our autologous cell therapy products are patient-specific and we need to ensure that the correct product is administered to the correct patient.

Administration of cell therapies is patient-specific. The process requires careful handling of patient-specific products and fail-safe tracking to ensure that the tracking process is without error and that patient samples are tracked from patient removal, through manufacturing and re-administration to the same patient. While such mechanisms are in place, should the tracking process fail, whether at our own facility, a third party facility or at any point in the manufacturing and supply process, a patient could receive another patient's T-cells resulting in significant toxicity and potentially patient fatality. We will need to invest in enhanced systems, such as bar coding, to further ensure fail safe tracking. There is always a risk of a failure in any such system. Inability to develop or adopt an acceptable fail-safe tracking methodology and handling regime may delay or prevent us from receiving regulatory approval and/or result in significant toxicity and potentially patient fatality if a patient receives another patient's T-cells. This risk may be increased where cell therapies are used in clinical programs that we do not control or sponsor and, should an error be made in the administration of our cell therapies in such clinical programs, this could affect the steps required in our own clinical programs and manufacturing process requiring the addition of further tracking mechanisms to ensure fail-safe tracking. The tracking systems required to further ensure safe patient administration may also require increased administration to satisfy other regulatory requirements, for example, data protection requirements in Europe. The need to ensure tracking systems are adequate and to comply with these additional regulatory requirements may result in delay to the start of trials or the need to obtain additional regulatory licenses or consents prior to starting such trials.

Risks Related to Government Regulation

Regulatory authorities may impose a hold on our clinical trials.

A clinical trial may be suspended or terminated by us or a collaborator, IRBs for the institutions in which such trials are being conducted, the Data Monitoring Committee for such trial, or by the FDA or other regulatory authorities due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a cell therapy, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we or our collaborators experience termination of, or delays in the completion of, any clinical trial of our cell therapies, the commercial prospects for our cell therapies will be harmed, and our ability to generate product revenue will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow our product development and approval process and jeopardize our ability to commence product sales and generate revenue.

The FDA regulatory process can be difficult to predict, in particular whether for example, accelerated approval processes are available or further unanticipated clinical trials are required will depend on the data obtained in our ongoing clinical trials.

The regulatory approval process and the amount of time it takes us to obtain regulatory approvals for our cell therapies will depend on the data that are obtained in our ongoing clinical trials and in one or more future registration or pivotal clinical trials. We may attempt to seek approval on a per indication basis for our cell therapies on the basis of a single pivotal trial or on the basis of data from a Phase 2 trial. While the FDA requires in most cases two adequate and well-controlled pivotal clinical trials to demonstrate the efficacy of a product candidate, a single trial with other confirmatory evidence may be sufficient where the trial is a large multicenter trial demonstrating internal consistency and a statistically very persuasive finding of a clinically meaningful effect on mortality, irreversible morbidity or prevention of a disease with a potentially serious outcome and confirmation of the result in a second trial would be practically or ethically difficult. Depending on the data we obtain, the FDA or other regulatory authorities may require additional clinical trials to be carried out or further patients to be treated prior to the granting of any regulatory approval for marketing of our cell therapies. It is difficult for us to predict with such a novel technology exactly what will be required by the regulatory authorities in order to take our cell therapies to market or the timeframes under which the relevant regulatory approvals can be obtained.

Obtaining and maintaining regulatory approval of our cell therapies in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of our cell therapies in other jurisdictions.

Obtaining and maintaining regulatory approval of our cell therapies in one jurisdiction does not guarantee that we or our collaborators will be able to obtain or maintain regulatory approval in any other jurisdiction, while a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in others. For example, even if the FDA grants marketing approval of a cell therapy, comparable regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing and promotion of the cell therapy in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the U.S., including additional preclinical programs or clinical trials as clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In many jurisdictions outside the U.S., a cell therapy must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we or our collaborators intend to charge for our cell therapies is also subject to approval.

We may be unable to obtain breakthrough or similar designations for our cell therapies or maintain the benefits associated with such designations.

In 2012, the FDA established a Breakthrough Therapy designation which is intended to expedite the development and review of products that treat serious or life-threatening diseases when "preliminary clinical evidence

indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development." The designation of a cell therapy as a Breakthrough Therapy provides potential benefits that include more frequent meetings with the FDA to discuss the development plan for the cell therapy and ensure collection of appropriate data needed to support approval; more frequent written correspondence from the FDA about things such as the design of the proposed clinical trials and use of biomarkers; intensive guidance on an efficient drug development program, beginning as early as Phase 1; organizational commitment involving senior managers; and eligibility for rolling review and Priority Review.

We have obtained RMAT designation (Regenerative Medicine Advanced Therapy designation) from the FDA for afami-cel for the treatment of synovial sarcoma. We have also obtained RMAT designation for ADP-A2M4CD8 for the treatment of ovarian cancer. We may apply for similar status or accelerated programs in other countries and for other of our products and indications. However, given the novel nature of our cell therapies, it is difficult for us to predict whether the FDA or other regulatory authorities will approve such requests or what further clinical or other data may be required to support an application for such accelerated approval procedures. It is possible that the FDA could rescind our RMAT or other designations, if the agency determines that our cell therapies no longer meet the qualifying criteria.

Breakthrough Therapy and RMAT designations do not change the standards for product approval, and products with such designations do not always obtain marketing approval or timely marketing approval. Additionally, other treatments from competing companies may obtain the designations and impact our ability to develop and commercialize our cell therapy, which may adversely impact our business, financial condition or results of operation.

We may also seek Accelerated Approval under the FDA's Fast Track And Accelerated Approval programs, the FDA may approve a drug or biologic for a serious or life-threatening illness that provides meaningful therapeutic benefit to patients over existing treatments based upon a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. For drugs and biologics granted Accelerated Approval such as afami-cel, post-marketing confirmatory trials have been required to describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. These confirmatory trials must be completed with due diligence. Moreover, the FDA may withdraw approval of our cell therapy or indication approved under the accelerated approval pathway if, for example:

- the trial or trials required to verify the predicted clinical benefit of our cell therapy fail to verify such benefit or do not demonstrate sufficient clinical benefit to justify the risks associated with the drug;
- other evidence demonstrates that our cell therapy is not shown to be safe or effective under the conditions of use;
- we fail to conduct any required post approval trial of our cell therapy with due diligence; or
- we disseminate false or misleading promotional materials relating to the relevant cell therapy.

The FDA's Accelerated Approval program has come under increased scrutiny in recent years from both internal and external stakeholders have raised concerns that confirmatory trials have not been completed or have not demonstrated intended effect. Recent legislation (FDORA) has increased the FDA's authority to impose more stringent requirements on the timing and conduct of confirmatory trials, and on the FDA's ability to expedite the withdrawal from approval of a biological product when confirmatory trials have not been completed or do not show intended effect.

In Europe, the EMA has implemented the so-called Priority Medicines ("PRIME") scheme in order support the development and accelerate the approval of complex innovative medicinal products addressing an unmet medical need. The PRIME status enables early dialogue with the relevant EMA scientific committees and, possibly, some payers; and thus reinforces the EMA's scientific and regulatory support. It also opens accelerated assessment of the marketing authorization application (150 days instead of 210 days). The PRIME scheme, which is decided by the EMA, is reserved

for medicinal products that may benefit from accelerated assessment, i.e. medicines of major interest from a public health perspective, in particular from a therapeutic innovation perspective.

In 2020, the EMA granted access to the PRIME scheme to afami-cel for the treatment of certain patients with synovial sarcoma. We may apply for PRIME status for other of our cell therapy products. There can be no assurance that any application will be successful in obtaining PRIME status.

We will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense as well as significant penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our cell therapies.

Any regulatory approvals that we receive for our cell therapies will require surveillance to monitor the safety and efficacy of the cell therapy. The FDA may also require a REMS in order to approve our cell therapies, which could entail requirements for a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools.

Later discovery of previously unknown problems with our cell therapies, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on our ability to conduct clinical trials, including full or partial clinical holds on ongoing or planned trials;
- restrictions on such products' manufacturing processes;
- restrictions on the marketing of a product;
- restrictions on product distribution;
- requirements to conduct post-marketing clinical trials;
- untitled or warning letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- fines, restitution or disgorgement of profits or revenue;
- suspension or withdrawal of regulatory approvals;
- refusal to permit the import or export of our products;
- product seizure;
- injunctions;
- imposition of civil penalties; or
- criminal prosecution.

The FDA's and other regulatory authorities' policies may change, and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our cell therapies. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the U.S. or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

In addition, if following any pivotal clinical trial we were able to obtain accelerated approval of any of our cell therapies, for example afami-cel, the FDA will require us to conduct a confirmatory trial or trials to verify the predicted clinical benefit and additional safety studies. The results from the confirmatory trial or trials may not support the clinical benefit, which would result in the approval being withdrawn.

We may seek a conditional marketing authorization in Europe for some or all of our current cell therapies, but we may not be able to obtain or maintain such authorization.

As part of its marketing authorization process, the EMA may grant marketing authorizations for certain categories of medicinal products on the basis of less complete data than is normally required, when doing so may meet unmet medical needs of patients and serve the interest of public health. In such cases, it is possible for the Committee for Medicinal Products for Human Use, or CHMP, to recommend the granting of a marketing authorization, subject to certain specific obligations to be reviewed annually, which is referred to as a conditional marketing authorization. This may apply to medicinal products for human use that fall under the centralized procedure (EMA's scientific assessment and European Commission's approval), including those that aim at the treatment, the prevention, or the medical diagnosis of seriously debilitating diseases or life-threatening diseases and those designated as orphan medicinal products.

A conditional marketing authorization may be granted when the CHMP finds that, although comprehensive clinical data referring to the safety and efficacy of the medicinal product have not been supplied, all the following requirements are met:

- the benefit/risk profile of the medicinal product is positive;
- it is likely that the applicant will be in a position to provide the comprehensive clinical data;
- unmet medical needs will be fulfilled; and
- the benefit to public health of the immediate availability on the market of the medicinal product concerned outweighs the risk inherent in the fact that additional data is still required.

The granting of a conditional marketing authorization is restricted to situations in which only the clinical part of the application is not yet fully complete. Incomplete preclinical or quality data may only be accepted if duly justified and only in the case of a product intended to be used in emergency situations in response to public-health threats. Conditional marketing authorizations are valid for one year, on a renewable basis. The holder will be required to complete ongoing trials or to conduct new trials with a view to confirming that the benefit-risk balance is positive. In addition, specific obligations may be imposed in relation to the collection of pharmacovigilance data.

Granting a conditional marketing authorization allows medicines to reach patients with unmet medical needs earlier than might otherwise be the case and will ensure that additional data on a product are generated, submitted, assessed and acted upon. Although we may seek a conditional marketing authorization for one or more of our cell therapies, the CHMP may ultimately not agree that the requirements for such conditional marketing authorization have been satisfied. This would delay the commercialization of our cell therapies as we would have to wait for a complete data package before submitting the marketing authorization application.

We may not be able to obtain or maintain orphan drug exclusivity for our cell therapies.

Regulatory authorities in some jurisdictions, including the U.S. and Europe, may designate drugs or biologics for relatively small patient populations as orphan drugs. Orphan drug designation does not convey any advantage in or shorten the duration of the regulatory review and approval process, but it can lead to financial incentives, such as opportunities for grant funding toward clinical trial costs, tax advantages in-lieu of R&D tax credits and user-fee waivers.

Generally, if a product with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the EMA or the FDA from approving another marketing authorization application for the same drug for that time period. The applicable period is seven years in the U.S. and ten years in Europe. The European exclusivity period can be reduced to six years if a drug no longer meets the criteria for orphan drug designation or if the drug is sufficiently profitable so that market exclusivity is no longer justified. Orphan drug exclusivity may be lost if the FDA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition. In addition, a competitor could avoid our orphan drug exclusivity, if its products is shown to be clinically superior. In Europe, the orphan exclusivity may be lost vis-à-vis another drug in cases the manufacturer is unable to assure sufficient quantity of the drug to meet patient needs or if that other product is proved to be clinically superior to the approved orphan product. Generally, the clinical superiority standards in the U.S. and in Europe are similar, and a product is clinically superior if it shows greater efficacy, greater safety, or makes a major contribution to patient care.

As a result of Brexit, as of January 1, 2021, incentives related to an orphan designation granted in the EU are limited to the EU and Ireland, but not Great Britain (England, Wales and Scotland). The competent authority in the U.K. (MHRA) will review applications for orphan designation at the time of a marketing authorization, and has announced that it will offer incentives in the form of market exclusivity and full or partial refunds for marketing authorization fees to encourage the development of medicines in rare diseases.

There can be no assurance that any of our cell therapies will be eligible for orphan drug designation in the U.S. or in other jurisdictions or that it will obtain orphan drug exclusivity upon approval or that we will not lose orphan drug designation for afami-cel. Inability to obtain orphan drug designation for a specific cell therapy or loss of such designation for afami-cel in the future would prevent any ability to take advantage of the financial benefits associated with orphan drug designation and would preclude us from obtaining marketing exclusivity upon approval, if any. Even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs can be approved for the same condition.

The FDA's interpretation of the scope of orphan drug exclusivity has been the subject of recent litigation in the Eleventh Circuit Court of Appeals. In the *Catalyst* case, the appellate court concluded that the FDA has impermissibly narrowed the scope of orphan exclusivity to the approved indication or use, rather than the broader disease or condition which was the basis of the orphan drug designation. The FDA has announced that it will continue to follow its existing regulations, notwithstanding the court decision. However, it is possible that additional litigation may arise, and there is considerable uncertainty about the scope of any orphan drug exclusivity that our products may be awarded.

Any failure by us to comply with existing regulations could harm our reputation and operating results.

The production of cell therapies is highly regulated and subject to constant inspection. The regulatory environment may also change from time to time. Any failure to comply with regulatory requirements, whether in the

U.S. or in other countries in which our cell therapies are supplied, may result in investigation by regulatory authorities, suspension of regulatory authorizations and, as a result, suspension of clinical programs or ability to supply any of our cell therapies and potentially significant fines or other penalties being imposed in relation to any breach. Any failure may also harm our reputation and impact our ability going forward to obtain regulatory approvals for other cell therapies or require us to undertake additional organizational changes to minimize the risk of further breach. A failure to comply may apply to any part of our business, for example, to the processes used for manufacture of our cell therapies (including the reliability of the process) or to the processes used for treatment of patients (including tracking of patient product and supply of patient-specific product).

Our research and development activities utilize hazardous, radioactive and biological materials. Should such materials cause injury or be used other than in accordance with applicable laws and regulations, we may be liable for damages.

We use hazardous and biological reagents and materials in our research and development at our U.K. site. We have obtained the appropriate certification or ensured that such certification has been obtained as required for the use of these reagents but our use is subject to compliance with applicable laws and there is a risk that should any third party or employee suffer injury or damage from radioactive, hazardous or biological reagents that we may incur liability or obligations to compensate such third parties or employees. We have employer's liability insurance capped at £10.0 million per occurrence and public liability insurance capped at £5.0 million per occurrence; however, these amounts may be insufficient to compensate us if these events actually occur in the future.

We are subject to the U.K. Bribery Act, the U.S. Foreign Corrupt Practices Act and other anti-corruption laws, as well as export control laws, customs laws, sanctions laws and other laws governing our operations. If we fail to comply with these laws, we could be subject to civil or criminal penalties, other remedial measures, and legal expenses, which could adversely affect our business, results of operations and financial condition.

Our operations are subject to anti-corruption laws, including the U.K. Bribery Act 2010, or Bribery Act, the U.S. Foreign Corrupt Practices Act, or FCPA, and other anti-corruption laws that apply in countries where we do business. The Bribery Act, the FCPA and these other laws generally prohibit us and our employees and intermediaries from bribing, being bribed or making other prohibited payments to government officials or other persons to obtain or retain business or gain some other business advantage. Under the Bribery Act, we may also be liable for failing to prevent a person associated with us from committing a bribery offense. We and our commercial partners may operate in a number of jurisdictions that pose a high risk of potential Bribery Act or FCPA violations, and we participate in collaborations and relationships with third parties whose actions, if non-compliant, could potentially subject us to liability under the Bribery Act, FCPA or local anti-corruption laws. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted.

We are also subject to other laws and regulations governing our international operations, including regulations administered by the governments of the U.K. and the U.S., and authorities in the EU, including applicable export control regulations, economic sanctions on countries and persons, anti-money laundering laws, customs requirements and currency exchange regulations, collectively referred to as the Trade Control laws.

However, there is no assurance that we will be completely effective in ensuring our compliance with all applicable anti-corruption laws, including the Bribery Act, the FCPA or other legal requirements, including Trade Control laws. If we are not in compliance with the Bribery Act, the FCPA and other anti-corruption laws or Trade Control laws, we may be subject to criminal and civil penalties, disgorgement and other sanctions and remedial measures, and legal expenses, which could have an adverse impact on our business, financial condition, results of operations and liquidity. Likewise, any investigation of any potential violations of the Bribery Act, the FCPA, other anti-corruption laws or Trade Control laws by U.K., U.S. or other authorities could also have an adverse impact on our reputation, our business, results of operations and financial condition.

If we are found in violation of federal or state "fraud and abuse" or other health care laws, we may be required to pay a penalty and/or be suspended from participation in federal or state health care programs, which may adversely affect our business, financial condition and results of operations.

If we obtain marketing approval for our products in the U.S., if at all, we will be subject to various federal and state health care "fraud and abuse" and other health care laws. Healthcare providers, physicians and third-party payors play a primary role in the recommendation and use of pharmaceutical products that are granted marketing approval. Accordingly, arrangements with third-party payors, existing or potential customers and referral sources are subject to broadly applicable fraud and abuse and other healthcare laws and regulations, and these laws and regulations may constrain the business or financial arrangements and relationships through which manufacturers market, sell and distribute the products for which they obtain marketing approval.

Such restrictions under applicable federal and state healthcare laws and regulations include the following the Anti-Kickback Statute, the Healthcare Reform Act, the False Claims Act, or FCA, federal criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters; the Physician Payments Sunshine Act, the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

Public reporting under the Physician Payments Sunshine Act, or Sunshine provisions, and other similar state laws, has resulted in increased scrutiny of the financial relationships between biopharmaceutical companies, teaching hospitals, physicians and other health care providers. Such scrutiny may negatively impact our ability to engage with physicians and other health care providers on matters of importance to us. In addition, government agencies and private entities may inquire about our marketing practices or pursue other enforcement activities based on the disclosures in those public reports. If the data reflected in our reports are found to be in violation of any of the Sunshine provisions or any other U.S. federal, state or local laws or regulations that may apply, or if we otherwise fail to comply with the Sunshine provisions or similar requirements of state or local regulators, we may be subject to significant civil, and administrative penalties, damages or fines.

Violation of any of the laws described above or any other governmental laws and regulations may result in penalties, including civil and criminal penalties, damages, fines, the curtailment or restructuring of operations, the exclusion from participation in federal and state healthcare programs and imprisonment. Furthermore, efforts to ensure that business activities and business arrangements comply with applicable healthcare laws and regulations can be costly for manufacturers of branded prescription products. Additionally, if we are found in violation of one or more of these laws our business, results of operations and financial condition may be adversely affected.

The U.K.'s withdrawal from the EU may adversely impact our and our collaborators' ability to obtain regulatory approvals of our drug candidates in the U.K. and EU and may require us to incur additional expenses to develop, manufacture and commercialize our drug candidates in the U.K. and EU.

We are headquartered in the U.K. The U.K. formally exited the EU, commonly referred to as Brexit, on January 31, 2020. Under the terms of its departure, the U.K. entered a transition period, or the Transition Period, during which it continued to follow all EU rules, which ended on December 31, 2020. On December 30, 2020, the U.K. and EU signed the EU-U.K. Trade and Cooperation Agreement ("TCA"), which includes an agreement on free trade between the two parties and has been provisionally applicable since January 1, 2021.

Since January 1, 2021 the U.K. has operated under a separate regulatory regime to the European Union. European Union laws regarding medicinal products only apply in respect of the U.K. to Northern Ireland (as set out in the Protocol on Ireland/Northern Ireland). The EU laws that have been transposed into U.K. law through secondary legislation remain applicable. While the U.K. has indicated a general intention that new law regarding the development, manufacture and commercialization of medicinal products in the U.K. will align closely with EU law there are limited detailed proposals for future regulation of medicinal products. The TCA includes specific provisions concerning medicinal products, which include the mutual recognition of Good Manufacturing Practice, or GMP, inspections of manufacturing facilities for medicinal products and GMP documents issued (such mutual recognition can be rejected by either party in certain circumstances), but does not foresee wholesale mutual recognition of U.K. and EU pharmaceutical regulations including in relation to batch testing and pharmacovigilance, which remain subject to further negotiation. Therefore, there remains

political and economic uncertainty regarding to what extent the regulation of medicinal products will differ between the U.K. and the EU in the future.

Since a significant proportion of the regulatory framework in the U.K. applicable to our business and our drug candidates is derived from European Union directives and regulations, the withdrawal has and could continue to materially impact the regulatory regime with respect to the development, manufacture, importation, approval and commercialization of our cell therapies in the U.K. or the European Union. Great Britain is no longer covered by the European Union's procedures for the grant of marketing authorizations (Northern Ireland is covered by the centralized authorization procedure and can be covered under the decentralized or mutual recognition procedures). A separate marketing authorization will be required to market drugs in Great Britain. It is currently unclear whether the Medicines and Healthcare products Regulatory Agency in the U.K.is sufficiently prepared to handle the increased volume of marketing authorization applications that it is likely to receive. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, would prevent us and our collaborators or delay us in commercializing any of our products in the U.K. and/or the EU and may restrict our ability to generate revenue and achieve sustainable profitability.

Following Brexit, there is no pre-marketing authorization orphan designation in Great Britain, instead an application for orphan designation is made at the same time as an application for marketing authorization. Orphan designation in the U.K. (or Great Britain, depending on whether there is a prior centralized marketing authorization in the EEA) following Brexit based on the prevalence of the condition in Great Britain as opposed to the current position where prevalence in the EU is the determinant. It is therefore possible that conditions that are currently designated as orphan conditions in the U.K., or Great Britain, will no longer be and that conditions are not currently designated as orphan conditions in the European Union will be designated as such in the U.K., or Great Britain.

There is a degree of uncertainty regarding the overall impact that Brexit will have in the long-term on the development, manufacturing and commercialization of pharmaceutical products, including the process to obtain regulatory approval in the U.K. for drug candidates and the award of exclusivities that are normally part of the European Union legal framework (for instance Supplementary Protection Certificates, Pediatric Extensions or Orphan exclusivity). Any divergence between the regulatory environments in place in the European Union and the U.K. could lead to increased costs and delays in bringing drug candidates to market.

Because certain regulatory authorizations within the EU can only be held by entities located in the EU, we have set up an EU subsidiary, Adaptimmune B.V.. This subsidiary currently holds orphan designation for our ADP-A2M4 product. We have also set up a third party to act as a qualified person to release product for use in the EU and ensure we can continue to treat patients in our EU clinical trials. Additional resources and requirements may be required to enable us to continue to hold required authorizations including marketing authorization in the EU and to commercialize our cell therapies in the EU.

In addition, we may be required to pay taxes or duties or be subjected to other hurdles in connection with the importation of our drug candidates into the European Union, or we may incur expenses in establishing a manufacturing facility in the EU to circumvent such hurdles, all of which may make our doing business in the EU and the EEA more difficult. If any of these outcomes occur, we may be forced to restrict or delay efforts to seek regulatory approval in the U.K. or the EU for our drug candidates, or incur significant additional expenses to operate our business, which could significantly and materially harm or delay our ability to generate revenues or achieve profitability of our business.

As a result of Brexit, other European countries may seek to conduct referenda with respect to their continuing membership with the European Union. Given these possibilities and others we may not anticipate, as well as the absence of comparable precedent, it is unclear what financial, regulatory and legal implications the withdrawal of the U.K. from the European Union will have in the long-term and how such withdrawal will affect us, and the full extent to which our business could be adversely affected.

Risks Related to Our Reliance Upon Third Parties

We rely on Genentech Inc. in relation to the performance of collaboration agreements between us for the further development of 'off-the-shelf' cell therapies.

Development of allogeneic T-cell therapies and our ability to commercialize those allogeneic T-cell therapies may depend heavily on the performance of Genentech under the ongoing collaboration (the "Genentech Collaboration") and payments made by our collaborators to us in relation to such development. In particular:

- Research funding, development or sales milestones or product royalties or any other sums might not become due or payable to us at any time or on the time frames currently expected under the Genentech Collaboration.

- Our collaborators have a right to terminate programs under the Genentech Collaboration and the agreements in whole or in part on provision of prior written notice. Termination may impact not only our requirement for additional investment or capital but also the timeframes within which current research and development programs (including clinical programs) can be performed or whether we can continue to perform those research and development programs at all. Termination may also impact our ability to access and use certain collaborator technology within our own allogeneic platform and products arising from that platform.

- Any research or development plan agreed upon in our collaborations may be delayed (including as a result of the impact of the COVID-19 pandemic) or may be unsuccessful or fail to result in therapies that are feasible for further development or commercialization.

- The timing for commercialization of any products under the Genentech Collaboration is currently unknown and will depend on the targets selected , the type of allogeneic T-cell therapy being developed and the timing of performance of obligations under the relevant collaboration agreement.

- Changes to the development plans or agreement may impact the timing and extent of milestone payments, the amount of research funding received, the nature of the relationship with our collaborators or the scope of the collaboration.

- Delay in performance of responsibilities under any research or development plan could impact our ability to progress T-cell therapies through research and development, including where Genentech Inc. delays the performance of any of its responsibilities.

- Genentech has the ability to influence or control certain decisions relating to the development of therapies covered by the Genentech Collaboration. This ability could result in delays to the research and development programs covered by the collaboration or changes to the scope of those programs, including the disease indications relevant to such clinical programs.

We rely heavily on ThermoFisher and the technology that we license from them.

The ability to use the ThermoFisher Dynabeads® CD3/CD28 technology to isolate, activate and expand T-cells is important to our ongoing ability to offer T-cells. In December 2012, we entered into a series of license and sub-license agreements with Life Technologies Corporation (now part of ThermoFisher Scientific Inc. ("Thermofisher")), such agreements having been amended as of November 2019. These agreements provide us with a field-based non-exclusive license under certain intellectual property rights owned or controlled by ThermoFisher in relation to the methods of use of the ThermoFisher Dynabeads® CD3/CD28 technology to isolate, activate and expand T-cells and enable transfection of the T-cells with any TCR genes to manufacture our TCR products and use and sell those TCR products to treat cancer, infectious disease and/or autoimmune disease. We also have a field-based non-exclusive sub-license under certain other patents which cover the method of use of the Dynabeads® CD3/CD28 and are controlled by ThermoFisher under a head-license from the University of Michigan, the United States Navy and the Dana-Farber Cancer Institute.

In June 2016, we entered into a supply agreement with ThermoFisher for the supply of the Dynabeads® CD3/CD28 technology. The supply agreement runs until December 31, 2025. ThermoFisher has the right to terminate the above described agreements for material breach or insolvency. On termination of the license agreements, the supply

agreement will also automatically terminate. If ThermoFisher terminates the non-exclusive license, sub-license and supply agreements or otherwise refuses or is unable to supply the Dynabeads® product, we will have to seek an alternative source of the beads or develop an alternative process methodology to enable supply of our cell therapies. Should ThermoFisher change its process or make changes to its product, we may have to validate those changes to ensure there is no impact to our cell therapies. Such validation, including any comparability testing, will take additional time and resources.

We rely on third parties to manufacture and supply our cell therapies and to develop next-generation cell therapies, and we may have to rely on third parties to produce and process our cell therapies, if approved.

We rely on a limited number of third-party manufacturers and third party service providers for clinical trial product supplies and services at each stage of the manufacturing process, and as a result we are exposed to the following risks:

- We may be unable to contract with manufacturers on commercially acceptable terms or at all because the number of potential manufacturers is limited and the FDA, EMA and other comparable foreign regulators must approve any replacement manufacturer, which would require new testing and compliance inspections. In addition, a new manufacturer would have to be educated in, and develop substantially equivalent processes for, production of our cell therapies after receipt of any applicable regulatory approval.

- We may not be able to obtain lentiviral delivery manufacturing slots with third party contract manufacturers within the timescales we require for supply of lentiviral delivery vector or to obtain agreed dates for such manufacturing slots sufficiently in advance of the requirement for supply.

- Our third-party manufacturers might be unable to timely formulate and manufacture our cell therapies or produce the quantity and quality required to meet our clinical trial and commercial needs or to provide commercially viable product on the timelines we require or at all, which may necessitate a change in third-party manufacturers or a requirement to further develop internal capabilities, all of which may result in delays to clinical trials or to commercialization plans.

- With any new manufacturing process or new CMO we will need to transfer the manufacturing process or new process to that CMO. Any delay in the development and transfer of these new processes to the third-party contract supplier or inability of the third-party contract supplier to replicate or carry out the transferred process at the appropriate level and quality or in a reproducible fashion will result in delays in our ability to progress clinical programs, further develop our cell therapies and obtain marketing approval for our cell therapies.

- Introduction of new raw material or intermediate material manufacturers, such as CMOs for vectors, may require comparability testing to be carried out to show that the manufacturing process and end material is comparable to the currently used manufacturing process and/or material. Any inability to show comparability or delay in comparability testing may result in delays to the supply of the affected materials and as a result delays to clinical trials.

- Contract manufacturers may not be able to execute our manufacturing procedures appropriately, or we may be unable to transfer our manufacturing processes to contract manufacturers successfully or without additional time and cost. Even where CMOs fail to manufacture our cell therapies successfully, it may not be possible to achieve re-manufacture quickly or without expending resources or additional costs.

- Our future contract manufacturers may not perform as agreed, may be acquired by competitors or may not remain in the contract manufacturing business for the time required to supply our clinical trials or to successfully produce, store and distribute our cell therapies. In addition, contract manufacturers may not manufacture within agreed timescales for manufacture and/or may cancel pre-agreed manufacturing slots,

which would result in delays in manufacturing and could require us to find replacement manufacturers which may not be available to us on favorable terms or at all.

- Manufacturers are subject to ongoing periodic unannounced inspection by the FDA, EMA, and other comparable foreign regulators and corresponding state agencies to ensure strict compliance with cGMP and other government regulations and corresponding foreign standards. Although we do not have day-to-day control over third-party manufacturers' compliance with these regulations and standards, we are responsible for ensuring compliance with such regulations and standards.

- We may not own, or may have to share, the intellectual property rights to any improvements made by our third-party manufacturers in the manufacturing process for our cell therapies. Our third party manufacturers may use processes which infringe or potentially infringe third party intellectual property rights which may result in inability to use such processes going forward, an increase in the pricing of such processes or a need to change a different process.

- Our third party manufacturers may fail to perform testing and analysis services accurately, in a manner that can be interpreted or on a timely basis. This could delay or prevent release of our cell therapies and as a result delay clinical trials and patient treatment.

- Our third-party manufacturers could breach or terminate their agreement with us.

- Our third-party manufacturers may cease to be able to do business with us (whether for insolvency or other reasons, including takeover, merger or acquisition) at a time when we are unable to source such manufacture elsewhere or at our own manufacturing facility.

- Increased costs, unexpected delays, equipment failures, lack of reproducibility, labor shortages, natural disasters, power failures and numerous other factors which are outside of our control or which may be imposed by our CMOs. For example, moving to commercial phase manufacture usually incurs increased cost and qualification requirements at our CMOs. Such costs may be prohibitive, or such activities may not be able to be performed within appropriate timelines.

- Our collaborators or third party contract manufacturers may allocate their resources, materials, and services away from our cell therapy programs, for example, to utilize such assets on the research, development and manufacture of COVID-19 vaccines or therapies.

Certain of the components required for manufacturing of our cell therapies come from sole source or limited source suppliers.

Certain raw materials or precursor materials used in the manufacture and supply of our cell therapies may come from sole source or limited source suppliers. For example, there are currently a limited number of third party manufacturers within the U.S. that can supply us with our lentiviral delivery vector and ThermoFisher is currently the only supplier of the Dynabeads® CD3/CD28 technology. Should such suppliers be unable to supply or manufacture such raw materials or precursor materials either at all or within required timescales we may be unable to supply our cell therapies or such supply may be significantly delayed. Inability to obtain such raw materials or precursor materials may also necessitate changes in the manufacturing process used for supply of our cell therapies. Such changes to the manufacturing process may need to be developed internally or by a third party and may also require additional regulatory approvals to be obtained before they can be used for the manufacture and supply of our cell therapies for clinical trials.

In addition, we are focusing manufacture of our cell therapies in a few manufacturing sites, namely our Navy Yard facility for certain autologous cell therapies and our new U.K. facility for allogeneic cell therapies and with a third party contract manufacturer for lete-cel. Should any facility be unable to manufacture our cell therapies for any reason, including natural disaster, contamination or for any regulatory reason, we may be unable to supply cell therapies for our

clinical trials unless we can procure manufacture from a third party manufacturer. There is no assurance that we will be able to procure manufacture from a third party manufacturer or that such manufacture will be provided within the timescales we require or at an acceptable price. Any change in manufacturer used to produce our cell therapies requires notification to regulatory authorities which can be time consuming. There is no assurance that regulatory authorities will agree that any change in manufacturer is acceptable or that the processes used at such manufacturer are comparable to the processes previously used and additional evidence of comparability may be required.

We rely on third parties to conduct our clinical trials.

We depend upon independent investigators and collaborators, such as universities, medical institutions, CROs and strategic partners to conduct our preclinical programs and sponsored clinical trials under agreements with us. We expect to have to negotiate budgets and contracts with CROs and trial sites (either directly or through a third party consultant), which may result in delays to our development timelines and increased costs. We rely heavily on these third parties over the course of our clinical trials, and we do not have day-to-day control of their activities. Nevertheless, we are responsible for ensuring that each of our trials is conducted in accordance with applicable protocols and legal, regulatory and scientific standards, and our reliance on third parties does not relieve us of our regulatory responsibilities.

We and these third parties are required to comply with cGCPs, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for cell therapies in clinical development. Regulatory authorities enforce these cGCPs through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of these third parties fail to comply with applicable cGCP regulations and guidelines (including as a result of the outbreak of COVID-19), the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing authorization applications. Moreover, our business may be implicated if any of these third parties violates federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws.

Any third parties conducting our clinical trials are not and will not be our employees and, except for remedies available to us under our agreements with such third parties which could be limited, we cannot control whether or not they devote sufficient time and resources to our ongoing clinical trials and preclinical programs. These third parties may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other drug or biologic development activities, which could affect their performance on our behalf. If these third parties do not successfully carry out their contractual duties or obligations or meet expected deadlines (including as a result of the outbreak of COVID-19), if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to complete development of, obtain regulatory approval of, or successfully commercialize our cell therapies. As a result, our financial results and the commercial prospects for our cell therapies would be harmed, our costs could increase and our ability to generate revenue could be delayed.

Switching or adding third parties to conduct our clinical trials involves substantial cost and requires extensive management time and focus. In addition, there is a natural transition period when a new third party commences work. As a result, delays may occur, which can materially impact our ability to meet our timelines for bringing our cell therapies to market, if at all.

Risks Related to Our Intellectual Property

We may be forced to litigate to enforce or defend our intellectual property rights, and/or the intellectual property rights of our licensors.

We may be forced to litigate to enforce or defend our intellectual property rights against infringement and unauthorized use by competitors, and to protect our trade secrets. In so doing, we may place our intellectual property at risk of being invalidated, held unenforceable, narrowed in scope or otherwise limited. Further, an adverse result in any litigation or defense proceedings may increase the risk of non-issuance of pending applications. In addition, if any licensor fails to enforce or defend its intellectual property rights, this may adversely affect our ability to develop and

commercialize our T-cells and to prevent competitors from making, using, and selling competing products. Any such litigation could be very costly and could distract our management from focusing on operating our business. The existence and/or outcome of any such litigation could harm our business, results of operations and financial condition.

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

We may also be forced to defend our intellectual property rights in opposition proceedings in front of patent offices in order to obtain or continue to hold granted patent rights. Our inability to successfully defend our patents and patent applications in opposition proceedings may result in a reduction in the scope of protection offered by such patents or patent applications or alternatively the patents or patent applications may be revoked. Anonymous third party oppositions have been lodged against certain of our European patents. None of these oppositions relate to any cases which claim any of our clinical candidates.

We may not be able to protect our proprietary technology in the marketplace or the cost of doing so may be prohibitive or excessive.

Our success will depend, in part, on our ability to obtain patents, protect our trade secrets and operate without infringing on the proprietary rights of others. We rely upon a combination of patents, trade secret protection (i.e., know-how), and confidentiality agreements to protect the intellectual property of our cell therapies. However, patent protection may not be available for some of the cell therapies or technology we are developing. If we must spend significant time and money protecting or enforcing our patents, designing around patents held by others or licensing, potentially for large fees, patents or other proprietary rights held by others, our business results of operations and financial condition may be harmed.

Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business. Enforcement of patents may also be cost prohibitive and we may be unable to prevent competitors from entering the market with products that are similar to or the same as our cell therapies.

In addition, patents have a limited lifespan. In most countries, including the U.S., the standard expiration of a patent is 20 years from the effective filing date. Various extensions of patent term may be available in particular countries; however, in all circumstances the life of a patent, and the protection it affords, has a limited term. If patent term extension is not available, our competitors may be able to take advantage of our investment in development and clinical trials by referencing our clinical and non-clinical data, and then may be able to launch their product earlier than might otherwise be the case.

We may be unable to adequately prevent disclosure of trade secrets and other proprietary information.

We rely on trade secrets to protect our proprietary know-how and technological advances, especially where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to protect. We rely, in part, on confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to protect our trade secrets and other proprietary information. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. Proceedings to enforce trade secrets can be cost prohibitive and we may be unable to prevent our competitors using our trade secrets.

If third parties claim that our activities or products infringe upon their intellectual property, our operations could be adversely affected.

There is a substantial amount of litigation, both within and outside the U.S., involving patents and other intellectual property rights in the pharmaceutical industry. If we or our third party suppliers were found to infringe upon a patent or other intellectual property right, or if we failed to obtain or renew a license under a patent or other intellectual property right from a third party, or if a third party that we were licensing technologies from was found to infringe upon a patent or other intellectual property rights of another third party, we may be required to pay damages, including triple damages if the infringement is found to be willful, suspend the manufacture of certain of our cell therapies or reengineer or rebrand our cell therapies, if feasible, or we may be unable to enter certain new product markets. Any such claims could also be expensive and time- consuming to defend and divert management's attention and resources.

Licenses may be required from third parties in relation to any of cell therapies developed or commercialized by us.

We may identify third-party intellectual property rights that are required to enable the further development, commercialization, manufacture or development of our cell therapies or other cell therapies, including our allogeneic cell therapies. Licenses to such intellectual property rights may or may not be available on commercial terms that are acceptable to us. As a result we may incur additional license fees for such intellectual property rights, or the cost and expenses to identify an alternative route for commercialization, that does not require the relevant third-party intellectual property rights, or the cost and diversion of resources required to challenge any such third party intellectual property rights.

Where we license certain technology from a third party, the prosecution, maintenance and defense of the patent rights licensed from such third party may be controlled by the third party which may impact the scope of patent protection which will be obtained or enforced.

Where we license patent rights or technology from a third-party, control of such third party patent rights may vest in the licensor, particularly where the license is non-exclusive or field restricted. This may mean that we are not able to control or affect the scope of the claims of any relevant third-party patent or have control over any enforcement of such a patent. Where a licensor brings an enforcement action, this could negatively impact our business or result in additional restrictions being imposed on the license we have and the scope of such license or result in invalidation or limitation of the scope of the licensed patent. In addition, should we wish to enforce the relevant patent rights against a third person, we may be reliant on consent from the relevant licensor or the cooperation of the licensor. The licensor may refuse to bring such action and leave us unable to restrict competitor entry into the market.

Issued patents protecting our T-cells or other cell therapies could be found invalid or unenforceable if challenged in court or at the USPTO.

If we or one of our collaborators initiate legal proceedings against a third party to enforce a patent protecting one of our cell therapies, the defendant could counterclaim that the patent protecting our cell therapy, as applicable, is invalid and/or unenforceable. In patent litigation in the U.S., defendant counterclaims alleging invalidity and/or unenforceability are commonplace, and there are numerous grounds upon which a third party can assert invalidity or unenforceability of a patent. 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 (e.g., opposition proceedings). Such proceedings could result in revocation or amendment to our patents in such a way that they no longer cover our cell therapies.

General Business Risks

We depend upon our key personnel and our ability to attract and retain employees.

We are heavily dependent on the ongoing employment and involvement of certain key employees in particular, Adrian Rawcliffe, our Chief Executive Officer; Dr. Helen Tayton-Martin, our Chief Business and Strategy Officer; William Bertrand, our Chief Operating Officer; John Lunger, our Chief Patient Supply Officer; Dr. Joanna Brewer, our

Chief Scientific Officer; Dr. Elliot Norry, our Chief Medical Officer; and Gavin Wood, our Chief Financial Officer. We do not hold key-man insurance for our senior managers.

Our business is dependent on our ability to recruit experienced and suitably trained employees or consultants, and to retain such employees on a long-term basis. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice which could result in us being unable to conduct our business in accordance with current timelines and priorities. Although we have employment agreements with all of our employees in the U.K., these employment agreements provide for a mutual nine months' notice period in the case of Dr. Tayton-Martin, Mr. Wood and Dr. Brewer; mutual three months' or two months' notice periods in the case of senior managers and mutual one-month notice periods for all other employees. In the U.S., the employment agreements provide for at-will employment except that, under their employment agreements, Mr. Rawcliffe, Mr. Bertrand, Mr. Lunger and Dr. Norry must provide 60 days' written notice and our senior vice-presidents must provide 30 days' written notice. This means that any of our employees in the U.S., except for Mr. Rawcliffe, Mr. Bertrand, Mr. Lunger, Dr. Norry and our senior vice-presidents, could leave our employment at any time, with or without notice. In November 2022, we announced a headcount reduction and de-prioritization of non-core programs to extend our cash runway. Any headcount reduction may impact our ability to retain other experienced members of staff which could in turn impact our ability to progress our development programs on the timelines currently expected.

We may engage in strategic transactions that could impact our liquidity, increase our expenses and present significant distractions to our management.

From time to time, we may consider strategic transactions, such as acquisitions of companies, asset purchases and out-licensing or in-licensing of products, drug candidates or technologies. Any such transaction will result in an impact on resource requirements and expenditure and may pose significant integration challenges or disrupt our management or business. For example, these transactions may entail numerous operational and financial risks, including exposure to additional liabilities, incurrence of substantial debt or dilutive issuances or equity to pay for transactions, changes in our management, increases in our costs and expenses beyond those expected, difficulty in integrating the new company or assets and impacts to relationships with third parties.

We will need to grow the size and capabilities of our organization, and we may experience difficulties in managing this growth.

As of December 31, 2023, we had 449 employees. As our development and commercialization plans and strategies develop, we will need to add a significant number of additional managerial, operational, sales, marketing, financial, and other personnel. Future growth will impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining, and motivating additional employees;
- managing our internal development efforts effectively, including the clinical and FDA review process for our cell therapies, while complying with our contractual obligations to contractors and other third parties; and
- improving our operational, financial and management controls, reporting systems, and procedures.

Our management may also have to divert a disproportionate amount of its attention away from day-to-day activities in order to devote a substantial amount of time to managing growth activities and the resourcing of replacement employees in the event employees leave.

We expect to face intense competition, which may be from companies with greater resources and experience than we have.

The pharmaceutical industry, and the immuno-oncology industry specifically, is highly competitive and subject to rapid developments in treatment options. Competitors include large global pharmaceutical companies, biotechnology companies, specialty immune-therapy companies and universities and research organizations, whether alone or in collaboration with other entities. Many of our competitors have substantially greater financial, technical and other resources, such as larger research and development staff and may also be able to progress clinical candidates through clinical studies quicker than we are able to. Mergers and acquisitions within the pharmaceutical and biotechnology industry can also result in resources being concentrated within our competitors. Our competitors may also have better developed commercialization capabilities and already established sales forces and manufacturing capability.

Within in any particular cancer indication we may face competition from other cell therapy companies, from personalized medicine approaches, from other modalities of treatment, alternative drug products or therapies or from pre-existing treatment regimens used to treat patients with that cancer indication.

Our internal information technology systems, or those of our partners, third-party CROs or other contractors or consultants, may fail or suffer cybersecurity incidents, including related to data protection and privacy laws and adversely affect our business and operations.

In the ordinary course of business, we collect, store, use, transmit, disclose and otherwise process proprietary, confidential and sensitive data (including personal data such as health-related data), intellectual property and trade secrets. We may process such information on our internal networks or rely upon third-party service providers, partners, CROs and other contractor and consultants, and technologies, to operate critical business systems to process such information in a variety of contexts (including, without limitation, third-party providers of cloud-based infrastructure, personnel email and other functions). Despite the implementation of security policies and procedures, the computer systems on which such information is processed or stored may be subject to cybersecurity threats. Our third-party providers may also be subject to cybersecurity threats which they do not detect on a timely basis and which may in turn impact our business.

We may not be able to anticipate all types of security threats, and we may not be able to implement preventive measures effective against all such security threats. In the event of a cybersecurity attack, breach loss or compromise of critical or sensitive information, including personal information, and could give rise to legal liability and regulatory action under data protection and privacy laws such as the General Data Protection Regulation ("GDPR") and relevant member state law in the European Union, the California Consumer Privacy Act and the California Privacy Rights Act ("CCPA"), and other domestic state and federal privacy laws that have been or may be passed such as HIPAA, and such laws may result in liability through private actions and enforcement or could greatly increase our cost of providing our products and services or even prevent us from offering certain services in jurisdictions in which we operate. Moreover, because we maintain sensitive company data on our computer networks, including our intellectual property and proprietary business information, any such security breach may compromise information stored on our networks and may result in significant data losses or theft of our intellectual property or proprietary business information. Our current cybersecurity liability insurance, and any such insurance that we may obtain in the future, may not cover the damages we would sustain based on any breach of our computer security protocols or other cybersecurity attack. 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 in appropriate disclosure of confidential or proprietary information, our reputation could be harmed and we could incur significant liabilities and the further development, clinical evaluation, or commercialization of our product candidates could be disrupted.

We are exposed to risks related to currency exchange rates.

We conduct a significant portion of our operations within the U.K. in both U.S. dollars and pounds sterling and our arrangements with GSK are denominated in pounds sterling. Changes in currency exchange rates have had and could have a significant effect on our operating results. Exchange rate fluctuations between the U.S. dollar and local currencies create risk in several ways, including the following: weakening of the pound sterling may increase the cost of overseas

research and development expenses and other costs outside the U.K.; strengthening of the U.S. dollar may decrease the value of any future revenues denominated in other currencies. Effects of exchange rates on transactions and cash deposits held in a currency other than the functional currency of a subsidiary can distort our financial results; and commercial pricing and profit margins are affected by currency fluctuations.

Risks Related to Ownership of our American Depositary Shares (ADSs)

The market price and trading volume of our ADSs may be volatile.

Many factors may have a material adverse effect on the market price of the ADSs, including but not limited to:

- the commencement, enrollment or results of our planned clinical trials;
- the loss of any of our key scientific or management personnel;
- announcements of the failure to obtain regulatory approvals or receipt of a complete response letter from the FDA;
- announcements of undesirable restricted labeling indications or patient populations, or changes or delays in regulatory review processes;
- announcements of therapeutic innovations or new products by us or our competitors;
- adverse actions taken by regulatory agencies with respect to our clinical trials, manufacturing supply chain or sales and marketing activities;
- changes or developments in laws or regulations applicable to T-cells;
- any adverse changes to our relationship with licensors, manufacturers or suppliers;
- the failure of our testing and clinical trials;
- unanticipated safety concerns;
- the failure to retain our existing, or obtain new, collaboration partners;
- announcements concerning our competitors or the pharmaceutical industry in general;
- the achievement of expected product sales and profitability;
- the failure to obtain reimbursements for T-cells, if approved for marketing, or price reductions;
- manufacture, supply or distribution shortages;
- acquisitions or mergers and business deals announced by our competitors;
- the progress of competing treatment options and products or advent of new products which could impact the uptake or commercial value of our cell therapies;
- actual or anticipated fluctuations in our operating results;
- our cash position;

- changes in financial estimates or recommendations by securities analysts;
- potential acquisitions;
- the trading volume of ADSs on the Nasdaq Global Select Market (" Nasdaq");
- sales of our ADSs by us, our executive officers and directors or our shareholders in the future;
- general economic and market conditions and overall fluctuations in the U.S. equity markets including as resulting from the COVID-19 outbreak and economic effects of such outbreak; and
- changes in accounting principles.

In addition, the stock market in general, and Nasdaq and biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our ADSs, regardless of our actual operating performance. Further, a decline in the financial markets and related factors beyond our control may cause the price of our ADSs to decline rapidly and unexpectedly. In the past, securities class action litigation has often been instituted against companies following periods of volatility in their stock price. This type of litigation could result in substantial costs and could divert our management and other resources.

If we are no longer able to meet the listing requirements of the Nasdaq Global Select Market, our ADSs may be delisted.

The Nasdaq Global Select Market ("Nasdaq"), on which our ADSs are listed and traded, has listing requirements that include a $1.00 minimum closing bid price requirement. We previously received a deficiency letter from Nasdaq on August 31, 2023, as our ADSs had traded below $1.00 for 30 consecutive days. We subsequently received a letter from Nasdaq on February 16, 2024 confirming that we had regained compliance with their minimum bid price requirement for continued listing on The Nasdaq Global Select Market. However, there is no guarantee that we will not fall out of compliance again. If we were to fall out of compliance and remain out of compliance, Nasdaq may elect, subject to any potential additional cure periods, to initiate a process that could delist our ADSs from trading on Nasdaq. Should such a delisting occur, it would adversely impact the liquidity and price of our ADSs and would impede our ability to raise capital.

Substantial future sales of our ADSs in the public market, or the perception that these sales could occur, could cause the price of the ADSs to decline and dilute shareholders.

Substantial future sales of our ADSs in the public market, or the perception that these sales could occur, could cause the market price of the ADSs to decline. Sales of a substantial number of our ADSs in the public market could occur at any time. In addition, we have registered an aggregate of 365,181,309 ordinary shares that we may issue under our equity compensation plans and, as a result, they can be freely sold in the public market upon issuance and following conversion into ADSs, but subject to volume limitations applicable to affiliates under Rule 144. Additionally, the majority of ordinary shares that may be issued under our equity compensation plans also remain subject to vesting in tranches over a four-year period. As of December 31, 2023, an aggregate of 111,671,247 options over our ordinary shares had vested and become exercisable. If a large number of our ADSs are sold in the public market after they become eligible for sale, the sales could reduce the trading price of our ADSs and impede our ability to raise capital in the future.

We incur increased costs as a result of being a public company whose ADSs are publicly traded in the U.S. and our management must devote substantial time to public company compliance and other compliance requirements.

As a U.S. public company whose ADSs trade on Nasdaq, we have incurred and will continue to incur significant legal, accounting, insurance and other expenses. We are subject to the reporting requirements of the

Exchange Act, which requires, among other things, that we file with the SEC annual, quarterly and current reports with respect to our business and financial condition and must comply with the Nasdaq listing requirements and other applicable securities rules and regulations. In addition, the Sarbanes-Oxley Act, as well as rules subsequently adopted by the SEC and the Nasdaq to implement provisions of the Sarbanes-Oxley Act, impose significant requirements on public companies, including requiring establishment and maintenance of effective disclosure and financial controls and changes in corporate governance practices.

We expect the rules and regulations applicable to public companies to substantially increase our legal and financial compliance costs and to make some activities more time-consuming and costly. Our insurance costs have increased, particularly for directors and officers liability insurance, and we may be required to incur further substantial increased costs to maintain the same or similar coverage or be forced to accept reduced coverage in future. To the extent these requirements divert the attention of our management and personnel from other business concerns, they could have a material adverse effect on our business, financial condition and results of operations. The increased costs will increase our net loss and may require us to reduce costs in other areas of our business or increase the requirement for future financing. These laws and regulations could also make it more difficult and expensive for us to attract and retain qualified persons to serve on our board of directors, our board committees or as our executive officers. Furthermore, if we are unable to satisfy our obligations as a public company, we could be subject to delisting of the ADSs from Nasdaq, fines, sanctions and other regulatory action and potentially civil litigation.

Raising additional capital may cause dilution to our existing shareholders, restrict our operations or require us to relinquish rights to our technologies or product candidate.

We may seek additional capital through a combination of public and private equity offerings, debt financings, strategic partnerships and alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a shareholder. The incurrence of indebtedness would result in increased fixed payment obligations and could involve certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. If we raise additional funds through strategic partnerships and alliances and licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies or product candidates, or grant licenses on terms unfavorable to us.

We may be classified as a passive foreign investment company in any taxable year and U.S. holders of our ADSs could be subject to adverse U.S. federal income tax consequences.

The rules governing passive foreign investment companies, or PFICs, can have adverse effects for U.S. federal income tax purposes. The tests for determining PFIC status for a taxable year depend upon the relative values of certain categories of assets and the relative amounts of certain kinds of income. The determination of whether we are a PFIC depends on the particular facts and circumstances (such as the valuation of our assets, including goodwill and other intangible assets) and may also be affected by the application of the PFIC rules, which are subject to differing interpretations. In addition, it is not entirely clear how to apply the income test to a company like us, which for any particular taxable year may have gross income that is either entirely passive or that significantly exceeds any active gross income, but the overall losses of which from research and development activities exceed the overall amount of its gross income for that year. Based on our estimated gross income, the average value of our assets, including goodwill and the nature of our active business, although not free from doubt, we do not believe that the Company was classified as a PFIC for U.S. federal income tax purposes for the U.S. taxable year ended December 31, 2023. There can be no assurance, however, that we will not be considered to be a PFIC for this taxable year or any particular year in the future because PFIC status is factual in nature, depends upon factors not wholly within our control, generally cannot be determined until the close of the taxable year in question and is determined annually.

If we are a PFIC, U.S. holders of our ADSs would be subject to adverse U.S. federal income tax consequences, such as ineligibility for any preferred tax rates on capital gains or on actual or deemed dividends, interest charges on certain taxes treated as deferred, and additional reporting requirements under U.S. federal income tax laws and regulations. A U.S. holder of our ADSs may be able to mitigate some of the adverse U.S. federal income tax consequences described above with respect to owning the ADSs if we are classified as a PFIC, provided that such U.S.

investor is eligible to make, and validly makes, a "mark-to-market" election. In certain circumstances a U.S. Holder can make a "qualified electing fund" election to mitigate some of the adverse tax consequences described with respect to an ownership interest in a PFIC by including in income its share of the PFIC's income on a current basis. However, we do not currently intend to prepare or provide the information that would enable a U.S. Holder to make a qualified electing fund election.

Investors should consult their own tax advisors regarding our PFIC status for any taxable year and the potential application of the PFIC rules to an investment in our ADSs or ordinary shares.

If a United States person is treated as owning at least 10% of the value or voting power of our shares, such holder may be subject to adverse U.S. federal income tax consequences.

If a U.S. holder is treated as owning, directly, indirectly or constructively, at least 10% of the value or voting power of our shares, such U.S. holder may be treated as a "United States shareholder" with respect to each "controlled foreign corporation" ("CFC") in our group. As of the closing of the strategic business combination between Adaptimmune Therapeutics plc and TCR² Therapeutics Inc. on June 1, 2023, our group includes a directly held U.S. subsidiary that is 100% owned by Adaptimmune Therapeutics plc, resulting in a subsidiary CFC within our group.

A United States shareholder of a CFC may be required to annually report and include in its U.S. taxable income its pro rata share of "Subpart F income," "global intangible low-taxed income" and investments in U.S. property by CFCs, regardless of whether we make any distributions. An individual that is a United States shareholder with respect to a CFC generally would not be allowed certain tax deductions or foreign tax credits that would be allowed to a United States shareholder that is a U.S. corporation. Failure to comply with CFC reporting obligations may subject a United States shareholder to significant monetary penalties.

We cannot provide any assurance that we will furnish to any United States shareholder information that may be necessary to comply with the reporting and taxpaying obligations applicable under the controlled foreign corporation rules of the Code. U.S. holders should consult their tax advisers regarding the potential application of these rules to their investment in our ordinary shares or ADSs.

If we fail to establish and maintain proper internal controls, our ability to produce accurate financial statements or comply with applicable regulations could be impaired.

We must maintain effective internal control over financial reporting in order to accurately and timely report our results of operations and financial condition. The rules governing the standards that must be met for our management to assess our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act are complex and require significant documentation, testing and possible remediation. These stringent standards require that our audit committee be advised and regularly updated on management's review of internal control over financial reporting.

Our compliance with applicable provisions of Section 404 requires that we incur substantial accounting expenses and expend significant management attention and time on compliance-related issues as we implement additional corporate governance practices and comply with reporting requirements. If we fail to staff our accounting and finance function adequately, if key employees within our accounting and finance function leave, or if we fail to maintain internal control over financial reporting adequate to meet the requirements of the Sarbanes-Oxley Act, our business and reputation may be harmed. Moreover, if we are not able to comply with the applicable requirements of Section 404 in a timely manner, we may be subject to sanctions or investigations by regulatory authorities, including the SEC and Nasdaq. Furthermore, if we are unable to conclude that our internal control over financial reporting is effective or if our independent registered public accounting firm identifies deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of our ADSs could decline, and we could be subject to sanctions or investigations by the SEC, Nasdaq or other regulatory authorities. Failure to implement or maintain effective internal control systems required of U.S. public companies could also restrict our access to the capital markets. The occurrence of any of the foregoing would also require additional financial and management resources.

U.S. investors may have difficulty enforcing civil liabilities against our company, our directors, officers and members of senior management.

We are incorporated under the laws of England and Wales. The rights of holders of our ordinary shares and, therefore, certain of the rights of holders of ADSs, are governed by English law, including the provisions of the Companies Act 2006, and by our articles of association. These rights differ in certain respects from the rights of shareholders in typical U.S. corporations organized in, for example, Delaware. Some of our directors, officers and members of senior management reside outside the U.S., and a substantial portion of our assets and all or a substantial portion of the assets of such persons are located outside the U.S. As a result, it may be difficult for you to serve legal process on us or our directors and executive officers or have any of them appear in a U.S. court. The U.S. and the U.K. do not currently have a treaty providing for the recognition and enforcement of judgments, other than arbitration awards, in civil and commercial matters. The enforceability in the U.K. of any judgment of a U.S. federal or state court will depend on the particular facts of the case as well as the laws and any treaties in effect at the time, including conflicts of laws principles (such as those bearing on the question of whether a U.K. court would recognize the basis on which a U.S. court had purported to exercise jurisdiction over a defendant). In this context, there is doubt as to the enforceability in the U.K., in original actions or in actions for enforcement of judgments of U.S. courts, of civil liabilities based solely on the federal securities laws of the U.S.. In addition, awards for punitive damages in actions brought in the U.S. or elsewhere may be unenforceable in the U.K. An award for monetary damages under the U.S. securities laws would likely be considered punitive if it did not seek to compensate the claimant for loss or damage suffered and was intended to punish the defendant.

Provisions in the U.K. City Code on Takeovers and Mergers that may have anti-takeover effects do not apply to us.

The U.K. City Code on Takeovers and Mergers, or the Takeover Code, applies to an offer for, among other things, a public company whose registered office is in the U.K. if the company is considered by the Panel on Takeovers and Mergers, or the Takeover Panel, to have its place of central management and control in the United Kingdom (or the Channel Islands or the Isle of Man). This is known as the "residency test." The test for central management and control under the Takeover Code is different from that used by the U.K. tax authorities. Under the Takeover Code, the Takeover Panel will determine whether we have our place of central management and control in the United Kingdom by looking at various factors, including the structure of our Board, the functions of the directors and where they are resident.

In July 2018, the Takeover Panel confirmed that, based on our current circumstances, we are not subject to the Takeover Code. As a result, our shareholders are not entitled to the benefit of certain takeover offer protections provided under the Takeover Code. We believe that this position is unlikely to change at any time in the near future but, in accordance with good practice, we will review the situation on a regular basis and consult with the Takeover Panel if there is any change in our circumstances which may have a bearing on whether the Takeover Panel would determine our place of central management and control to be in the United Kingdom.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

Risk Management and Strategy

We have processes in place to regularly assess, manage and identify potential risks from cybersecurity threats. Our cybersecurity policies and processes are integrated into our overall risk management program. To protect our information systems from cybersecurity threats, we use various security tools and processes that are designed to help identify and investigate any security incidents in a timely manner. When any risk or threat is identified we have a designated group of individuals including representatives from our information security team, finance team, compliance teams and legal teams who are involved in the assessment of the risk based on probability and potential impact to key business systems and processes. Risks that are considered to have a high impact to our business are incorporated into our enterprise risk management program. The tracking of these risks and the processes we have in place to address cybersecurity threats are and tracked as part of our overall risk management program overseen by the Audit Committee of our board of directors.

We collaborate with third parties to assess the effectiveness of our cybersecurity prevention and response systems and processes. These include cybersecurity assessors, consultants, and other external cybersecurity experts to assist in the identification, verification, and validation of cybersecurity risks, as well as to support associated mitigation plans when necessary.

As part of our overall risk management system, we train our staff on the safeguards we have in place to mitigate cybersecurity threats and ensure employees are able to identify potential attempts to breach our security and how to report and deal with any potential threats.

We have not identified any cybersecurity threats that have materially affected our ability to conduct our business or our financial standing. Refer to the risk factor captioned "*Our internal information technology systems, or those of our partners, third-party CROs or other contractors or consultants, may fail or suffer cybersecurity incidents, including related to data protection and privacy laws and adversely affect our business and operations*" in Part I, Item 1A. "Risk Factors" for additional description of cybersecurity risks and potential related impacts on our Company.

Governance

Our board of directors oversees our risk management process, including as it pertains to cybersecurity risks. The Audit Committee of the board oversees our risk management program on behalf of the Board of Directors, which focuses on the most significant risks. Audit Committee meetings include discussions of any specific risk areas which are significantly increasing or which are of particular concern.

We have introduced corporate policies and training on these policies for all of our staff. Our Information Management team, and in particular our information security team together with the corporate compliance team are responsible for ensuring compliance with these corporate policies. Our Chief Operating Officer oversees our policies and is primarily responsible to assess and manage material risks from cybersecurity threats, with assistance from third party experts as appropriate.

Item 2. Properties

The following table summarizes the facilities we lease as of December 31, 2023, including the location and size of the facilities, and their primary use.

Location	Approximate Square Feet	Primary Usage	Lease Expiration Dates
Abingdon, Oxfordshire, United Kingdom	67,140	Corporate headquarters , Research, Development, Process Development, Manufacturing, Administration	October 2041
Abingdon, Oxfordshire, United Kingdom	46,017	Manufacturing, Process Development, Research	October 2041
Philadelphia, Pennsylvania, United States	47,700	Manufacturing, Process Development, Research	October 2031
Cambridge, Massachusetts, United States	22,890	Research, Development, Process Development	June 2025

As of December 31, 2023, all of the above sites were utilized by the Company. During January 2023, the Company served notice to terminate the lease of one of its facilities in Abingdon, Oxfordshire of 11,657 square feet effective on May 31, 2023.

We believe that our existing facilities are adequate for our near-term needs, but we expect to need additional space as we grow and expand our operations. We believe that suitable additional or alternative office, laboratory, and manufacturing space will be available as required in the future on commercially reasonable terms.

Item 3. Legal Proceedings

As of December 31, 2023, we were not a party to any material legal proceedings.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

General Market Information

Our ADSs have been listed on The Nasdaq Global Select Market since May 6, 2015 and are traded under the symbol "ADAP". Each ADS represents six ordinary shares.

Holders

As of March 4, 2024, there were approximately 27 holders of record of our ordinary shares, par value £0.001 per share, and approximately 16 holders of record of our ADSs. The closing sale price per ADS on Nasdaq on December 31, 2023 was $0.793.

Equity Compensation Plans

For information about our equity compensation plans, see Part III, Item 11, below

Sales of Unregistered Securities

We did not sell any unregistered securities during the year ended December 31, 2023.

Company Purchases of Equity Securities

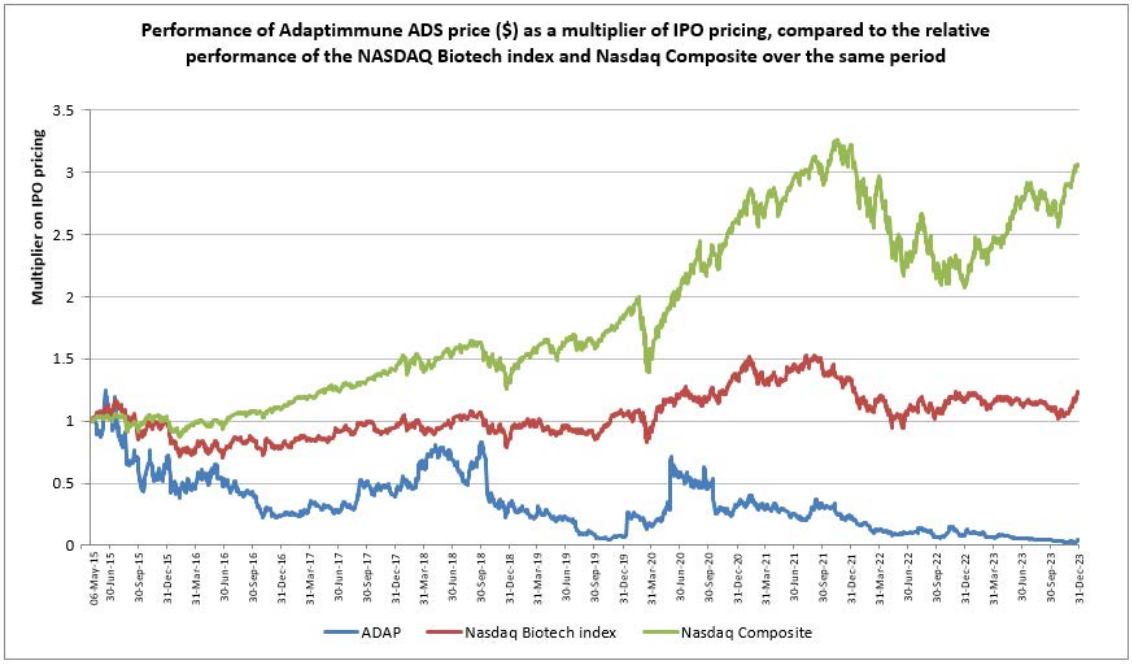
We did not repurchase any of our equity securities during the year ended December 31, 2023.

Stock Performance Graph

Notwithstanding any statement to the contrary in any of our previous or future filings with the Securities and Exchange Commission, the following information relating to the price performance of our ADSs shall not be deemed "filed" with the Securities and Exchange Commission or "soliciting material" under the Exchange Act and shall not be incorporated by reference into any such filings.

The following graph compares the cumulative total shareholder return on our ADSs with that of the Nasdaq Biotech Index and the Nasdaq Composite Index for the period that our ADSs were publicly traded, which commenced

on May 6, 2015. We selected the Nasdaq Biotech Index because our ADSs trade on The Nasdaq Global Select Market and we believe this indicates our relative performance against a group consisting of more similarly situated companies.



Item 6. [Reserved]

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

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our consolidated financial statements and the related notes to those statements included elsewhere in this Annual Report. In addition to our historical consolidated financial information, the following discussion contains forward-looking statements that reflect our plans, estimates, beliefs and expectations. Our actual results and the timing of events could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report, particularly in Part I, Item 1A. "Risk Factors."

Overview

We are a clinical-stage biopharmaceutical company transitioning in 2024 to a commercial-stage cell therapy company. We are a leader in the development of T-cell therapies for solid tumors and are anticipating our first marketing approval in 2024. Our first product, afami-cel is specific to synovial sarcoma and will be the first product in our sarcoma product franchise. Lete-cel, which we are targeting for a BLA filing in 2026, will be the second product in the franchise and targets both synovial sarcoma and myxoid round cell liposarcoma (MRCLS), significantly expanding the treatable patient population.

Synovial sarcoma and MRCLS are 2 of more than fifty types of soft tissue cancers, with approximately 13,000 new soft tissue sarcoma cases in the U.S. each year. Synovial sarcoma accounts for approximately 5-10% of these cases, with MRCLS accounting for another approximately 5-10% of soft tissue sarcomas. Synovial sarcoma impacts younger people with one third of patients diagnosed under the age of 30. There is believed to be a 20% 5 year overall survival for synovial sarcoma patients. MRCLS impacts middle-aged adults and is frequently diagnosed between ages 35-55. It has an 8%, 5 year disease specific survival rate. We believe that afami-cel in synovial sarcoma and lete-cel in synovial sarcoma and MRCLS can make a huge difference to people impacted by these cancers.

All of our products and clinical candidates utilize engineered T-cells designed to find and destroy cancer cells in patients. The T-cells are engineered to recognize particular antigens expressed by the cancer cells and to activate a person's immune system to fight the cancer they have. Our current products and clinical candidates are personalized treatment options where we take a person's white blood cells, modify them to express the engineered T-cells and then return those engineered T-cells to the patient.

Afami-cel and Commercialisation

We filed a Biologics License Application (BLA) in December 2023 for afami-cel, a cell therapy that provides a treatment option for people with synovial sarcoma. We announced FDA acceptance of the BLA for afami-cel, which has priority review, on January, 31 2024. The BLA has a Prescription Drug User Fee Act (PDUFA) target action date of August 4, 2024. We are currently preparing for the launch of afami-cel for around the PDUFA date. We will launch at select authorized treatment centers and anticipate growing to 30 ATCs over a period of 2 years.

Lete-cel

We are in the process of transitioning lete-cel, which targets the NY-ESO antigen in people with synovial sarcoma and MRCLS, from GSK. We reported interim analysis data for the IGNYTE-ESO trial with lete-cel at CTOS in 2023. In sub-study 2 of the IGNYTE-ESO trial a 40% ORR (18/45 patients treated) in synovial sarcoma and MRCLS combined and approximately 11 months median duration of response was reported. The primary efficacy endpoint requires 16/60 patients to have a response. Sub-study 2 explores safety and efficacy in patients who received prior anthracycline treatment and enrollment in sub-study 2 has completed.

Clinical Pipeline

We have clinical trials ongoing for people with ovarian cancer, head and neck cancers and urothelial cancers in which the MAGE-A4 antigen is expressed. The SURPASS trials use a next-generation TCR T-cell with the aim of increasing efficacy.

- ***SURPASS-3 Phase 2 Trial with ADP-A2M4CD8.*** A Phase 2 trial for people with platinum resistant ovarian cancer is recruiting patients. We have received RMAT designation (Regenerative Medicine Advanced Therapy designation) for ADP-A2M4CD8 for the treatment of this indication from the FDA. The Phase 2 trial will evaluate ADP-A2M4CD8 in both monotherapy and in combination with a checkpoint inhibitor, nivolumab, in ovarian cancer.

- ***SURPASS Phase 1 Trial with ADP-A2M4CD8***: Enrollment is ongoing in a Phase 1 trial, focusing on treatment of patients with head and neck and urothelial cancers in earlier line settings and in combination with a checkpoint inhibitor (nivolumab). In the focus areas of ovarian, urothelial and head and neck cancers the reported response rate is 75% in patients with 3 or fewer prior lines of therapy (9 out of 12 patients). The trial includes a combination cohort where participants receive a combination of ADP-A2M4CD8 together with a checkpoint inhibitor (nivolumab).

Pre-clinical Pipeline

Our proprietary platform enables us to identify cancer targets, find and develop cell therapy candidates active against those targets and produce therapeutic candidates for administration to patients. Our cell therapy candidates include TCR T-cells and TRuC T-cells. Our cell therapies are currently manufactured on an autologous or per patient basis and we have a proprietary preclinical allogeneic platform for the development of "off the shelf" cell therapies.

Our most advanced pre-clinical programs are for T-cell therapies directed to the PRAME target ("ADP-600") and to CD70 ("ADP-520").

We are also developing allogeneic or "off-the-shelf" cell therapies utilizing a proprietary allogeneic platform. The platform utilizes cells derived from Induced Pluripotent Stem Cells ("iPSCs"), which can be gene-edited to express

our engineered TCRs or other constructs and then differentiated into the required end cell type, for example T-cells. The platform is applicable to all of our cell therapies.

Collaborations

We have a strategic collaboration with Genentech Inc ("Genentech"). The collaboration with Genentech covers the research and development of "off-the-shelf" cell therapies for up to five shared cancer targets ("off-the-shelf" products) and the development of a novel allogeneic personalized cell therapy platform. We also have several development and research collaborations directed to particular next-generation technologies. Following the exit from a prior collaboration with GSK, we are in the process of completing transition of the NY-ESO program from GSK. Final transition of all programs (including all clinical trials) is anticipated to occur by mid-year 2024.

Corporate

We have facilities in the U.S. in Philadelphia and Boston and in the United Kingdom ("U.K.") in Abingdon and Stevenage. We are an integrated cell therapy company with our own manufacturing facility in the U.S. for autologous products and in the U.K. for allogeneic products together with a dedicated lentiviral vector manufacturing suite in the U.K. within the Cell and Gene Therapy Catapult manufacturing facility at Stevenage. This enables us to continue improving the patient experience associated with our cell therapies including the ability to introduce improvements to the manufacturing process and patient supply chain.

On March 6, 2023 the Company announced entry into a definitive agreement under which it combined with TCR² Therapeutics Inc. ("TCR²") in an all-stock transaction. TCR² is a Boston, Massachusetts-based T-cell therapy company focused on treating solid tumours. The transaction was approved by the Company's shareholders and TCR² stockholders on May 30, 2023 and the merger became effective on June 1, 2023. Following merger becoming effective TCR² and all entities within the TCR² group, became wholly owned by the Company. Following the completion of the transaction, the former TCR² stockholders held approximately 25% of the Company, whereas the Company's pre-existing shareholders held approximately 75%. The operations of the TCR² are now fully integrated within the Adaptimmune operations.

Financial Operations Overview

We have generated losses since our inception in 2008, during which time we have devoted substantially all of our resources to the research and development of our cell therapies. We expect to continue to incur losses for the foreseeable future and our net losses may fluctuate significantly from quarter to quarter. Our expenses may increase significantly depending on the progress of our clinical trials, requirements to conduct additional clinical trials (including as a result of the filing of a BLA), requirement for further manufacturing to support our development activities, investment in additional manufacturing capabilities, requirements to support collaborations or engagement with third parties and investment in resources and infrastructure to support the planned commercialization of our cell therapies. Further information can be found in Item 1A. Risk Factors.

Revenue

The Company had three revenue-generating contracts with customers in the years ended December 31, 2023 and 2022: a collaboration agreement with Astellas that was terminated as of March 6, 2023, a strategic collaboration and license agreement with Genentech and a termination and transfer agreement with GSK that became effective on April 6, 2023. The original collaboration and license agreement with GSK was terminated in 2022.

The Genentech Collaboration and License Agreement

On September 3, 2021, Adaptimmune Limited, a wholly owned subsidiary of Adaptimmune Therapeutics plc, entered into a Strategic Collaboration and License Agreement with Genentech, Inc. ("Genentech") and F. Hoffman-La Roche Ltd. The collaboration has two components:

1) development of allogeneic T-cell therapies for up to five shared cancer targets
2) development of personalized allogeneic T-cell therapies utilizing αβ T-cell receptors (TCRs) isolated from a patient, with such therapies being administered to the same patient.

The parties will collaborate to perform a research program, initially during an eight-year period (which may be extended for up to two additional two-year terms at Genentech's election upon payment of an extension fee for each two-year term), to develop the cell therapies, following which Genentech will determine whether to further develop and commercialize such therapies. The Company began recognizing revenue for the performance obligations relating to the initial "off-the-shelf" collaboration targets and the personalized therapies in 2021, however this did not have a material impact on the consolidated financial statements.

The Company identified the following performance obligations under the agreement: (i) research services and rights granted under the licenses for each of the initial "off-the-shelf" collaboration targets, (ii) research services and rights granted under the licenses for the personalized therapies, (iii) material rights relating to the option to designate additional "off-the-shelf" collaboration targets and (iv) material rights relating to the two options to extend the research term. The revenue allocated to the initial "off-the-shelf" collaboration targets and the personalized therapies is recognized as development progresses. The revenue allocated to the material rights to designate additional 'off-the-shelf' collaboration targets is recognized from the point that the options are exercised and then as development progresses, in line with the initial "off-the-shelf" collaboration targets, or at the point in time that the rights expire. The revenue from the material rights to extend the research term is recognized from the point that the options are exercised and then over period of the extension, or at the point in time that the options expire.

The GlaxoSmithKline ("GSK") Collaboration and License Agreement

The GSK Collaboration and License Agreement consisted of multiple performance obligations. GSK nominated its third target under the Collaboration and License Agreement in 2019, and the Company received $3.2 million following the nomination of the target and a further $4.2 million in June 2021 following achievement of a development milestone, which were being recognized as revenue as development progressed.

The collaboration was terminated in October 2022. A further amendment to the collaboration agreement was entered into on December 19, 2022 for the deletion of certain provisions relating to GSK's post termination manufacturing and supply obligations and payment of £5.0 million ($6.0 million) by GSK to Adaptimmune which was received the in the first quarter of 2023. The revenue associated with this payment and the remaining deferred income relating to the third target of $0.4 million were recognized as revenue in the year-ended December 31, 2022.

The GSK Termination and Transfer Agreement

On April 11, 2023, the Company announced the entry of the Company and GSK into a Termination and Transfer regarding the return to Adaptimmune of rights and materials comprised within the PRAME and NY-ESO cell therapy programs. The parties will work collaboratively to ensure continuity for patients in ongoing lete-cel clinical trials forming part of the NY-ESO cell therapy program.

As part of the agreement, sponsorship of the ongoing IGNYTE and long-term follow-up ("LTFU") trials relating to the NY-ESO cell therapy program will transfer to Adaptimmune. In return for this, Adaptimmune received an upfront payment of £7.5 million in June 2023 following the signing of the agreement and further milestone payments of £3 million and £12 million to Adaptimmune in September and December 2023, respectively. Further milestone payments totaling £7.5 million will be due in relation to successive stages of transfer of the trials.

The Company has identified the following performance obligations under the agreement: (i) to take over sponsorship and complete the IGNYTE trial and (ii) to take over sponsorship and complete the LTFU trial. The revenue allocated to both obligations is recognized over time from the point that sponsorship of the active trials that make up the trial transfer, based on the number of patients transferred and still actively enrolled to date on the trial at a given period-end relative to the total estimated periods of active patient enrollment over the estimated duration of the trial.

The Astellas Collaboration Agreement

In January 2020, the Company entered into a collaboration agreement with Astellas. The Company received $50.0 million as an upfront payment after entering into the agreement. Under the agreement the parties would agree on up to three targets and would co-develop T-cell therapies directed to those targets pursuant to an agreed research plan. For each target, Astellas would fund co-development up until completion of a Phase 1 trial for products directed to such target. In addition, Astellas was also granted the right to develop, independently of Adaptimmune, allogeneic T-cell therapy candidates directed to two targets selected by Astellas. Astellas would have sole rights to develop and commercialize products resulting from these two targets.

The agreement consisted of the following performance obligations: (i) research services and rights granted under the co-exclusive license for each of the three co-development targets and (ii) the rights granted for each of the two independent Astellas targets. The revenue allocated to the co-development targets was recognized as the development of products directed to the targets progressed up until completion of a Phase 1 trial. The revenue allocated to each of the research licenses for the targets being independently developed by Astellas was to be recognized when the associated license commenced, which was upon designation of a target by Astellas.

The Company and Universal Cells mutually agreed to terminate the Astellas Collaboration Agreement as of March 6, 2023 (the "Termination Date"). In connection with the termination, all licenses and sublicenses granted to either party pursuant to the Collaboration Agreement ceased as of the Termination Date. There were no termination penalties in connection with the termination, however the Company was still entitled to receive reimbursement for research and development work performed up to and including a period of 30 days after the Termination Date.

The termination was accounted for as a contract modification and the modification resulted in the remaining unsatisfied and partially satisfied performance obligations under the collaboration becoming fully satisfied. The aggregate transaction price of the contract modification was $42.4 million, which was primarily comprised of deferred income relating to the third co-development target and the two independent targets and was recognized in full in March 2023.

Research and Development Expenses

Research and development expenditures are expensed as incurred. Research and development expenses consist principally of the following:

- salaries for research and development staff and related expenses, including benefits;
- costs for production of preclinical compounds and drug substances by contract manufacturers;
- fees and other costs paid to contract research organizations in connection with additional preclinical testing and the performance of clinical trials;
- costs associated with the development of a process to manufacture and supply our lentiviral vector and cell therapies for use in clinical trials;
- costs to develop manufacturing capability at our U.S. facility for manufacture of cell therapies for use in clinical trials;
- costs relating to facilities, materials and equipment used in research and development;
- costs of acquired or in-licensed research and development which does not have alternative future use;
- costs of developing assays and diagnostics;

- an allocation of indirect costs clearly related to research and development;
- amortization and depreciation of property, plant and equipment and intangible assets used to develop our cells therapies; and
- share-based compensation expenses.

These expenses are partially offset by:

- reimbursable tax and expenditure credits from the U.K. government.

Research and development expenditure is presented net of reimbursements from reimbursable tax and expenditure credits from the U.K. government. As a company that carries out extensive research and development activities, we benefit from the U.K. research and development tax credit regime for small and medium sized companies ("SME R&D Tax Credit Scheme"), whereby our principal research subsidiary company, Adaptimmune Limited, is able to surrender the trading losses that arise from its research and development activities for a payable tax credit of up to approximately 33.4% of eligible research and development expenditures, decreasing to 18.6% after April 1, 2023. Qualifying expenditures largely comprise employment costs for research staff, consumables and certain internal overhead costs incurred as part of research projects for which we do not receive income. Subcontracted research expenditures are eligible for a cash rebate of up to approximately 21.7%, decreasing to 12.1% after April 1, 2023. A large proportion of costs in relation to our pipeline research, clinical trials management and manufacturing development activities, all of which are being carried out by Adaptimmune Limited, are eligible for inclusion within these tax credit cash rebate claims.

Expenditures incurred in conjunction with our collaboration agreements are not qualifying expenditures under the SME R&D Tax Credit Scheme but certain of these expenditures can be reimbursed through the U.K. research and development expenditure credit scheme (the "RDEC Scheme"). Under the RDEC Scheme tax relief is given at 13% of allowable R&D costs, which may result in a payable tax credit at an effective rate of approximately 10.5% of qualifying expenditure for the year ended December 31, 2023, rising to 20% after April 1, 2023, which may result in a payable tax credit at an effective rate of 15%.

On July 18, 2023, the U.K. Government released draft legislation on proposed changes to the U.K. research and development regimes. These changes include combining the current SME R&D Tax Credit Scheme and RDEC Schemes with a single 20% gross rate applying to all claims with an exception for R&D Intensive SMEs. For entities which qualify as R&D Intensive SMEs, a higher effective cash tax benefit of 27% will be available. The draft legislation also includes changes to other rules and types of qualifying expenditure, such as the treatment of subcontracted and overseas costs. The Company is currently evaluating the impact of the draft legislation on its future tax credit claims however, as the legislation was not enacted or substantively enacted as of December 31, 2023, the impact of the legislation has not been included in the results for the year ended December 31, 2023.

Our research and development expenses may vary substantially from period to period based on the timing of our research and development activities, which depends upon the timing of initiation of clinical trials and the rate of enrollment of patients in clinical trials. The duration, costs, and timing of clinical trials and development of our cell therapies will depend on a variety of factors, including:

- the scope, rate of progress, and expense of our ongoing as well as any additional clinical trials and other research and development activities;
- uncertainties in clinical trial enrollment rates;
- future clinical trial results;
- significant and changing government regulation;

- the timing and receipt of any regulatory approvals; and
- supply and manufacture of lentiviral vector and cell therapies for clinical trials.

A change in the outcome of any of these variables may significantly change the costs and timing associated with the development of that cell therapy. For example, if the FDA, or another regulatory authority, requires us to conduct clinical trials beyond those that we currently anticipate will be required for regulatory approval, or if we experience significant delays in enrollment in any of our clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development.

General and Administrative Expenses

Our general and administrative expenses consist principally of:

- salaries for employees other than research and development staff, including benefits;
- provisions for restructuring activity;
- business development expenses, including travel expenses;
- professional fees for auditors, lawyers and other consulting expenses, including those incurred in relation to the merger with TCR[2];
- costs of facilities, communication, and office expenses;
- cost of establishing commercial operations;
- information technology expenses;
- amortization and depreciation of property, plant and equipment and intangible assets not related to research and development activities; and
- share-based compensation expenses.

Other Income (Expense), Net

Other income (expense), net primarily comprises foreign exchange gains (losses). We are exposed to foreign exchange rate risk because we currently operate facilities in the United Kingdom and United States. Our expenses are generally denominated in the currency in which our operations are located, which are the United Kingdom and United States. However, our U.K.-based subsidiary incurs significant research and development costs in U.S. dollars and, to a lesser extent, Euros. Our U.K. subsidiary has an intercompany loan balance in U.S. dollars payable to the ultimate parent company, Adaptimmune Therapeutics plc. Since July 1, 2019, the intercompany loan has been considered as being a long-term investment as repayment is not planned or anticipated in the foreseeable future. It is Adaptimmune Therapeutics plc's intent not to request payment of the intercompany loan for the foreseeable future. The foreign exchange gains or losses arising on the revaluation of intercompany loans of a long-term investment nature are reported within other comprehensive (loss) income, net of tax.

Our results of operations and cash flows will be subject to fluctuations due to changes in foreign currency exchange rates, which could harm our business in the future. We seek to minimize this exposure by maintaining currency cash balances at levels appropriate to meet forthcoming expenditure in U.S. dollars and pounds sterling. To date, we have not used hedging contracts to manage exchange rate exposure, although we may do so in the future.

In addition to currency fluctuations, adverse macroeconomic conditions, including inflation, slower growth or recession, new or increased tariffs, changes to fiscal and monetary policy, tighter credit, and higher interest rates, could materially adversely affect the Company by, for example, driving higher input costs and/or impacting the Company's ability to raise future financing.

Taxation

We are subject to corporate taxation in the United Kingdom and the United States. We incur tax losses and tax credit carryforwards in the United Kingdom. No deferred tax assets are recognized on our U.K. losses and tax credit carryforwards because there is currently no indication that we will make sufficient taxable profits to utilize these tax losses and tax credit carryforwards. On June 10, 2021, the U.K. 2021 Finance Bill was enacted. Under this bill, the rate of U.K. corporation tax increased to 25% from April 1, 2023, with lower rates and tapered relief applied to companies with profits below £250,000.

We benefit from reimbursable tax credits in the United Kingdom through the SME R&D Tax Credit Scheme as well as the RDEC Scheme which are presented as a deduction to research and development expenditure.

Our pre-existing subsidiary in the United States, Adaptimmune LLC, has generated taxable profits due to a Service Agreement between our U.S. and U.K. operating subsidiaries and is subject to U.S. federal corporate income tax of 21%. Due to its activity in the United States, and the sourcing of its revenue, the Adaptimmune LLC is not currently subject to any state or local income taxes. The Company also benefits from the U.S Research Tax Credit and Orphan Drug Credit.

TCR^2 Therapeutics, Inc. ("TCR^2") has incurred net losses since acquisition and generates research and development tax credits. TCR^2's operating loss and tax credit carryforwards and other tax attributes are reduced by a valuation allowance to the amount supported by reversing taxable temporary differences because there is currently no indication that we will make sufficient taxable profits to utilize these deferred tax assets.

In the future, if we generate taxable income in the United Kingdom, we may benefit from the United Kingdom's "patent box" regime, which would allow certain profits attributable to revenues from patented products to be taxed at a rate of 10%. As we have many different patents covering our products, future upfront fees, milestone fees, product revenues, and royalties may be taxed at this favorably low tax rate.

U.K. Value Added Tax ("VAT") is charged on all qualifying goods and services by VAT-registered businesses. An amount of 20% of the value of the goods or services is added to all relevant sales invoices and is payable to the U.K. tax authorities. Similarly, VAT paid on purchase invoices paid by Adaptimmune Limited and Adaptimmune Therapeutics plc is reclaimable from the U.K. tax authorities.

Results of Operations

Comparison of Years Ended December 31, 2023 and 2022

The following table summarizes the results of our operations for the years ended December 31, 2023, and 2022, together with the changes to those items (in thousands):

	Year ended December 31,		Increase/decrease	
	2023	2022		
Revenue	**$ 60,281**	**$ 27,148**	**$ 33,133**	**122 %**
Research and development expenses	(126,509)	(127,726)	1,217	(1)%
General and administrative expenses	(73,513)	(63,387)	(10,126)	16 %
Total operating expenses	**(200,022)**	**(191,113)**	**(8,909)**	**5 %**
Operating loss	**(139,741)**	**(163,965)**	**24,224**	**(15)%**
Interest income	5,964	1,542	4,422	287 %
Gain on bargain purchase	22,049	—	22,049	— %
Other (expense) income, net	(807)	(536)	(271)	51 %
Loss before income tax expense	**(112,535)**	**(162,959)**	**50,424**	**(31)%**
Income tax expense	(1,336)	(2,497)	1,161	(46)%
Loss for the period	**$ (113,871)**	**$ (165,456)**	**$ 51,585**	**(31)%**

Revenue

Revenue increased by $33.1 million to $60.3 million in the year ended December 31, 2023, compared to $27.1 million for the year ended December 31, 2022, primarily due to the termination of the Astellas collaboration, resulting in the remaining deferred income for the collaboration being recognized as revenue in March 2023.

We expect that revenues will increase in future periods as the Company continues activities under the Genentech and GSK agreements.

Research and development expenses

Research and development expenses decreased by $1.2 million to $126.5 million for the year ended December 31, 2023 from $127.7 million for the year ended December 31, 2022. Our research and development expenses comprise the following (in thousands):

	Year ended December 31,		Increase/decrease	
	2023	2022		
Salaries, materials, equipment, depreciation of property, plant and equipment and other employee-related costs[(1)]	$ 85,492	86,611	$ (1,119)	(1)%
Subcontracted expenditure	48,416	54,689	(6,273)	(11)%
Manufacturing facility expenditure	6,922	8,072	(1,150)	(14)%
Share-based compensation expense	3,061	6,264	(3,203)	(51)%
In-process research and development costs	(1,840)	2,316	(4,156)	(179)%
Reimbursements receivable for research and development tax and expenditure credits	(15,542)	(30,226)	14,684	(49)%
	$ 126,509	**$ 127,726**	**$ (1,217)**	**(1)%**

(1) These costs are not analyzed by project since employees may be engaged in multiple projects at a time.

The net decrease in our research and development expenses of $1.2 million for the year ended December 31, 2023, compared to the year ended December 31, 2022 was primarily due to the following:

- a decrease of $1.1 million in salaries, materials, equipment, depreciation of property, plant and equipment and other employee-related costs, which is mainly driven by a decrease in the average number of

employees engaged in research and development, offset partially by an increase in facility and other direct cost allocations, including those incurred following the acquisition of TCR[2];

- a decrease of $6.3 million in subcontracted expenditures, including clinical trial expenses, contract research organization (CRO) costs and contract manufacturing expenses, largely driven by a decrease in manufacturing costs including external lentiviral vector manufacturing;

- a decrease of $3.2 million in share-based compensation expense due to a combination of lower fair value of options granted in 2023 compared to 2022 and due to high forfeiture credits due to redundancies in the same period; and

- a decrease of $4.2 million in in-process research and development costs due to a credit of $1.9 million relating to the release of a milestone that was previously accrued that is no longer expected to be paid, with no other in-process research and development costs recognized in 2023; offset by

- a decrease in reimbursements receivable for research and development tax and expenditure credits of $14.7 million due to decreases in the associated research and development costs for which the credits may be claimed and a reduction in the effective rate at which the tax credits can be claimed which was effective from April 1, 2023.

Our subcontracted costs for the year ended December 31, 2023 were $48.4 million, compared to $54.7 million in the same period of 2022. This includes $26.4 million directly associated with our afami-cel and ADP-A2M4CD8 T-cells and $22.0 million of other costs.

Our research and development expenses are highly dependent on the phases and progression of our research projects and will fluctuate depending on the outcome of ongoing clinical trials. We expect that our research and development expenses will increase in future periods as we continue to invest in our research and development capabilities.

General and administrative expenses

General and administrative expenses increased by $10.1 million to $73.5 million for the year ended December 31, 2023 compared to $63.4 million in the same period in 2022. Our general and administrative expenses comprise the following (in thousands):

	Year ended December 31,		Increase/decrease	
	2023	2022		
Salaries, depreciation of property, plant and equipment and other employee-related costs	$ 37,838	$ 31,903	$ 5,935	19 %
Restructuring charges	1,703	2,297	(594)	(26)%
Other corporate costs	27,738	19,555	8,183	42 %
Share-based compensation expense	8,712	11,976	(3,264)	(27)%
Reimbursements	(2,478)	(2,344)	(134)	6 %
	$ 73,513	**$ 63,387**	**$ 10,126**	**16 %**

The net increase in our general and administrative expenses of $10.1 million for the year ended December 31, 2023 compared to the same period in 2022 was largely due to:

- an increase of $5.9 million in salaries, depreciation of property, plant and equipment and other employee-related costs compared to the equivalent period in 2022, due primarily to severance and other related costs for former TCR[2] leadership and employees and an increase in depreciation

following the completion of the construction of manufacturing facilities in the U.K. and U.S. The depreciation was allocated to general and administrative expenses based on the utilization of U.K. office in 2023 and, for the U.S. facility, the fact that the commercial operations for which the facility was constructed have not yet commenced;

- an increase of $8.2 million in other corporate costs due primarily to an increase in accounting, legal and professional fees incurred in relation to entering into the TCR[2] Therapeutics Inc. merger agreement; offset by

- a decrease in share-based compensation expense of $3.3 million due to a combination of lower fair value of options granted in 2023 compared to 2022 and due to high forfeiture credits due to redundancies in the same period.

Interest income

Interest income primarily relates to interest on cash, cash equivalents and available-for-sale debt securities and is presented net of amortization/accretion of the premium/discount on purchase of the debt securities. Interest income was $6.0 million for the year ended December 31, 2023, compared to $1.5 million for the year ended December 31, 2022. The increase was primarily due to having net accretion of the discount on marketable securities for 2023; accretion on available-for-sale debt securities for the year ended December 31, 2023, was $2.0 million compared to amortization of $2.5 million for the year ended December 31, 2022. This was driven by a change in the Company's portfolio mix and through the acquisition of securities as part of the TCR[2] acquisition, where more securities were U.S. Treasury securities purchased at a discount rather than corporate debt securities purchased at a premium.

Other (expense) income, net

Other (expense) income, net was an expense of $0.8 million for the year ended December 31, 2023 compared to $0.5 million for the year ended December 31, 2022. Other income, net primarily relates to unrealized foreign exchange gains and losses on cash and cash equivalents, and intercompany loans held in U.S. dollars by our U.K. subsidiary other than those of a long-term investment nature, where repayment is not planned or anticipated in the foreseeable future.

Gain on Bargain Purchase

The gain on bargain purchase of $22.0 million arose in June 2023 from the strategic combination with TCR[2] Therapeutics Inc on June 1, 2023.

Income taxes

Income tax expenses were $1.3 million for the year ended December 31, 2023 compared to $2.5 million for the year ended December 31, 2022. Income taxes arise in the United States due to Adaptimmune LLC generating taxable profits. Income taxes have decreased by $1.2 million for the year ended December 31, 2023 compared to the same period in 2022 due to U.S. taxation regime changes coming into effect in 2022, affecting the period over which certain expenses may be deducted from taxable income. The impact of these changes was reduced in 2023 due to the effect of previously capitalized expenses in 2022 becoming deductible in 2023. We incur losses in the United Kingdom.

Comparison of Years Ended December 31, 2022 and 2021

The following table summarizes the results of our operations for the years ended December 31, 2022, and 2021, together with the changes to those items (in thousands):

	Year ended December 31,		Increase/decrease	
	2022	2021		
Revenue	**$ 27,148**	**$ 6,149**	**$ 20,999**	**342 %**
Research and development expenses	(127,726)	(111,090)	(16,636)	15 %
General and administrative expenses	(63,387)	(57,305)	(6,082)	11 %
Total operating expenses	**(191,113)**	**(168,395)**	**(22,718)**	**13 %**
Operating loss	**(163,965)**	**(162,246)**	**(1,719)**	**1 %**
Interest income	1,542	1,095	447	41 %
Other (expense) income, net	(536)	3,852	(4,388)	(114)%
Loss before income tax expense	**(162,959)**	**(157,299)**	**(5,660)**	**4 %**
Income tax expense	(2,497)	(791)	(1,706)	216 %
Loss for the period	**$ (165,456)**	**$ (158,090)**	**$ (7,366)**	**5 %**

Revenue

Revenue increased by $21.0 million to $27.1 million in the year ended December 31, 2022, compared to $6.1 million for the year ended December 31, 2021, due largely to an increase in development activities under our collaboration agreements. In particular, the Company recognized revenue in relation to development activities under the Genentech agreement for the year ended December 31, 2022, however, as the agreement was not effective until October 19, 2021, there was minimal revenue from development activities under the Genentech agreement for the year ended December 31, 2021. Revenue also increased due to a $6.0 million payment from GSK as a result of the termination and amendment to the GSK agreement.

Research and development expenses

Research and development expenses increased by $16.6 million to $127.7 million for the year ended December 31, 2022 from $111.1 million for the year ended December 31, 2021. Our research and development expenses comprise the following (in thousands):

	Year ended December 31,		Increase/decrease	
	2022	2021		
Salaries, materials, equipment, depreciation of property, plant and equipment and other employee-related costs[(1)]	$ 86,611	79,505	$ 7,106	9 %
Subcontracted expenditure	54,689	46,469	8,220	18 %
Manufacturing facility expenditure	8,072	9,584	(1,512)	(16)%
Share-based compensation expense	6,264	9,052	(2,788)	(31)%
In-process research and development costs	2,316	562	1,754	312 %
Reimbursements receivable for research and development tax and expenditure credits	(30,226)	(34,082)	3,856	(11)%
	$ 127,726	**$ 111,090**	**$ 16,636**	**15 %**

(2) These costs are not analyzed by project since employees may be engaged in multiple projects at a time.

The net increase in our research and development expenses of $16.6 million for the year ended December 31, 2022 compared to the year ended December 31, 2021 was primarily due to the following:

- an increase of $7.1 million in salaries, materials, equipment, depreciation of property, plant and equipment and other employee-related costs, which is mainly driven by an increase in the average number of employees engaged in research and development in the year ended December 31, 2022;

- an increase of $8.2 million in subcontracted expenditures, including clinical trial expenses, contract research organization (CRO) costs and contract manufacturing expenses, largely driven by an increase in external manufacturing costs and an upfront payment to Alpine. This was offset by a decrease in clinical trial expenses;

- a decrease of $2.8 million in share-based compensation expense due to a decrease in the fair value of options granted and increase in the value of forfeitures. This was offset by an increase in the number of options granted;

- an increase of $1.8 million in in-process research and development costs due to milestones accrued for, and paid to, Universal Cells; and

- a decrease in reimbursements receivable for research and development tax and expenditure credits of $3.9 million due primarily to a decline in the average exchange rate between pounds sterling and the U.S. dollar.

Our subcontracted costs for the year ended December 31, 2022 were $54.7 million, compared to $46.5 million in the same period of 2021. This includes $40.1 million directly associated with our afami-cel, ADP-A2M4CD8 and ADP-A2AFP T-cells and $14.6 million of other costs.

General and administrative expenses

General and administrative expenses increased by $6.1 million to $63.4 million for the year ended December 31, 2022 compared to $57.3 million in the same period in 2021. Our general and administrative expenses comprise the following (in thousands):

	Year ended December 31,		Increase/decrease	
	2022	2021		
Salaries, depreciation of property, plant and equipment and other employee-related costs	$ 31,903	$ 28,970	$ 2,933	10 %
Restructuring charges	2,297	—	2,297	N/A %
Other corporate costs	19,555	18,911	644	3 %
Share-based compensation expense	11,976	11,577	399	3 %
Reimbursements	(2,344)	(2,153)	(191)	9 %
	$ 63,387	**$ 57,305**	**$ 6,082**	**11 %**

The net increase in our general and administrative expenses of $6.1 million for the year ended December 31, 2022 compared to the same period in 2021 was primarily due to an increase of $2.9 million in salaries, depreciation of property, plant and equipment and other employee-related costs due to an increase in average headcount

compared to the same period in 2021 and the recognition of a $2.3 million restructuring provision at December 31, 2022, relating to redundancy payments that are expected to be made in Q1 2023.

Interest income

Interest income was $1.5 million for the year ended December 31, 2022, compared to $1.1 million for the year ended December 31, 2021. Interest income primarily relates to interest on cash, cash equivalents and available-for-sale debt securities and is presented net of amortization/accretion of the premium/discount on purchase of the debt securities. Amortization on available-for-sale debt securities for the year ended December 31, 2022, was $2.5 million compared to amortization of $5.3 million for the year ended December 31, 2021.

Other (expense) income, net

Other (expense) income, net was an expense of $0.5 million for the year ended December 31, 2022 compared to income of $3.9 million for the year ended December 31, 2021. Other income, net primarily relates to unrealized foreign exchange gains and losses on cash and cash equivalents, and intercompany loans held in U.S. dollars by our U.K. subsidiary other than those of a long-term investment nature, where repayment is not planned or anticipated in the foreseeable future.

Income taxes

Income tax expenses were $2.5 million for the year ended December 31, 2022, compared to $0.8 million for the year ended December 31, 2021. Income taxes arise in the United States due to our U.S. subsidiary generating taxable profits. Income taxes have increased by $1.7 million for the year ended December 31, 2022 compared to the same period in 2021 due to changes to U.S. taxation regime coming into effect, affecting the period over which certain expenses may be deducted from taxable income. We incur losses in the United Kingdom.

Liquidity and Capital Resources

Sources of Funds

Since our inception, we have incurred significant net losses and negative cash flows from operations. We financed our operations primarily through sales of equity securities, cash receipts under our Astellas Collaboration Agreement, Genentech and GSK Collaboration and License Agreements and GSK Termination and Transfer Agreement, government grants and research and development tax and expenditure credits. From inception through to December 31, 2023, we have raised:

- $870.9 million of proceeds from issues of equity, net of issue costs;
- $437.3 million through collaborative arrangements with Genentech, GSK and Astellas; and
- $110.6 million in the form of U.K. research and development tax credits and receipts from the U.K. RDEC Scheme.

$45.3 million in cash and cash equivalents and restricted cash and $39.5 million of marketable securities were also acquired as part of the strategic combination with TCR^2 Therapeutics Inc.

We use a non-GAAP measure, Total Liquidity, which is defined as the total of cash and cash equivalents and marketable securities, to evaluate the funds available to us in the near-term. A description of Total Liquidity and reconciliation to cash and cash equivalents, the most directly comparable U.S. GAAP measure, are provided below under “Non-GAAP measures”.

As of December 31, 2023, we had cash and cash equivalents of $144.0 million and Total Liquidity of $146.9 million. We believe that our Total Liquidity will be sufficient to fund our operations, based upon our currently anticipated research and development activities and planned capital spending, into early 2026.

During the year ended December 31, 2023, the Company incurred a net loss of $113.9 million, used cash of $140.9 million in its operating activities, and generated revenues of $60.3 million. The Company has incurred net losses since inception, and it expects to incur operating losses in foreseeable future periods.

Management considers that there are no conditions or events, in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern for a period of at least one year from the date the financial statements are issued.

Cash Flows

The following table summarizes the results of our cash flows for the years ended December 31, 2023, 2022 and 2021 (in thousands).

	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021
Net cash used in operating activities	$ (140,880)	$ (141,769)	$ 10,729
Net cash provided by investing activities	176,538	89,137	75,800
Net cash provided by financing activities	880	12,867	3,288
Cash, cash equivalents and restricted cash	147,017	109,602	151,666

Year ended December 31, 2023 compared to year ended December 31, 2022

Net cash used in operating activities decreased by $0.9 million to $140.9 million for the year ended December 31, 2023, compared to $141.8 million for the year ended December 31, 2022. The net cash used in operating activities in the year end December 31, 2023 decreased due to a decrease in operating expenditure as a result of the restructuring and de-prioritization of non-core programs that was initiated in the final quarter of 2022, which included a reduction in headcount of approximately 25% and de-prioritization of non-core activities and payments of $16.8 million and $34.7 million from Genentech and GSK in 2023, respectively as compared to payments of $21.3 million from Genentech in 2022. This was partially offset following the business combination with TCR^2 which resulted in an increase in headcount of 39 and additional operating expenditures relating to activities originating from TCR^2 as well as various legal and professional fees relating to the acquisition. The impact of these changes resulted in a total combined increase of other corporate costs of $8.2 million but a decrease in salaries, temporary staff, travel, training and other employee-related costs of $2.2 million and subcontracted expenditure of $6.3 million compared to the equivalent period in 2022.

In addition, the U.K. R&D tax credits received in the year ended December 31, 2023, were $25.2 million lower than that received during the year ended December 31, 2022, because the U.K. R&D tax credit for the year ended December 31, 2022, which in previous years has been received in the fourth quarter of the year, was not received until January 2024.

Year ended December 31, 2022 compared to year ended December 31, 2021

Net cash used in operating activities increased by $152.5 million to $141.8 million for the year ended December 31, 2022, from a net cash provided by operating activities of $10.7 million for the year ended December 31, 2021. The net cash used in operating activities in the year end December 31, 2022 was partially offset by a $20 million additional payment received under the Genentech Collaboration and License Agreement in December

2022, as compared to a $4.2 million milestone payment received under the GSK Collaboration and License Agreement and the upfront payment of $150.0 million received under the Genentech agreement in October 2021. The U.K. R&D tax credits received in the year ended December 31, 2022, were $4.0 million higher than that received during the year ended December 31, 2021.

Components of cash flows from operating activities

Net cash used in operating activities of $140.9 million for the year ended December 31, 2023 comprised a net loss of $88.8 million offset by noncash items of $1.6 million and a net cash outflow of $25.0 million from changes in operating assets and liabilities. The most significant items impacting the change in operating assets and liabilities include the $15 million additional payment from Genentech and $34.7 million in payments from GSK, offset by a $15.9 million increase in R&D tax credits receivable. The noncash items consisted primarily of depreciation expense on plant and equipment of $9.5 million, amortization of intangibles of $0.4 million, share-based compensation expense of $11.8 million, accretion of marketable securities of $2.0 million, unrealized foreign exchange losses of $0.2 million and other losses of $0.2 million.

Net cash used in operating activities of $141.8 million for the year ended December 31, 2022 comprised a net loss of $165.5 million offset by noncash items of $25.2 million and $1.5 million of unfavorable changes in operating assets and liabilities. The most significant items impacting the change in operating assets and liabilities include the $20 million additional payment from Genentech and $26.9 million in U.K. R&D tax credit receipts, offset by $6 million receivable due from GSK. The noncash items consisted primarily of depreciation expense on plant and equipment of $5.3 million, amortization of intangibles of $0.8 million, share-based compensation expense of $18.2 million, amortization of marketable securities of $2.5 million, unrealized foreign exchange gains of $2.4 million and other losses of $0.8 million.

Net cash provided by operating activities of $10.7 million for the year ended December 31, 2021 comprised a net loss of $158.1 million offset by noncash items of $34.2 million and $134.6 million of favorable changes in operating assets and liabilities. The noncash items consisted primarily of depreciation expense on plant and equipment of $5.6 million, amortization of intangibles of $0.9 million, share-based compensation expense of $20.6 million, amortization of marketable securities of $5.3 million, unrealized foreign exchange losses of $0.5 million and other losses of $1.2 million.

Investing Activities

Net cash provided by investing activities was $176.5 million for the year ended December 31, 2023 compared to net cash provided by investing activities of $89.1 million for the year ended December 31, 2022. The net cash provided by investing activities for the respective periods consisted primarily of:

- purchases of property, plant and equipment of $4.7 million and $29.5 million in 2023 and 2022, respectively. Purchases of property, plant and equipment were higher in 2022 compared to 2023 due to expanding our manufacturing facilities, which was largely completed in 2022; and
- cash outflows from investment in marketable securities of $76.0 million and $48.1 million in 2023 and 2022, respectively; offset by
- cash inflows from maturity or redemption of marketable securities of $211.0 million and $167.0 million in 2023 and 2022, respectively; and
- cash and cash equivalents acquired as part of the business combination with TCR^2 Therapeutics Inc. of $45.3 million.

The Company invests surplus cash and cash equivalents in marketable securities. Cash provided by investing activities increased in the year ended December 31, 2023 due to cash received from the TCR^2 acquisition and an increase

in maturity or redemption of marketable securities due to a combination of most securities on hand at December 31, 2023 reaching maturity in 2023 and from the maturity of investments acquired as part of the TCR[2] acquisition, all of which matured in 2023.

Net cash provided by investing activities was $89.1 million for the year ended December 31, 2022 compared to net cash provided by investing activities of $75.8 million for the year ended December 31, 2021. The Company invests surplus cash and cash equivalents in marketable securities. Cash provided by investing activities increased in the year ended December 31, 2022. Maturity or redemption of marketable securities of $167.0 million was offset by investment in marketable securities of $48.1 million in the year ended December 31, 2022.

Net cash provided by investing activities was $75.8 million for the year ended December 31, 2021 compared to net cash used in investing activities of $278.9 million for the year ended December 31, 2020. The Company invests surplus cash and cash equivalents in marketable securities. Cash provided by investing activities increased in the year ended December 31, 2021. Maturity or redemption of marketable securities of $224.3 million was offset by investment in marketable securities of $139.8 million in the year ended December 31, 2021.

Financing Activities

Net cash provided by financing activities was $0.9 million, $12.9 million and $3.3 million for the years ended December 31, 2023, 2022 and 2021, respectively.

Net cash provided by financing activities for the year ended December 31, 2023 consisted of net proceeds from public offerings of $0.6 million and proceeds from exercise of share options of $0.3 million.

Net cash provided by financing activities for the year ended December 31, 2022 consisted of net proceeds from public offerings of $12.8 million and proceeds from exercise of share options of $0.1 million.

Net cash provided by financing activities for the year ended December 31, 2021 consisted of net proceeds from public offerings of $2.5 million and proceeds from exercise of share options of $0.8 million.

Non-GAAP Measures

Total Liquidity (a non-GAAP financial measure)

Total Liquidity (a non-GAAP financial measure) is the total of cash and cash equivalents and marketable securities. Each of these components appears in the Consolidated Balance Sheet. The U.S. GAAP financial measure most directly comparable to Total Liquidity is cash and cash equivalents as reported in the consolidated financial statements, which reconciles to Total Liquidity as follows (in thousands):

	December 31, 2023	December 31, 2022
Cash and cash equivalents	$ 143,991	$ 108,033
Marketable securities - available-for-sale debt securities	2,947	96,572
Total Liquidity	**$ 146,938**	**$ 204,605**

We believe that the presentation of Total Liquidity provides useful information to investors because management reviews Total Liquidity as part of its management of overall solvency and liquidity, financial flexibility, capital position and leverage. The definition of Total Liquidity includes marketable securities, which are highly liquid and available to use in our current operations.

Material Cash Requirements

As of December 31, 2023 the Company does not have any products approved for sale and has not generated any revenue from product supplies or royalties. The Company's material cash requirements primarily relate to costs

associated with the clinical development of our cell therapies, the development and enhancement of our manufacturing capabilities and securing a commercially viable manufacturing platform for all of our cell therapies, advancing additional cell therapies into preclinical testing and progressing such cell therapies through to clinical trials, supporting commercialization for ADP-A2M4 and to fund working capital, including for other general corporate purposes.

Operating leases

As of December 31, 2023 the Company had material operating lease obligations of $25.2 million under non-cancellable leases for laboratory and office property in Oxfordshire, United Kingdom, Philadelphia, United States and Massachusetts, United States. Further details of our operating leases are provided in Item 2 and in Note 8 of Item 16 of this Annual Report.

Purchase obligations

As of December 31, 2023, the Company's unconditional purchase obligations for capital expenditure totaled $0.9 million and are primarily composed of future payments for intangible assets including software licenses, of which the Company expects to incur $0.6 million within one year, and $0.3 million within one to three years.

The Company also had non-cancellable commitments for the purchase of clinical materials, contract manufacturing and maintenance which have been committed but not yet received, and committed funding under the MD Anderson strategic alliance, of up to $13.7 million, of which the Company expects to incur $12.4 within one year, $1.3 million within one to three years and $0.1 million within three to five years. The amount and timing of these payments vary depending on the rate of progress of development.

Future payments associated with clinical trials are not considered purchase commitments because they are contingent on enrollment in clinical trials and the activities required to be performed by the clinical sites.

MD Anderson

In 2016, we entered into a multi-year strategic alliance with MD Anderson designed to expedite the development of T-cell therapies for multiple types of cancer. We and MD Anderson are collaborating on a number of studies including clinical and preclinical development of our T-cell therapies and we will collaborate on future clinical stage first and second generation T-cell therapies such as ADP-A2M4 across a number of cancers, including urothelial, lung, ovarian, head and neck, melanoma, synovial sarcoma, esophageal and gastric cancers. Under the terms of the agreement, we committed at least $19.6 million to fund studies. The Company made an upfront payment of $3.4 million to MD Anderson in the year ended December 31, 2017 and milestone payments of $2.3 million, $3.5 million, $0.5 million and $2.3 million in the years ended December 31, 2018, 2020, 2021 and 2022, respectively. Payment of this funding is contingent on mutual agreement to study orders under the alliance agreement and the performance of set milestones by MD Anderson. The timing and amount of future payments is uncertain.

Other obligations

On August 26, 2019, we entered into a collaboration and license agreement relating to the development of next-generation T-cell products with Noile-Immune Biotech, Inc. An upfront exclusive license option fee of $2.5 million was paid to Noile-Immune in 2019. This has been recognized within Research and Development in the Consolidated Statement of Operations for the year ended December 31, 2019. Under the agreement, development and commercialization milestone payments up to a maximum of $312 million may be payable if all possible targets are selected and milestones achieved. Noile-Immune would also receive mid-single-digit royalties on net sales of resulting products.

On May 14, 2019, we entered into a Collaboration Agreement relating to the development of next-generation T-cell products with Alpine. We paid an upfront exclusive license option fee of $2.0 million to Alpine in June 2019. Under the agreement, Adaptimmune will pay Alpine for ongoing research and development funding costs and development and commercialization milestone payments up to a maximum of $288 million, which may be payable if all possible targets

are selected and milestones achieved. The upfront payment of $2.0 million and the payments for ongoing research are recognized within Research and development. A further payment of $1 million was paid and recognized within Research and development in the Consolidated Statement of Operations for the year ended December 31, 2022. Alpine would also receive low single-digit royalties on worldwide net sales of applicable products.

As part of the process of obtaining regulatory approval for its products, the Company has entered into various agreements for the development of assays for commercial supply, some of which have milestone or other payments that trigger on or after regulatory approval is received from the FDA, and upon the occurrence of future sales or commercial usage of the respective assay.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. Our preparation of these consolidated financial statements requires us to make estimates, assumptions and judgments that affect the reported amounts of assets, liabilities, expenses and related disclosures at the date of the consolidated financial statements, as well as revenue and expenses during the reporting periods. We evaluate our estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results could therefore differ materially from these estimates under different assumptions or conditions.

While our accounting policies are described in more detail in Note 2 to our consolidated financial statements, we believe the following accounting policy was the most critical to the judgments and estimates used in the preparation of our financial statements in the year ended December 31, 2023.

Identification of performance obligations – research collaborations and related agreements

When the Company enters into research collaboration agreements with customers, both new agreements and amendments to pre-existing agreements, these contracts typically include various promises to customers, both explicit and implicit. As the Company's research collaborations normally relate to early-stage research and development for novel cell therapies, they often include services, licenses and other promises to customers that the Company has not previously provided. As such, when the Company enters into a new collaboration with customers, an assessment is performed to determine both what the explicit promises in the contract are, which may or may not be indicated by the pricing structure of the contract, and whether the contract contains any implicit promises to the customer. This assessment involves significant judgment about what the substance of the collaboration with the customer is, what goods or services the customer is ultimately engaging with the Company for and which of those goods and services are distinct in the context of the contract.

The Company recognizes revenue as the identified performance obligations are satisfied, which occurs as the Company transfers the promised good or service. The Company transfers a promised good or services as the customer obtains control of the good or service. The nature of the performance obligation and the Company's promise to the customer will determine whether the performance obligation is satisfied, and therefore revenue recognized, over time or at a point in time. The Company recognizes revenue over time using a single measure of progress for each performance obligation that most faithfully depicts the Company's performance in transferring control of goods or services promised to the customer. This assessment requires significant judgement and involves consideration of both output and input methods to determine which measure is most appropriate for the performance obligation being satisfied. As the Company's collaboration agreements typically have multi-year terms or include performance obligations which are not expected to be settled in a short period of time, the timing of, and measure of progress for, when the Company satisfies performance obligations, can have a significant impact on how the Company recognizes revenue.

An exercise to identify performance obligations and determine how performance obligations are satisfied was required in the years ending December 31, 2023, and 2021 for the GSK Termination and Transfer Agreement and the Genentech Collaboration and License agreement, respectively.

Revenue of $0.6 million was recognized in relation to the GSK Termination and Transfer agreement in the year ended December 31, 2023, with current and non-current deferred income associated with the agreement of $9.8 million and $18.2 million at December 31, 2023, respectively.

Other Accounting Policies, Judgments and Estimates

For the years ended December 31, 2023 and 2022 these accounting policies were not considered to be critical to the judgments and estimates used in the preparation of our financial statements, but were considered to be so for the year ended December 31, 2021.

Revenue Recognition

Determination of the cost to complete

Revenue allocated to performance obligations relating to provision of development activities is recognized using an estimate of the percentage of completion of the project based on the costs incurred on the project as a percentage of the total expected costs. The determination of the percentage of completion requires management to estimate the costs-to-complete the project. A detailed estimate of the costs-to-complete is re-assessed every reporting period based on the latest project plan and discussions with project teams. If a change in facts or circumstances occurs, the estimate will be adjusted and the revenue will be recognized based on the revised estimate. The difference between the cumulative revenue recognized based on the previous estimate and the revenue recognized based on the revised estimate would be recognized as an adjustment to revenue in the period in which the change in estimate occurs. Determining the estimate of the cost-to-complete requires significant judgment and may have a significant impact on the amount and timing of revenue recognition. However, a 10% change in the cost-to-complete at December 31, 2023, would not have a significant impact on revenue recognized in the year ended December 31, 2023.

Allocation of transaction price using the relative standalone selling price

Upfront payments are allocated between performance obligations using the Company's best estimate of the relative standalone selling price of the performance obligation. The relative standalone selling price is estimated by determining the market values of development and license obligations. As these inputs are not directly observable, the estimate is determined considering all reasonably available information including internal pricing objectives used in negotiating the contract, together with internal data regarding the cost and margin of providing services for each deliverable, taking into account the different stage of development of each development program and consideration of adjusted-market data from comparable arrangements. Where performance obligations have been identified relating to material rights, the determination of the relative standalone selling price of these performance obligations also includes an assessment of the likelihood that the options will be exercised and any payments by the customer that are triggered upon exercising the right. This assessment involves significant judgment and could have a significant impact on the amount and timing of revenue recognition.

An assessment of the allocation of transaction price using the relative standalone selling price was required in the years ending December 31, 2023 and 2021 for the GSK Termination and Transfer Agreement and the Genentech agreement, respectively, although the assessment for the GSK Termination and Transfer Agreement in 2023 was not considered to be a critical estimate. The modification and termination of the GSK agreement in 2022 did not require an assessment using the relative standalone selling price as the modification and termination did not result in any performance obligations being identified and there was only one remaining performance obligation that was not completely satisfied prior to the modification and termination.

Operating Leases (Incremental Borrowing Rate)

Since the rates implicit in our leases are not readily determinable, we use the Company’s incremental borrowing rates (the rate of interest that we would have to pay to borrow on a collateralized basis over a similar term for an amount

equal to the lease payments in a similar economic environment) based on the information available at commencement date in determining the discount rate used to calculate the present value of lease payments. As we have no external borrowings, the incremental borrowing rates are determined using information on indicative borrowing rates that would be available to us based on the value, currency and borrowing term provided by financial institutions, adjusted for company and market specific factors.

Although we do not expect our estimates of the incremental borrowing rates to generate material differences within a reasonable range of sensitivities, judgement is involved in selecting an appropriate rate, and the rate selected for each lease will have an impact on the value of the lease liability and corresponding right-of-use (ROU) asset in the Consolidated Balance Sheets.

Deferred Taxes

Deferred tax is accounted for using the asset and liability method that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement carrying amount and the tax bases of assets and liabilities at the applicable tax rates. As of December 31, 2023, we have deferred tax assets of $302.0 million, offset by deferred tax liabilities of $7.1 million and a valuation allowance of $294.9 million.

A valuation allowance is provided when it is more-likely-than-not that some portion or all of the deferred tax assets will not be realized. Future realization of the tax benefit of a deferred tax asset depends on the existence of sufficient taxable income of the appropriate character (for example, ordinary income or capital gain) within the carryback or carryforward period available under the tax law. The Company considers the following possible sources of taxable income when assessing whether there is sufficient taxable income to realize a tax benefit for deductible temporary differences and carryforwards:

- future reversals of existing taxable temporary differences;
- future taxable income exclusive of reversing temporary differences and carryforwards;
- taxable income in prior carryback year(s) if carryback is permitted under the tax law; and
- tax-planning strategies.

The Company considers both positive and negative evidence regarding realization of the deferred tax assets and the subjectivity of this evidence. This assessment includes estimating future taxable income, scheduling reversals of temporary differences, evaluating expectations of future profitability, determining refund potential in the event of net operating loss carrybacks, and evaluating potential tax-planning strategies.

The Company has generated losses in the United Kingdom since inception and is forecasted to generate tax losses for the next several years and therefore the deferred tax assets arising in the United Kingdom are only considered more-likely-than-not of being realized to the extent that reversing temporary taxable differences are available.

TCR^2 has incurred net losses since acquisition and generates research and development tax credits. No net deferred tax assets are recognized on TCR^2's losses and tax credit carryforwards because there is currently no indication that we will make sufficient taxable profits to utilize these tax losses and tax credit carryforwards.

Adaptimmune LLC has generated taxable income since the fiscal year ended June 30, 2014 due to a Service Agreement between our U.S. and U.K. operating subsidiaries and is forecast to generate taxable income in future periods. In determining whether the deferred tax asset is more-likely-than-not of being recognized, the Company has taken into account the recent history of taxable profits, the forecast of future taxable income, including whether future originating temporary deductible differences are likely to be realized, and the reversal of temporary taxable deductions. Several of the temporary deductible differences reverse over a long time period, such as those relating to share-based compensation expense, which the Company forecasts are likely to reverse over the next five years. The Company

considers that forecasting taxable income beyond the next few years is very subjective due to the nature and extent of the development process subcontracted from the Company in the United Kingdom to Adaptimmune LLC. Less weight has been given to forecasts of taxable income beyond the next few years.

The Company's analysis is subject to estimates and judgments particularly relating to the timing of the reversal of temporary deductible differences for stock compensation expense and the availability of future taxable income beyond the next few years, which depend on the nature and extent of the subcontract development work performed by Adaptimmune LLC.

The deferred tax asset arising in Adaptimmune LLC is only considered more-likely-than-not of being realized to the extent that there are available reversing temporary taxable differences. As the Company believes that our cash and cash equivalents and marketable securities will be sufficient to fund our operations, based upon our currently anticipated research and development activities and planned capital spending, into early 2026, the Company considered Adaptimmune LLC's future taxable income over this period. Based on this assessment, the Company determined that there is not sufficient objectively verifiable positive evidence of future taxable income exclusive of reversing temporary differences and carryforwards that Adaptimmune LLC will generate each year such that it would be more-likely-than-not that the current deferred tax asset in the Adaptimmune LLC may be utilized. Therefore, the Company concluded that a full valuation allowance should be maintained against the deferred tax asset of Adaptimmune LLC.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risks in the ordinary course of our business, which are principally limited to interest rate fluctuations, foreign currency exchange rate fluctuations, particularly between pound sterling and U.S. dollar, and credit risk. These risks are managed by maintaining an appropriate mix of cash deposits and securities in various currencies, placed with a variety of financial institutions for varying periods according to expected liquidity requirements.

As of December 31, 2023, we held $2.9 million in marketable securities, with the aim of diversifying our investments and reducing credit risks. We have not entered into investments for trading or speculative purposes.

Interest Rate Risk

Our surplus cash and cash equivalents are invested in interest-bearing savings, money market funds, corporate debt securities and commercial paper from time to time. Our investments in corporate debt securities are subject to fixed interest rates. Our exposure to interest rate sensitivity is impacted by changes in the underlying U.K. and U.S. bank interest rates and the fair market value of our corporate debt securities will fall in value if market interest rates increase. We do not believe an immediate one percentage point change in interest rates would have a material effect on the fair market value of our portfolio, and therefore we do not expect our operating results or cash flows to be significantly affected by changes in market interest rates.

Currency Risk

We are exposed to foreign exchange rate risk because we currently operate in the United Kingdom and the United States. Our expenses are generally denominated in the currency in which our operations are located, which are the United Kingdom and the United States. However, our U.K.-based subsidiary incurs significant research and development costs in U.S. dollars and, to a lesser extent, Euros.

The results of operations and cash flows will be subject to fluctuations due to changes in foreign currency exchange rates, which could harm our business in the future. We seek to minimize this exposure by maintaining currency cash balances at levels appropriate to meet forthcoming expenses in U.S. dollars and pounds sterling. To date, we have not used forward exchange contracts or other currency hedging products to manage our exchange rate exposure,

although we may do so in the future. The exchange rate as of December 31, 2023, the last business day of the reporting period, was £1.00 to $1.27.

Credit Risk

Our cash and cash equivalents are held with multiple banks and we monitor the credit rating of those banks. Our investments in corporate debt securities and commercial paper are subject to credit risk. Our investment policy limits investments to certain types of instruments, such as money market instruments, corporate debt securities and commercial paper, places restrictions on maturities and concentration by type and issuer and specifies the minimum credit ratings for all investments and the average credit quality of the portfolio.

Trade receivables were $0.8 million and $7.4 million as of December 31, 2023 and 2022, respectively. Trade receivables arise in relation to the Astellas Collaboration Agreement, the Genentech and GSK Collaboration and License Agreements and the GSK Termination and Transfer Agreement. We have been transacting with Genentech since October 2021, Astellas since January 2020 and GSK since 2014, during which time no credit losses have been recognized. No balances were past due as of December 31, 2023. As of December 31, 2023, no allowance for expected credit losses is recognized on the basis that the possibility of credit losses arising on its receivables as of December 31, 2023.

Inflation risk

Inflation may generally affect us by increasing our cost of labor and research and development expenses. While we have experienced increased operating expenses in recent periods, which we believe are due in part to the recent growth in inflation, we do not believe that inflation has had a material effect on our business, financial condition or results of operations during the year ended December 31, 2023; however, operating expenses may continue to increase in future periods due to inflation.

Item 8. Financial Statements and Supplementary Data

The financial statements required to be filed pursuant to this Item 8 are appended to this report. An index of those financial statements is found in Item 15.

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

None

Item 9A. Controls and Procedures

Management's Report Regarding the Effectiveness of Disclosure Controls and Procedures.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this Annual Report.

Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective at December 31, 2023.

Management's Report Regarding the Effectiveness of Internal Control over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Securities Exchange Act Rule 13a-15(f). Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonably assurance of achieving their control objectives. Under the supervision and with the

participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control—Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission

Management has concluded that our internal control over financial reporting was effective at December 31, 2023. Management has also concluded that our audited financial statements included in this Report are fairly stated in all material respects in accordance with GAAP for each of the periods presented therein.

Changes in Internal Control Over Financial Reporting.

There has been no material change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that occurred during the fourth quarter of 2023 that has materially affected, or is reasonably likely to materially affect, internal control over financial reporting.

Item 9B. Other Information

During the three-month period ended December 31, 2023, none of our directors or officers adopted, modified or terminated a "Rule 10b5-1 trading arrangement" or a "non-Rule 10b5-1 trading arrangement" as such terms are defined in Item 408(a) of Regulation S-K.

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

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required under this item is incorporated herein by reference to our definitive proxy statement pursuant to Regulation 14A, to be filed with the Commission not later than 120 days after the close of our fiscal year ended December 31, 2023.

Insider Trading Policy

The Company has adopted an insider trading policy governing the purchase, sale and other disposition of the Company's securities, which includes a provision that restricts our directors, officers, and employees from engaging in hedging or monetization transactions involving our securities and from engaging in short sales of our securities. Our insider trading policy also prohibits our directors, officers, and employees from holding our securities in margin accounts or otherwise pledging our securities as collateral for loans. A copy of our insider trading policy is included as Exhibit 19.1 to this Annual Report.

Clawback Policy

While the Company does not presently have in place any significant incentive compensation agreements or awards related to the Company's overall financial performance, the Company's board of directors has adopted a clawback policy in order to comply with federal securities laws. As such, we have adopted a clawback policy in which we may seek the recovery and/or forfeiture of incentive compensation paid by us, including cash, equity or equity-based compensation, in the event that we restate our financial statements under certain circumstances. The clawback policy applies to our current and former officers. A copy of our clawback policy is included as Exhibit 97.1 to this Annual Report.

Item 11. Executive Compensation

The information required under this item is incorporated herein by reference to our definitive proxy statement pursuant to Regulation 14A, to be filed with the Commission not later than 120 days after the close of our fiscal year ended December 31, 2023.

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

The information required under this item is incorporated herein by reference to our definitive proxy statement pursuant to Regulation 14A, to be filed with the Commission not later than 120 days after the close of our fiscal year ended December 31, 2023.

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

The information required under this item is incorporated herein by reference to our definitive proxy statement pursuant to Regulation 14A, to be filed with the Commission not later than 120 days after the close of our fiscal year ended December 31, 2023.

Item 14. Principal Accounting Fees and Services

The information required under this item is incorporated herein by reference to our definitive proxy statement pursuant to Regulation 14A, to be filed with the Commission not later than 120 days after the close of our fiscal year ended December 31, 2023.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) 1. Financial Statements

As part of this Annual Report on Form 10-K, the consolidated financial statements are listed in the accompanying index to financial statements on page F-1.

2. Financial Statement Schedules

All schedules have been omitted because they are not required, not applicable, not present in amounts sufficient to require submission of the schedule, or the required information is otherwise included.

3. Exhibit Index

The following is a list of exhibits filed as part of this Annual Report on Form 10-K or are incorporated herein by reference:

Exhibit Number	Description of Exhibit
2.1†	Agreement and Plan of Merger, dated as of March 5, 2023, by and among Adaptimmune Therapeutics plc, CM Merger Sub, Inc. and TCR2 Therapeutics Inc. (incorporated by reference to Exhibit 2.1 to our Form 8-K filed with the SEC on March 6, 2023).
2.2	Amendment No. 1 to Agreement and Plan of Merger, dated as of April 5, 2023, by and among Adaptimmune, CM Merger Sub, Inc. and TCR^2 (incorporated by reference to Exhibit 2.2 to our Registration Statement on Form S-4 (file no. 333-271145)).
3.1	Articles of Association of Adaptimmune Therapeutics plc (incorporated by reference to Exhibit 3.1 to our Form 8-K filed with the SEC on June 16, 2016)
4.1	Form of certificate evidencing ordinary shares (incorporated by reference to Exhibit 4.1 to our Registration Statement on Form F-1 (file no: 333-203267)).
4.2	Form of Deposit Agreement among Adaptimmune Therapeutics plc, Citibank, N.A., as the depositary bank and Holders and Beneficial Owners of ADSs issued thereunder (incorporated by reference to Exhibit 4.2 to our Registration Statement on Form F-1 (file no: 333-203267)).
4.3	Form of American Depositary Receipt (included in Exhibit 4.2) (incorporated by reference to Exhibit 4.3 to our Registration Statement on Form F-1 (file no: 333-203267)).
4.4*	Description of the Registrant's Securities.
10.1†	Collaboration Agreement, dated January 5, 2018, between Adaptimmune Limited and Cell Therapy Catapult Limited (incorporated by reference to Exhibit 10.1 to our Annual Report on Form 10-K for the year ended December 31, 2017 filed with the SEC on March 15, 2018).
10.2†	Collaboration Agreement dated May 14, 2019 between Adaptimmune Limited and AIS Operating Co., Inc., f/k/a Alpine Immune Sciences, Inc. (incorporated by reference to Exhibit 10.1 to our Form 10-Q filed with the SEC on August 1, 2019).
10.3†	Collaboration agreement dated as of August 26, 2019, by and between Adaptimmune Limited and Noile-Immune Biotech, Inc. (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on August 27, 2019).
10.4†	Collaboration and License Agreement, dated January 13, 2020, by and between Universal Cells, Inc. and Adaptimmune Limited (incorporated by reference to Exhibit 10.4 to our Annual Report on Form 10-K for the year ended December 31, 2019 filed with the SEC on February 27, 2020).
10.5†	Amended and Restated Research Collaboration and License Agreement, dated January 13, 2020, by and between Adaptimmune Limited and Universal Cells, Inc. and effective as of November 25, 2015 (incorporated by reference to Exhibit 10.5 to our Annual Report on Form 10-K for the year ended December 31, 2019 filed with the SEC on February 27, 2020).

Exhibit Number	Description of Exhibit
10.6†	First Amendment to Commercial Development and Supply Agreement, dated November 23, 2019, between Adaptimmune Limited and Life Technologies Corporation and effective as of November 18, 2019 (incorporated by reference to Exhibit 10.6 to our Annual Report on Form 10-K for the year ended December 31, 2019 filed with the SEC on February 27, 2020).
10.7†	Commercial Development and Supply Agreement, dated June 16, 2016, by and between Life Technologies Corporation and Adaptimmune Limited and effective as of June 1, 2016 (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on June 21, 2016).
10.8†	Strategic Alliance Agreement, dated September 23, 2016, by and between Adaptimmune LLC and The University Of Texas M.D. Anderson Cancer Center (incorporated by reference to Exhibit 10.11 to our Form 10-Q filed with the SEC on November 10, 2016).
10.9†	Strategic Collaboration and License Agreement, dated September 3, 2021, by and between Adaptimmune Limited and Genentech, Inc. and F. Hoffman-La Roche Limited (incorporated by reference to Exhibit 10.1 to our Form 10-Q filed with the SEC on November 4, 2021).
10.10	Employment Agreement dated as of December 16, 2020 by and between Adaptimmune, LLC and Elliot Norry, and effective January 1, 2021, (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on December 16, 2020).
10.11	Employment Agreement dated as of August 1, 2019 by and between Adaptimmune, LLC and John Lunger (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on August 1, 2019).
10.12	Employment Agreement dated as of June 26, 2019 by and between Adaptimmune, LLC and Adrian Rawcliffe (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on June 27, 2019).
10.13	Letter of Appointment dated July 5, 2018 and effective from July 5, 2018 between the Company and John Furey (incorporated by reference to Exhibit 99.1 to our Form 8-K filed with the SEC on July 6, 2018).
10.14	Employment Agreement dated as of March 15, 2017 by and between Adaptimmune, LLC and William Bertrand (incorporated by reference to Exhibit 99.2 to our Form 8-K filed with the SEC on March 15, 2017).
10.15	Service Agreement dated March 15, 2017 between Adaptimmune Limited and Helen Tayton-Martin (incorporated by reference to Exhibit 99.3 to our Form 8-K filed with the SEC on March 15, 2017).
10.16	Executive Severance policy of Adaptimmune Therapeutics plc, dated March 10, 2017, and effective March 10, 2017 (incorporated by reference to Exhibit 10.21 to our Annual Report on Form 10-K for the year ended December 31, 2016 filed with the SEC on March 13, 2017).
10.17	Letter of Appointment, dated August 9, 2016 and effective August 11, 2016, between the Company and David M. Mott (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on August 12, 2016).

Exhibit Number	Description of Exhibit
10.18	Letter of Appointment, dated August 9, 2016 and effective August 11, 2016, between the Company and Lawrence M. Alleva (incorporated by reference to Exhibit 10.2 to our Form 8-K filed with the SEC on August 12, 2016).
10.19	Letter of Appointment, dated August 9, 2016 and effective August 11, 2016, between the Company and Ali Behbahani (incorporated by reference to Exhibit 10.3 to our Form 8-K filed with the SEC on August 12, 2016).
10.20	Service Agreement dated February 17, 2020, between Adaptimmune Limited and Gavin Wood, and effective April 1, 2020, (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on February 18, 2020).
10.21	Adaptimmune Therapeutics plc Company Share Option Plan, dated March 16, 2015, as amended on April 15, 2015, as further amended on January 13, 2016 (incorporated by reference to Exhibit 4.32 to our Transition Report on Form 20-F filed with the SEC on March 17, 2016).
10.22	Adaptimmune Therapeutics plc 2015 Share Option Scheme, dated March 16, 2015, as amended on April 15, 2015, January 13, 2016, December 18, 2017 and June 29, 2023 (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on June 29, 2023).
10.23	Adaptimmune Therapeutics plc 2016 Employee Share Option Scheme, dated January 14, 2016, as amended on December 18, 2017 and June 29, 2023 (incorporated by reference to Exhibit 10.2 to our Form 8-K filed with the SEC on June 29, 2023).
10.24	Adaptimmune Limited Share Option Scheme (Incorporating Management Incentive Options), as amended on January 13, 2016 (incorporated by reference to Exhibit 4.28 to our Transition Report on Form 20-F filed with the SEC on March 17, 2016).
10.25	Adaptimmune Limited 2014 Share Option Scheme (Incorporating Enterprise Management Incentive Options), as amended on January 13, 2016 (incorporated by reference to Exhibit 4.29 to our Transition Report on Form 20-F filed with the SEC on March 17, 2016).
10.26	Adaptimmune Limited Company Share Option Plan, dated December 16, 2014, as amended on January 13, 2016 (incorporated by reference to Exhibit 4.30 to our Transition Report on Form 20-F filed with the SEC on March 17, 2016).
10.27	Deed of Variation, dated August 20, 2021, between MEPC Milton Park No. 1 Limited and MEPC Milton Park No. 2 Limited and Adaptimmune Limited relating to a lease of 39 Innovation Drive, Milton Park (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on August 20, 2021).
10.28	Rent Security Deposit Deed dated August 20, 2021, between MEPC Milton Park No 1 Limited and MEPC Milton Park No. 2 Limited, Adaptimmune Limited and Adaptimmune Therapeutics plc relating to 39 Innovation Drive and 60 Jubilee Avenue, Milton Park (incorporated by reference to Exhibit 10.2 to our Form 8-K filed with the SEC on August 20, 2021).

Exhibit Number	Description of Exhibit
10.29	Agreement dated August 13, 2021, between MEPC Milton Park No 1 Limited and MEPC Milton Park No. 2 Limited, Adaptimmune Limited and Adaptimmune Therapeutics plc relating to 39 Innovation Drive and 60 Jubilee Avenue, Milton Park (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on August 13, 2021).
10.30	Deed of Variation dated August 13, 2021, between MEPC Milton Park No 1 Limited and MEPC Milton Park No. 2 Limited, Adaptimmune Limited and Adaptimmune Therapeutics plc relating to a lease of 60 Jubilee Avenue, Milton Park (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on August 13, 2021).
10.31	Lease, dated February 28, 2018, between MEPC Milton Park No. 1 Limited, MEPC Milton Park No. 2 Limited and Adaptimmune Limited relating to 39 Innovation Drive, Milton Park (incorporated by reference to Exhibit 10.3 to our Annual Report on Form 10-K for the year ended December 31, 2017 filed with the SEC on March 15, 2018).
10.32	Rent Security Deposit Deed, dated February 28, 2018, between MEPC Milton Park No. 1 Limited, MEPC Milton Park No. 2 Limited and Adaptimmune Limited relating to 39 Innovation Drive, Milton Park (incorporated by reference to Exhibit 10.4 to our Annual Report on Form 10-K for the year ended December 31, 2017 filed with the SEC on March 15, 2018).
10.33	Lease, dated October 24, 2016, by and between MEPC Milton Park No. 1 Limited and MEPC Milton Park No. 2 Limited, Adaptimmune Limited and Adaptimmune Therapeutics plc relating to 60 Jubilee Avenue Milton Park (incorporated by reference to Exhibit 10.12 to our Form 10-Q filed with the SEC on November 10, 2016).
10.34	Lease Agreement, dated July 28, 2015, between L/S 351 Rouse Boulevard, LP, and Adaptimmune LLC relating to 351 Rouse Boulevard, Philadelphia, Pennsylvania (incorporated by reference to Exhibit 4.14 to our Transition Report on Form 20-F filed with the SEC on October 13, 2015).
10.35†	Amendment Agreement No. 6, dated July 20, 2018 between Adaptimmune Limited and GlaxoSmithKline Intellectual Property Development Ltd. (incorporated by reference to Exhibit 10.1 to our Form 10-Q filed with the SEC on August 2, 2018).
10.36†	Amendment Agreement No. 5, dated September 7, 2017 between Adaptimmune Limited and GlaxoSmithKline Intellectual Property Development Ltd. (incorporated by reference to Exhibit 10.1 to our Form 10-Q filed with the SEC on November 2, 2017).
10.37†	Amendment Agreement No. 2, dated February 2, 2016 between Adaptimmune Limited and GlaxoSmithKline Intellectual Property Development Ltd (incorporated by reference to Exhibit 4.4 to our Transition Report on Form 20-F filed with the SEC on March 17, 2016).
10.38†	Amendment Agreement No. 1, dated May 8, 2015 between Adaptimmune Limited and GlaxoSmithKline Intellectual Property Development Ltd (incorporated by reference to Exhibit 4.3 to our Transition Report on Form 20-F filed with the SEC on March 17, 2016).
10.39†	Collaboration and License Agreement, dated May 30, 2014 between Adaptimmune Limited and GlaxoSmithKline Intellectual Property Development Ltd (incorporated by reference to Exhibit 10.2 to our Registration Statement on Form F-1 (file no: 333-203267)).
10.40	Employment Agreement dated as of May 4, 2022 by and between Adaptimmune Limited and Joanna Brewer (incorporated by reference to Exhibit 10.1 to our Form 8-K Filed with the SEC on May 4, 2022).

Exhibit Number	Description of Exhibit
10.41	Deed of Surrender of Part dated June 15, 2022, between MEPC Milton Park No 1 Limited and MEPC Milton Park No. 2 Limited and Adaptimmune Limited relating to a lease of 39 Innovation Drive, Milton Park (incorporated by reference to Exhibit 10.1 to our Form 8-K Filed with the SEC on June 15, 2022). .
10.42	Deed of Variation dated June 15, 2022, between MEPC Milton Park No 1 Limited and MEPC Milton Park No. 2 Limited and Adaptimmune Limited relating to a lease of 39 Innovation Drive, Milton Park (incorporated by reference to Exhibit 10.2 to our Form 8-K Filed with the SEC on June 15, 2022).
10.43	Amendment Agreement No. 8, dated December 19, 2022 between Adaptimmune Limited and GlaxoSmithKline Intellectual Property Development Ltd (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on December 20, 2022).
10.44	Letter of Appointment dated February 15, 2023 between Adaptimmune Therapeutics plc and Kristen Hege (incorporated by reference to Exhibit 10.1 to our Form 8-K, filed with the SEC on February 16, 2023).
10.45	Letter of Appointment, dated June 1, 2023, by and between Adaptimmune and Andrew Allen (incorporated by reference to Exhibit 10.2 to our Form 8-K filed with the SEC on June 1, 2023).
10.46	Letter of Appointment, dated June 1, 2023, by and between Adaptimmune and Priti Hegde (incorporated by reference to Exhibit 10.3 to our Form 8-K filed with the SEC on June 1, 2023).
10.47	Letter of Appointment, dated June 1, 2023, by and between Adaptimmune and Garry Menzel (incorporated by reference to Exhibit 10.4 to our Form 8-K filed with the SEC on June 1, 2023).
19.1*	Insider Trading Policy.
21.1*	List of Subsidiaries.
23.1*	Consent of KPMG LLP
31.1*	Certificate of Chief Executive Officer pursuant to 17 CFR 240.13a-14(a).
31.2*	Certificate of Chief Financial Officer pursuant to 17 CFR 240.13a-14(a).
32.1*	Certificate of Chief Executive Officer pursuant to 17 CFR 240.13a-14(b) and 18 U.S.C.1350.
32.2*	Certificate of Chief Financial Officer pursuant to 17 CFR 240.13a-14(b) and 18 U.S.C.1350.
97.1*	Clawback Policy.
101.INS*	XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document.
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document.

Exhibit Number	Description of Exhibit
104*	Cover Page Interactive Data File (formatted in Inline XBRL and contained in Exhibit 101).

* Filed herewith.

† Confidential treatment has been granted with respect to portions of this exhibit. A complete copy of this exhibit, including the redacted terms, has been filed separately with the Securities and Exchange Commission.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, hereunto duly authorized, on March 6, 2024.

ADAPTIMMUNE THERAPEUTICS PLC

By: /s/ Adrian Rawcliffe
Name: Adrian Rawcliffe
Title: Chief Executive Officer and Director

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Adrian Rawcliffe and Gavin Wood, and each of them, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on March 6, 2024, in the capacities indicated.

Signature	Title	Date
/s/ Adrian Rawcliffe Adrian Rawcliffe	Chief Executive Officer and Director *(Principal Executive Officer)*	March 6, 2024
/s/ Gavin Wood Gavin Wood	Chief Financial Officer (*Principal Accounting and Financial Officer*)	March 6, 2024
/s/ David M. Mott David M. Mott	Chairman of the Board of Directors	March 6, 2024
/s/ Andrew Allen, MD, PhD Andrew Allen, MD, PhD	Director	March 6, 2024
/s/ Lawrence M. Alleva Lawrence M. Alleva	Director	March 6, 2024
/s/ Ali Behbahani, MD Ali Behbahani, MD	Director	March 6, 2024
/s/John Furey John Furey	Director	March 6 2024
/s/ Priti Hegde, PhD Priti Hegde, PhD	Director	March 6, 2024
/s/ Kristen M. Hege, MD Kristen M. Hege, MD	Director	March 6, 2024
/s/ Garry Menzel, PhD Garry Menzel, PhD	Director	March 6, 2024

Index to the Financial Statements:

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors Adaptimmune Therapeutics plc:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Adaptimmune Therapeutics plc and subsidiaries (the Company) as of December 31, 2023 and 2022, the related consolidated statements of operations, comprehensive loss, changes in equity, and cash flows for each of the years in the three year period ended December 31, 2023, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the years in the three year period ended December 31, 2023, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

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

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

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

Critical Audit Matter

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

Identification of performance obligations

As discussed in Note 3 to the consolidated financial statements, on April 6, 2023, the Company entered into a transfer agreement with GSK at an aggregate transaction price at inception of $37,335,000 (£30,000,000). The Company recognizes revenue over time based on a pattern that best reflects the satisfaction of the performance obligations. Revenue of $0.6 million was recognized in relation to the transfer agreement in the year ended December 31, 2023, with current and non-current deferred income associated with the agreement of $9.8 million and $18.2 million as at December 31, 2023, respectively.

We identified the evaluation of the Company's identification of performance obligations as a critical audit matter. Evaluating the Company's identification of performance obligations required subjective and complex auditor judgment due to the nature of the agreement and the underlying contractual terms.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design of certain internal controls related to the revenue process, including controls related to the determination of performance obligations. We evaluated whether the performance obligations identified by the Company were determined appropriately in the context of the agreement by obtaining an understanding of the Company's commitments to any involved party by inspecting the agreement, and we evaluated the application of the revenue recognition accounting guidance for the agreement by comparing the Company's accounting treatment to relevant standards and interpretive guidance. Also, we involved an internal healthcare and life sciences professional with specialized skills and knowledge, who assisted in evaluating the implicit promise within the agreement, including the regulatory and other obligations, by inspecting the agreement and comparing the obligations to industry standards.

/s/ KPMG LLP

We have served as the Company's auditor since 2010.

Reading, United Kingdom
March 6, 2024

ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)

	December 31, 2023	December 31, 2022
Assets		
Current assets		
Cash and cash equivalents	$ 143,991	$ 108,033
Marketable securities - available-for-sale debt securities (amortized cost of $2,940 and $97,501) net of allowance for expected credit losses of $0 and $0	2,947	96,572
Accounts receivable, net of allowance for expected credit losses of $0 and $0	821	7,435
Other current assets and prepaid expenses	59,793	43,330
Total current assets	**207,552**	**255,370**
Restricted cash	3,026	1,569
Operating lease right-of-use assets, net of accumulated amortization of $13,220 and $9,470	20,762	18,019
Property, plant and equipment, net of accumulated depreciation of $46,020 and $38,588	50,946	53,516
Intangible assets, net of accumulated amortization of $5,155 and $4,676	330	442
Total assets	$ **282,616**	$ **328,916**
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable	$ 8,128	$ 4,753
Operating lease liabilities, current	5,384	2,728
Accrued expenses and other current liabilities	30,303	31,215
Restructuring provision	—	2,285
Deferred revenue, current	28,973	23,520
Total current liabilities	**72,788**	**64,501**
Operating lease liabilities, non-current	19,851	20,349
Deferred revenue, non-current	149,060	160,892
Other liabilities, non-current	1,404	1,296
Total liabilities	**243,103**	**247,038**
Stockholders' equity		
Common stock - Ordinary shares par value £0.001, 1,702,760,280 authorized and 1,363,008,102 issued and outstanding (2022: 1,282,773,750 authorized and 987,109,890 issued and outstanding)	1,865	1,399
Additional paid in capital	1,064,569	990,656
Accumulated other comprehensive loss	(3,748)	(875)
Accumulated deficit	(1,023,173)	(909,302)
Total stockholders' equity	**39,513**	**81,878**
Total liabilities and stockholders' equity	**$ 282,616**	**$ 328,916**

See accompanying notes to Consolidated Financial Statements.

ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except share and per share data)

	Year Ended		
	December 31, 2023	December 31, 2022	December 31, 2021
Development revenue	$ 60,281	$ 27,148	$ 6,149
Revenue	**60,281**	**27,148**	**6,149**
Research and development	(126,509)	(127,726)	(111,090)
General and administrative	(73,513)	(63,387)	(57,305)
Total operating expenses	**(200,022)**	**(191,113)**	**(168,395)**
Operating loss	**(139,741)**	**(163,965)**	**(162,246)**
Interest income	5,964	1,542	1,095
Gain on bargain purchase	22,049	—	—
Other income (expense), net	(807)	(536)	3,852
Loss before income tax expense	**(112,535)**	**(162,959)**	**(157,299)**
Income tax expense	(1,336)	(2,497)	(791)
Net loss attributable to ordinary shareholders	**$ (113,871)**	**$ (165,456)**	**$ (158,090)**
Net loss per ordinary share			
Basic and diluted	**$ (0.09)**	**$ (0.17)**	**$ (0.17)**
Weighted average shares outstanding:			
Basic and diluted	1,206,440,978	967,242,403	934,833,017

See accompanying notes to Consolidated Financial Statements.

ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(in thousands)

	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021
Net loss	**$ (113,871)**	**$ (165,456)**	**$ (158,090)**
Other comprehensive (loss)/income, net of tax			
Foreign currency translation adjustments, net of tax of $0, $0, and $0	(37,921)	60,421	5,808
Foreign currency gains (losses) on intercompany loan of a long-term investment nature, net of tax of $0, $0, and $0	34,112	(49,581)	(6,435)
Unrealized holding gains (losses) on available-for-sale debt securities, net of tax of $0, $0, and $0	1,134	(573)	(461)
Reclassification adjustment for gains on available-for-sale debt securities included in net loss, net of tax of $0, $0, and $0	(198)	—	(6)
Total comprehensive loss for the period	**$ (116,744)**	**$ (155,189)**	**$ (159,184)**

See accompanying notes to Consolidated Financial Statements.

ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(in thousands, except share data)

	Common stock	Common stock	Additional paid in capital	Accumulated other comprehensive (loss) income	Accumulated deficit	Total stockholders' equity
Balance as of January 1, 2021	**928,754,958**	**$ 1,325**	**$ 935,706**	**$ (10,048)**	**$ (585,756)**	**$ 341,227**
Issuance of shares upon exercise of stock options	5,723,646	8	751	—	—	759
Issue of shares under At The Market sales agreement, net of commission and expenses	3,069,330	4	2,525	—	—	2,529
Other comprehensive loss	—	—	—	(1,094)	—	(1,094)
Share-based compensation expense	—	—	20,629	—	—	20,629
Net loss	—	—	—	—	(158,090)	(158,090)
Balance as of December 31, 2021	**937,547,934**	**1,337**	**959,611**	**(11,142)**	**(743,846)**	**205,960**
Issuance of shares upon exercise of stock options	5,823,534	8	42	—	—	50
Issue of shares under At The Market sales agreement, net of commission and expenses	43,738,422	54	12,763	—	—	12,817
Other comprehensive profit	—	—	—	10,267	—	10,267
Share-based compensation expense	—	—	18,240	—	—	18,240
Net loss	—	—	—	—	(165,456)	(165,456)
Balance as of December 31, 2022	**987,109,890**	**1,399**	**990,656**	**(875)**	**(909,302)**	**81,878**
Issuance of shares upon exercise of stock options	14,614,410	18	238	—	—	256
Issue of shares under At The Market sales agreement, net of commission and expenses	3,854,496	5	619	—	—	624
Issuance of shares upon acquisition of TCR[2]	357,429,306	443	60,320	—	—	60,763
Other comprehensive loss	—	—	—	(2,873)	—	(2,873)
Share-based compensation expense	—	—	12,736	—	—	12,736
Net loss	—	—	—	—	(113,871)	(113,871)
Balance as of December 31, 2023	**1,363,008,102**	**$ 1,865**	**$ 1,064,569**	**$ (3,748)**	**$ (1,023,173)**	**$ 39,513**

See accompanying notes to Consolidated Financial Statements.

ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021
Cash flows from operating activities			
Net loss	$ (113,871)	$ (165,456)	$ (158,090)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	9,453	5,266	5,630
Amortization	387	809	937
Gain on bargain purchase	(22,049)	—	—
Share-based compensation expense	11,773	18,240	20,629
Unrealized foreign exchange losses/(gains)	198	(2,438)	540
(Accretion)/amortization on available-for-sale debt securities	(1,986)	2,525	5,276
Other	167	816	1,173
Changes in operating assets and liabilities:			
Increase in receivables and other operating assets	(1,291)	(9,813)	(19,358)
(Decrease)/increase in payables and other current liabilities	(9,087)	4,408	4,207
(Increase)/decrease in deferred revenue	(14,574)	3,874	149,785
Net cash used in operating activities	**(140,880)**	**(141,769)**	**10,729**
Cash flows from investing activities			
Acquisition of property, plant and equipment	(4,681)	(29,496)	(8,574)
Acquisition of intangible assets	(199)	(244)	(207)
Cash from acquisition of TCR^2 Therapeutics Inc.	45,264	—	—
Maturity or redemption of marketable securities	210,983	166,994	224,343
Investment in marketable securities	(75,953)	(48,117)	(139,762)
Other	1,124	—	—
Net cash provided by investing activities	**176,538**	**89,137**	**75,800**
Cash flows from financing activities			
Proceeds from issuance of common stock from offerings, net of commissions and issuance costs	624	12,817	2,529
Proceeds from exercise of stock options	256	50	759
Net cash provided by financing activities	**880**	**12,867**	**3,288**
Effect of currency exchange rate changes on cash, cash equivalents and restricted cash	877	(2,299)	365
Net increase/(decrease) in cash, cash equivalents and restricted cash	37,415	(42,064)	90,182
Cash, cash equivalents and restricted cash at start of period	109,602	151,666	61,484
Cash, cash equivalents and restricted cash at end of period	**$ 147,017**	**$ 109,602**	**$ 151,666**
Supplemental cash flow information			
Interest received	$ 4,748	$ 5,149	$ 7,765
Accretion/(amortization) on available-for-sale debt securities	1,986	(2,525)	(5,276)
Income taxes paid	(4,000)	(630)	(535)

See accompanying notes to Consolidated Financial Statements.

ADAPTIMMUNE THERAPEUTICS PLC
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — General

Adaptimmune Therapeutics plc is registered in England and Wales. Its registered office is 60 Jubilee Avenue, Milton Park, Abingdon, Oxfordshire, OX14 4RX, United Kingdom. Adaptimmune Therapeutics plc and its subsidiaries (collectively "Adaptimmune" or the "Company") is a clinical-stage biopharmaceutical company primarily focused on providing novel cell therapies to people with cancer. The Company is a leader in the development of T-cell therapies for solid tumors. The Company's proprietary platform enables it to identify cancer targets, find and develop cell therapy candidates active against those targets and produce therapeutic candidates for administration to patients.

The Company is subject to a number of risks similar to other biopharmaceutical companies in the early stage of clinical development including, but not limited to, the need to obtain adequate additional funding, possible failure of preclinical programs or clinical programs, the need to obtain marketing approval for its cell therapies, competitors developing new technological innovations, the need to successfully commercialize and gain market acceptance of its cell therapies, the need to develop a reliable commercial manufacturing process, the need to commercialize any cell therapies that may be approved for marketing, and protection of proprietary technology. If the Company does not successfully commercialize any of its cell therapies, it will be unable to generate product revenue or achieve profitability. The Company had an accumulated deficit of $1,023,173,000 as of December 31, 2023.

Note 2 — Summary of Significant Accounting Policies

(a) Basis of presentation

The Consolidated Financial Statements of Adaptimmune Therapeutics plc and its subsidiaries and other financial information included in this Annual Report have been prepared in accordance with generally accepted accounting principles in the United States of America ("US GAAP") and are presented in U.S. dollars. All significant intercompany accounts and transactions between the Company and its subsidiaries have been eliminated on consolidation.

(b) Use of estimates in financial statements

The preparation of financial statements, in conformity with U.S. GAAP and SEC regulations, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the Consolidated Financial Statements and reported amounts of revenues and expenses during the reporting period. Estimates and assumptions are primarily made in relation to revenue recognition, estimation of the incremental borrowing rate for operating leases, and valuation allowances relating to deferred tax assets. If actual results differ from the Company's estimates, or to the extent these estimates are adjusted in future periods, the Company's results of operations could either benefit from, or be adversely affected by, any such change in estimate.

(c) Going concern

In accordance with Accounting Standards Codification ("ASC") 205-40, Going Concern, the Company has evaluated whether there are conditions and events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date the financial statements are issued.

Management considers that there are no conditions or events, in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern for a period of at least one year from the date the financial statements are issued. Although the financial statements have been prepared on a going concern basis, if the Company fails to obtain sufficient additional financing in future, this may raise substantial doubt over the Company's ability to continue as a going concern in future reporting periods.

(d) Foreign currency

The reporting currency of the Company is the U.S. dollar. The Company has determined the functional currency of the ultimate parent company, Adaptimmune Therapeutics plc, is U.S. dollars because it predominately raises finance and expends cash in U.S. dollars. The functional currency of subsidiary operations is the applicable local currency. Transactions in foreign currencies are translated into the functional currency of the subsidiary in which they occur at the foreign exchange rate in effect on at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are translated into the functional currency of the relevant subsidiary at the foreign exchange rate in effect on the balance sheet date. Foreign exchange differences arising on translation are recognized within other income (expense) in the Consolidated Statement of Operations.

The Company's U.K. subsidiary has an intercompany loan balance in U.S dollars payable to the ultimate parent company, Adaptimmune Therapeutics plc. Beginning on July 1, 2019, the intercompany loan was considered of a long-term investment nature as repayment is not planned or anticipated in the foreseeable future. It is Adaptimmune Therapeutics plc's intent not to request payment of the intercompany loan for the foreseeable future. The foreign exchange gain or losses arising on the revaluation of intercompany loans of a long-term investment nature are reported within other comprehensive (loss) income, net of tax.

The results of operations for subsidiaries, whose functional currency is not the U.S. dollar, are translated at an average rate for the period where this rate approximates to the foreign exchange rates ruling at the dates of the transactions and the balance sheet are translated at foreign exchange rates ruling at the balance sheet date. Exchange differences arising from this translation of foreign operations are reported as an item of other comprehensive (loss) income.

Foreign exchange losses for the years ended December 31, 2023 and 2022, of $807,000 and $536,000 and foreign exchange gains of $3,852,000, for the year ended December 31, 2021, respectively, are included within Other (expense) income, net in the Consolidated Statement of Operations.

(e) Fair value measurements

The Company is required to disclose information on all assets and liabilities reported at fair value that enables an assessment of the inputs used in determining the reported fair values. The fair value hierarchy prioritizes valuation inputs based on the observable nature of those inputs. The hierarchy defines three levels of valuation inputs:

Level 1 — Quoted prices in active markets for identical assets or liabilities

Level 2 — Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly

Level 3 — Unobservable inputs that reflect the Company's own assumptions about the assumptions market participants would use in pricing the asset or liability

The carrying amounts of the Company's cash and cash equivalents, restricted cash, accounts receivable, accounts payable and accrued expenses approximate fair value because of the short-term nature of these instruments. The fair value of marketable securities, which are measured at fair value on a recurring basis is detailed in Note 4, *Financial Instruments*.

(f) Accumulated other comprehensive (loss) income

The Company reports foreign currency translation adjustments and the foreign exchange gain or losses arising on the revaluation of intercompany loans of a long-term investment nature within Other comprehensive (loss) income. Unrealized gains and losses on available-for-sale debt securities are also reported within Other comprehensive (loss) income until a gain or loss is realized, at which point they are reclassified to Other (expense) income, net in the Consolidated Statement of Operations.

The following table shows the changes in Accumulated other comprehensive (loss) income (in thousands):

	Accumulated foreign currency translation adjustments	Accumulated unrealized (losses) gains on available-for-sale debt securities	Total accumulated other comprehensive (loss) income
Balance at January 1, 2021	$ (10,158)	$ 110	$ (10,048)
Foreign currency translation adjustments	5,808	—	5,808
Foreign currency gains on intercompany loan of a long-term investment nature, net of tax of $0	(6,435)	—	(6,435)
Unrealized holding gains on available-for-sale debt securities, net of tax of $0	—	(461)	(461)
Reclassification from accumulated other comprehensive (loss) income of gains on available-for-sale debt securities included in net income, net of tax of $0	—	(6)	(6)
Balance at December 31, 2021	**$ (10,785)**	**$ (357)**	**$ (11,142)**
Foreign currency translation adjustments	60,421	—	60,421
Foreign currency gains on intercompany loan of a long-term investment nature, net of tax of $0	(49,581)	—	(49,581)
Unrealized holding gains on available-for-sale debt securities, net of tax of $0	—	(573)	(573)
Balance at December 31, 2022	**$ 55**	**$ (930)**	**$ (875)**
Foreign currency translation adjustments	(37,921)	—	(37,921)
Foreign currency losses on intercompany loan of a long-term investment nature, net of tax of $0	34,112	—	34,112
Unrealized holding gains on available-for-sale debt securities, net of tax of $0	—	1,134	1,134
Reclassification from accumulated other comprehensive (loss) income of gains on available-for-sale debt securities included in net loss, net of tax of $0	—	(198)	(198)
Balance at December 31, 2023	**$ (3,754)**	**$ 6**	**$ (3,748)**

The following amounts were reclassified out of Other comprehensive (loss) income (in thousands):

	Amount reclassified			
Component of accumulated other comprehensive income	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021	Affected line item in the Statement of Operations
Unrealized gains on available-for-sale securities				
Reclassification adjustment for gains on available-for-sale debt securities	$ (198)	$ —	$ (6)	Other (expense) income, net

(g) Cash, cash equivalents and restricted cash

The Company considers all highly liquid investments with a maturity at acquisition date of three months or less to be cash equivalents. Cash and cash equivalents comprise cash balances, commercial paper and corporate debt securities with maturities of three months or less at acquisition and short deposits with maturities of three months or less.

The Company's restricted cash consists primarily of cash providing security for letters of credit in respect of lease agreements and credit cards.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the balance sheet that sum to the total of the same such amounts shown in the statement of cash flows (in thousands).

	December 31, 2023	December 31, 2022
Cash and cash equivalents	$ 143,991	$ 108,033
Restricted cash	3,026	1,569
Total cash, cash equivalents, and restricted cash shown in the statement of cash flows	**$ 147,017**	**$ 109,602**

(h) Available-for-sale debt securities

As of December 31, 2023, the Company has the following investments in available-for-sale debt securities, (in thousands):

	Remaining contractual maturity	Amortized cost	Gross unrealized gains	Gross unrealized losses	Aggregate estimated fair value
Cash equivalents:					
Corporate debt securities	Less than 3 months	$ 1,601	$ —	$ (1)	$ 1,600
		$ 1,601	**$ —**	**$ (1)**	**$ 1,600**
Available-for-sale debt securities:					
Corporate debt securities	3 months to 1 year	$ 2,940	$ 7	$ —	$ 2,947
		$ 2,940	**$ 7**	**$ —**	**$ 2,947**

As of December 31, 2022, the Company had the following investments in available-for-sale debt securities (in thousands):

	Remaining contractual maturity	Amortized cost	Gross unrealized gains	Gross unrealized losses	Aggregate estimated fair value
Available-for-sale debt securities:					
Corporate debt securities	Less than 3 months	$ 45,386	$ —	$ (72)	$ 45,314
U.S. Treasury securities	Less than 3 months	5,953	1	—	5,954
Agency bonds	3 months to 1 year	5,008	—	(154)	4,854
Corporate debt securities	3 months to 1 year	41,154	—	(704)	40,450
		$ 97,501	**$ 1**	**$ (930)**	**$ 96,572**

Management determines the appropriate classification of its investments in available-for-sale debt securities at the time of purchase and reevaluates such designation as of each reporting date. The securities are classified as current or non-current based on the maturity dates and management's intentions.

At December 31, 2023, the Company has classified all of its available-for-sale debt securities as current assets on the accompanying Consolidated Balance Sheets based on the highly-liquid nature of these investment securities and because these investment securities are considered available for use in current operations.

The investment in available-for-sale debt securities is measured at fair value at each reporting date. Unrealized gains and losses are excluded from earnings and are reported as a component of Other comprehensive (loss) income, net of tax. Realized gains and losses are included in Other income (expense), net. Interest income and amortization of premiums and discounts at acquisition are included in Interest income. In the year ended December 31, 2023, 2022 and 2021 proceeds from the maturity or redemption of available-for-sale debt securities were $210,983,000, $166,994,000 and $224,343,000, respectively. There were realized gains of $198,000, $nil and $6,000 recognized on settlement of available-for-sale debt securities during the years ended December 31, 2023, 2022 and 2021 respectively. The Company reclassified the gains and losses out of accumulated other comprehensive loss during the same periods.

At each reporting date, the Company assesses whether each individual investment is impaired, which occurs if the fair value is less than the amortized cost, adjusted for amortization of premiums and discounts at acquisition. If the investment is impaired, the impairment is assessed to determine if it is other than temporary. Impairments judged to be other than temporary are included in other (expense) income, net when they are identified.

The aggregate fair value (in thousands) and number of securities held by the Company (including those classified as cash equivalents) in an unrealized loss position as of December 31, 2023 and 2022 are as follows (in thousands):

	December 31, 2023			December 31, 2022		
	Fair market value of investments in an unrealized loss position	Number of investments in an unrealized loss position	Unrealized losses	Fair market value of investments in an unrealized loss position	Number of investments in an unrealized loss position	Unrealized losses
Marketable securities in a continuous loss position for 12 months or longer:						
Corporate debt securities	$ —	—	$ —	$ 74,481	16	$ (679)
Agency bond	—	—	—	4,854	1	(154)
Marketable securities in a continuous loss position for less than 12 months:						
Corporate debt securities	$ 1,600	1	$ (1)	$ 11,283	2	$ (97)
	$ 1,600	**1**	**$ (1)**	**$ 90,618**	**19**	**$ (930)**

As of December 31, 2023 and 2022, no allowance for expected credit losses has been recognized in relation to securities in an unrealized loss position. This is because the unrealized losses are not severe, do not represent a significant proportion of the total fair market value of the investments and all securities have an investment-grade credit rating. Furthermore, the Company does not intend to sell the debt security in an unrealized loss position, and it is unlikely that the Company will be required to sell the security before the recovery of the amortized cost.

The cost of securities sold is based on the specific-identification method. Interest on debt securities is included in interest income.

Our investment in available-for-sale debt securities is subject to credit risk. The Company's investment policy limits investments to certain types of instruments, such as money market instruments and corporate debt securities, places restrictions on maturities and concentration by type and issuer and specifies the minimum credit ratings for all investments and the average credit quality of the portfolio.

(i) Accounts receivable

Accounts receivable include amounts billed to customers and accrued receivables where only the passage of time is required before payment of amounts due.

Management analyses current and past due accounts and determines if an allowance for credit losses is required based on collection experience, credit worthiness of customers and other relevant information. As of December 31, 2023 and 2022, no allowance for expected credit losses is recognized on the basis that the possibility of credit losses arising on its receivables is considered to be remote. The process of estimating credit losses involves assumptions and judgments and the ultimate amounts of uncollectible accounts receivable could be in excess of the amounts provided.

(j) Clinical materials

Clinical materials for use in research and development with alternative future use are capitalized as either other current assets or other non-current assets, depending on the timing of their expected consumption. The Company assesses whenever events or changes in circumstances indicate that an asset's carrying amount may not be recoverable.

(k) Property, plant and equipment

Property, plant and equipment is stated at cost, less any impairment losses, less accumulated depreciation.

Depreciation is computed using the straight-line method over the estimated useful lives of the related assets. The following table provides the range of estimated useful lives used for each asset type:

Computer equipment	3 to 5 years
Laboratory equipment	5 years
Office equipment	5 years
Leasehold improvements	the expected duration of the lease

Assets under construction are not depreciated until the asset is available and ready for its intended use.

The Company assesses property, plant and equipment for impairment whenever events or changes in circumstances indicate that an asset's carrying amount may not be recoverable.

(l) Intangibles

Intangibles primarily include acquired software licenses and third party software in development, which are recorded at cost and amortized over the estimated useful lives of approximately three years.

Intangibles are assessed for impairment whenever events or changes in circumstances indicate that an asset's carrying amount may not be recoverable.

(m) Leases

The Company determines whether an arrangement is a lease at contract inception by establishing if the contract conveys the right to use, or control the use of, identified property, plant, or equipment for a period of time in exchange for consideration. Leases may be classified as finance leases or operating leases. All the Company's leases are classified as operating leases. Operating lease right-of-use (ROU) assets and operating lease liabilities recognized in the

Consolidated Balance Sheet represent the right to use an underlying asset for the lease term and an obligation to make lease payments arising from the lease respectively.

Operating lease ROU assets and operating lease liabilities are recognized at the lease commencement date based on the present value of minimum lease payments over the lease term. Since the rate implicit in the lease is not readily determinable, the Company uses its incremental borrowing rates (the rate of interest that the Company would have to pay to borrow on a collateralized basis over a similar term for an amount equal to the lease payments in a similar economic environment) based on the information available at commencement date in determining the discount rate used to calculate the present value of lease payments. As the Company has no external borrowings, the incremental borrowing rates are determined using information on indicative borrowing rates that would be available to the Company based on the value, currency and borrowing term provided by financial institutions, adjusted for company and market specific factors. The lease term is based on the non-cancellable period in the lease contract, and options to extend the lease are included when it is reasonably certain that the Company will exercise that option. Any termination fees are included in the calculation of the ROU asset and lease liability when it is assumed that the lease will be terminated.

The Company accounts for lease components (e.g. fixed payments including rent and termination costs) separately from non-lease components (e.g. common-area maintenance costs and service charges based on utilization) which are recognized over the period in which the obligation occurs.

At each reporting date, the operating lease liabilities are increased by interest and reduced by repayments made under the lease agreements.

The ROU asset is subsequently measured for an operating lease at the amount of the remeasured lease liability (i.e. the present value of the remaining lease payments), adjusted for the remaining balance of any lease incentives received, any cumulative prepaid or accrued rent if the lease payments are uneven throughout the lease term, and any unamortized initial direct costs.

The Company has operating leases in relation to property for office and research facilities. All of the leases have termination options, and it is assumed that the initial termination options for the buildings will be activated for most of these. The maximum lease term without activation of termination options is to 2041.

In May 2017, the Company entered into an agreement for the lease of a building at Milton Park, Oxfordshire, United Kingdom and in February 2018 the Company entered into the lease for that facility. The term of the lease expires on October 23, 2041, with termination options exercisable by the Company in October 2031 and October 2036.

In September 2015, the Company entered into an agreement for a 25-year lease, with early termination options, for a research and development facility in Oxfordshire, United Kingdom. In October 2016, the Company entered into the lease for that facility following the completion of construction. The term of the lease expires on October 23, 2041, with termination options exercisable by the Company in October 2031 and October 2036.

In July 2015, the Company entered into a 15-year lease agreement, with an early termination option at 123 months, for offices and research facilities in Philadelphia, United States. The lease commenced upon completion of construction in October 2016.

In August 2021, the Company entered into a two-year lease agreement for the lease of a building at Milton Park, Oxfordshire, United Kingdom with the term of the lease expiring on August 12, 2023. The lease contained termination options exercisable by the Company on a minimum of four months prior notice. During January 2023, the Company served notice to terminate the lease effective on May 31, 2023.

On June 1, 2023, as part of the acquisition of TCR^2, the Company became the lessee of three office, manufacturing and research facilities in Cambridge, Massachusetts. The term of each of these leases expires on January 15, 2024, September 30, 2024, and June 30, 2025, respectively.

The Company has elected not to recognize an ROU asset and lease liability for short-term leases. A short-term lease is a lease with a lease term of 12 months or less and which does not include an option to purchase the underlying asset that the lessee is reasonably certain to exercise.

Operating lease costs are recognized on a straight-line basis over the lease term, and they are categorized within Research and development and General and administrative expenses in the Consolidated Statement of Operations. The operating lease cash flows are categorized under Net cash used in operating activities in the Consolidated Statement of Cash Flows.

(n) Segmental reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker in making decisions regarding resource allocation and assessing performance. The Company's chief operating decision maker (the "CODM"), its Chief Executive Officer and the senior leadership team (comprising the Executive Team members and three senior vice presidents), manages the Company's operations on an integrated basis for the purposes of allocating resources. When evaluating the Company's financial performance, the CODM reviews total revenues, total expenses and expenses by function and the CODM makes decisions using this information on a global basis. Accordingly, the Company has determined that it operates in one operating segment.

(o) Revenue

Revenue is recognized so as to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. To achieve that core principle, an entity should apply the following steps:

Step 1: Identify the contract(s) with a customer.

Step 2: Identify the performance obligations in the contract.

Step 3: Determine the transaction price.

Step 4: Allocate the transaction price to the performance obligations in the contract.

Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation.

The application of these steps to our collaboration agreements is discussed in further detail by agreement in Note 3.

Variable consideration

The Company determines the variable consideration to be included in the transaction price by estimating the most likely amount that will be received and then applies a constraint to reduce the consideration to the amount which is probable of being received. The determination of whether a milestone is probable includes consideration of the following factors:

- whether achievement of a development milestone is highly susceptible to factors outside the entity's influence, such as milestones involving the judgment or actions of third parties, including regulatory bodies or the customer;
- whether the uncertainty about the achievement of the milestone is not expected to be resolved for a long period of time;
- whether the Company can reasonably predict that a milestone will be achieved based on previous experience; and

- the complexity and inherent uncertainty underlying the achievement of the milestone.

Percentage of completion

The determination of the percentage of completion requires the Company to estimate the costs-to-complete the project. The Company makes a detailed estimate of the costs-to-complete, which is re-assessed every reporting period based on the latest project plan and discussions with project teams. If a change in facts or circumstances occurs, the estimate will be adjusted and the revenue will be recognized based on the revised estimate. The difference between the cumulative revenue recognized based on the previous estimate and the revenue recognized based on the revised estimate would be recognized as an adjustment to revenue in the period in which the change in estimate occurs.

Contract assets and liabilities

The Company recognizes a contract asset, when the value of satisfied (or part satisfied) performance obligations is in excess of the payment due to the Company, and deferred revenue (contract liability) when the amount of unconditional consideration is in excess of the value of satisfied (or part satisfied) performance obligations. Once a right to receive consideration is unconditional, that amount is presented as a receivable.

Changes in deferred revenue typically arise due to:

- adjustments arising from a change in the estimate of the cost to complete the project, which results in a cumulative catch-up adjustment to revenue that affects the corresponding contract asset or deferred revenue;
- a change in the estimate of the transaction price due to changes in the assessment of whether variable consideration is constrained because it is not considered probable of being received;
- the recognition of revenue arising from deferred revenue; and
- the reclassification of amounts to receivables when a right to consideration to becomes unconditional.

A change in the estimate of variable consideration constrained (for example, if a development milestone becomes probable of being received) could result in a significant change in the revenue recognized and deferred revenue.

(p) Research and development expenditures

Research and development expenditures are expensed as incurred.

Expenses related to clinical trials are recognized as services are received. Nonrefundable advance payments for services are deferred and recognized in the Consolidated Statement of Operations as the services are rendered. This determination is based on an estimate of the services received and there may be instances when the payments to vendors exceed the level of services provided resulting in a prepayment of the clinical expense. If the actual timing of the performance of services varies from our estimate, the accrual or prepaid expense is adjusted accordingly.

Upfront and milestone payments to third parties for in-licensed products or technology which has not yet received regulatory approval and which does not have alternative future use in R&D projects or otherwise are expensed as incurred. The Company recognized a credit in relation to in-process R&D of $1,840,000 in the year ended December 31, 2023, and expensed $2,316,000 and $889,000 in the years ended December 31, 2022 and 2021, respectively.

Milestone payments made to third parties either on or subsequent to regulatory approval are capitalized as an intangible asset and amortized over the remaining useful life of the product.

Research and development expenditure is presented net of R&D tax and expenditure credits from the U.K. government, which are recognized over the period necessary to match the reimbursement with the related costs when it is probable that the Company has complied with any conditions attached and will receive the reimbursement. As a company that carries out extensive research and development activities, Adaptimmune Limited is able to surrender the trading losses that arise from its qualifying research and development activities for a payable tax credit. Reimbursable R&D tax and expenditure credits were $15,542,000, $30,226,000, and $34,082,000 in the years ended December 31, 2023, 2022 and 2021, respectively.

(q) Share-based compensation

The Company awards certain employees options over the ordinary shares of the parent company. The cost of share-based awards issued to employees are measured at the grant-date fair value of the award and recognized as an expense over the requisite service period. The fair value of the options is determined using the Black-Scholes option-pricing model. Share options with graded-vesting schedules are recognized on a straight-line basis over the requisite service period for each separately vesting portion of the award. The Company has elected to account for forfeitures of stock options when they occur by reversing compensation cost previously recognized, in the period the award is forfeited, for an award that is forfeited before completion of the requisite service period.

(r) Retirement benefits

The Company operates defined contribution pension schemes for its directors and employees. The contributions to this scheme are expensed to the Consolidated Statement of Operations as they fall due. The pension contributions for the years ended December 31, 2023, 2022, and 2021 were $2,628,000, $2,810,000 and $2,505,000, respectively.

(s) Interest income

Interest income arises on cash, cash equivalents and available-for-sale debt securities and is net of amortization (accretion) of the premium (discount) on purchase of the debt securities of ($1,986,000), $2,525,000, and $5,276,000 in the years ended December 31, 2023, 2022 and 2021, respectively.

(t) Income taxes

Income taxes for the period comprise current and deferred tax. Income tax is recognized in the Consolidated Statement of Operations except to the extent that it relates to items occurring during the year recognized either in other comprehensive income or directly in equity, in which case it is recognized in other comprehensive income or equity. We release stranded tax effects from accumulated other comprehensive income using the portfolio approach.

Current tax is the expected tax payable or receivable on the taxable income or loss for the current or prior periods using tax rates enacted at the balance sheet date.

Deferred tax is accounted for using the asset and liability method that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement carrying amount and the tax bases of assets and liabilities at the applicable tax rates and for operating loss and tax credit carryforwards. A valuation allowance is provided to reduce deferred tax assets to the amount that is more likely than not to be realized. The Company evaluates the realizability of its deferred tax assets and adjusts the amount of the valuation allowance, if necessary. The factors used to assess the likelihood of realization include the Company's forecast of income, carryback availability, reversing taxable temporary differences and available tax-planning strategies that could be implemented to realize the deferred tax assets.

Income tax positions must meet a more-likely-than-not recognition threshold to be recognized. Income tax positions that previously failed to meet the more-likely-than-not threshold are recognized in the first subsequent financial reporting period in which that threshold is met. Previously recognized tax positions that no longer meet the more-likely-than-not threshold are derecognized in the first subsequent financial reporting period in which that threshold is no longer met. Recognized income tax positions are measured at the largest amount that is greater than 50 percent likely of being

realized. We recognize potential accrued interest and penalties related to income taxes within the Consolidated Statement of Operations as income tax expense.

(u) Loss per share

Basic loss per share is determined by dividing net loss attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the period. Diluted loss per share is determined by dividing net loss attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the period, adjusted for the dilutive effect of all potential ordinary shares that were outstanding during the period. Potentially dilutive shares are excluded when the effect would be to increase diluted earnings per share or reduce diluted loss per share.

The following table reconciles the numerator and denominator in the basic and diluted loss per share computation (in thousands):

	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021
Numerator for basic and diluted loss per share			
Net loss	$ (113,871)	$ (165,456)	$ (158,090)
Net loss attributable to shareholders used for basic and diluted EPS calculation	**$ (113,871)**	**$ (165,456)**	**$ (158,090)**
Denominator for basic and diluted loss per share			
Weighted average number of shares used to calculate basic and diluted loss per share	1,206,440,978	967,242,403	934,833,017

The effects of the following potentially dilutive equity instruments have been excluded from the diluted loss per share calculation because they would have an antidilutive effect on the loss per share for the period:

	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021
Weighted average number of share options[(1)]	185,994,528	155,673,264	115,225,480

From January 1, 2024 through to March 4, 2024 the Company granted 37,097,688 options over ordinary shares with an exercise price determined by reference to the market value of an ADS at the closing rate on the last business day prior to the date of grant, and 26,984,352 options over ordinary shares with an exercise price equal to the nominal value of the ordinary shares (£0.001 per share). These grants have not been included in the figures above.

(v) Restructuring costs

Restructuring costs are comprised of amounts payable to employees because of redundancy related to restructuring programs. The Company classifies redundancy payments as either, contractual termination benefits if they relate to an ongoing benefit arrangement, including terms of employment contracts or termination benefits that arise from employment law in the relevant jurisdiction, or, one-time employee termination benefits if the benefits are not related to an ongoing benefit arrangement or represent a one-time enhancement to an ongoing benefit arrangement.

A liability for contractual termination benefits is recognized when it is probable that employees will be entitled to benefits and the amount can be reasonably estimated.

A liability for one-time employee termination benefits is recognized from the communication date. If employees are not required to render service until they are terminated or will not be retained to render service beyond the minimum retention period in order to receive the termination benefits, a liability for one-time employee termination

benefits is recognized at the communication date. If employees are required to render services beyond the minimum retention period in order to receive the termination benefits, a liability is measured initially at the communication date based on the fair value of the liability as of the termination date and is recognized ratably over the required service period.

Restructuring costs are recognized within General and administrative expenses with the corresponding liability recognized in current or non-current liabilities depending on the expected timing of payments.

(w) New accounting pronouncements

Adopted in the year ended December 31, 2023

Measurement of credit losses on financial instruments

In June 2016, the FASB issued ASU 2016-13 - Financial Instruments - Credit losses, which replaces the incurred loss impairment methodology for financial instruments in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The Company adopted the guidance in the fiscal year beginning January 1, 2023. The guidance must be adopted using a modified-retrospective approach and a prospective transition approach is required for debt securities for which an other-than-temporary impairment had been recognized before the effective date. There was no material impact from the adoption of the guidance on the Company's Consolidated financial statements.

Accounting for Contract Assets and Contract Liabilities from Contracts with Customers

In October 2021, the FASB issued ASU 2021-08 – Business Combinations (Topic 805)- Accounting for Contract Assets and Contract Liabilities from Contracts with Customers, which improves the accounting for acquired revenue contracts with customers in a business combination by addressing diversity in and inconsistency related to the following: (1) recognition of an acquired contract liability and (2) payment terms and their effect on subsequent revenue recognized by the acquirer. The amendments in this ASU resolve this inconsistency by requiring that an entity (acquirer) recognize and measure contract assets and liabilities acquired in a business combination in accordance with Topic 606, in contrast to current GAAP which requires that assets acquired and liabilities assumed in a business combination, including contract assets and contract liabilities, are measured at fair value as of the acquisition date.

The Company adopted the guidance in the fiscal year beginning January 1, 2023. The amendments in this ASU should be applied prospectively to business combinations occurring on or after the effective date of the amendments. Adoption of the new standard had no impact on the Company's Consolidated financial statements upon transition. There was also no impact from adopting this standard on the acquisition accounting for TCR^2 Therapeutics Inc. as no contracts with customers were assumed as a result of the business combination.

To be adopted in future periods

Improvements to Reportable Segment Disclosures

In November 2023, the FASB issued ASU 2023-07 – Segment Reporting (Topic 280) – Improvements to Reportable Segment Disclosures, which improves segment disclosure requirements, primarily through enhanced disclosure requirements for significant segment expenses. The improved disclosure requirements apply to all public entities that are required to report segment information, including those with only one reportable segment. The Company intends to adopt the guidance in the fiscal year beginning January 1, 2024. The Company is currently evaluating the impact of the guidance on its Consolidated financial statements.

Improves to Income Tax Disclosures

In December 2023, the FASB issued ASU 2023-09 – Income Taxes (Topic 740) – Improvements to Income Tax Disclosures, which improves income tax disclosures primarily relating to the rate reconciliation and income taxes

paid information. This includes a tabular reconciliation using both percentages and reporting currency amounts, covering various tax and reconciling items, and disaggregated summaries of income taxes paid during the period. For public business entities, the guidance is effective for annual periods beginning after December 15, 2024, with early adoption permitted. The Company intends to adopt the guidance in the fiscal year beginning January 1, 2025. The Company is currently evaluating the impact of the guidance on its Consolidated financial statements.

(x) Business combinations

The Company determines whether a transaction or other event is a business combination by determining whether the assets acquired and liabilities assumed constitute a business. Business combinations are accounted for by applying the acquisition method as set out by ASC 805 *Business combinations*. The acquisition method of accounting requires the acquirer to recognize and measure all identifiable assets acquired, liabilities assumed, and any noncontrolling interest in the acquiree at their acquisition-date fair values, with certain exceptions for specific items.

For leases acquired in a business combination in which the acquiree is a lessee, the acquirer shall measure the lease liability at the present value of the remaining lease payments, as if the acquired lease were a new lease of the acquirer at the acquisition date. The right-of-use asset shall be measured at the same amount as the lease liability, adjusted to reflect favorable or unfavorable terms of the lease when compared with market terms. For leases in which the acquired entity is a lessee, the Company has elected not to recognize assets or liabilities at the acquisition date for leases that, at the acquisition date, have a remaining lease term of 12 months or less.

Goodwill is measured as the excess of the consideration transferred in the business combination over the net acquisition date amounts of the identifiable assets acquired and the liabilities assumed. If instead the net acquisition date amounts of the identifiable assets acquired and the liabilities assumed exceeds the consideration transferred, a gain on bargain purchase is recognized in the Consolidated Statement of Operations. The consideration transferred in a business combination is measured as the sum of the fair values of the assets transferred by the acquiring entity, the liabilities incurred by the acquiring entity to former owners of the acquired entity, and the equity interests issued by the acquiring entity.

The results of operations of businesses acquired by the Company are included in the Company's Consolidated Statement of Operations as of the respective acquisition date.

Where the acquiring entity exchanges its share-based payment awards for awards held by grantees of the acquiree, such exchanges are treated as a modification of share-based payment awards and are referred to as replacement awards. The replacement awards are measured as of the acquisition date and the portion of the fair-value-based measure of the replacement award that is attributable to pre-combination vesting is considered part of the consideration transferred. For awards with service-based vesting conditions only, the amount attributable to pre-combination vesting is the fair-value-based measure of the acquiree award multiplied by the ratio of the employee's pre-combination service period to the greater of the total service period of the original service period of the acquiree award.

Acquisition-related costs, including advisory, legal and other professional fees and administrative fees are expensed as incurred except for the costs of issuing equity securities, which are recognized as a reduction to the amounts recognized in the Statement of Changes in Equity for the respective equity issuance.

Note 3 — Revenue

The Company had three revenue-generating contracts with customers in the years ended December 31, 2023 and 2022: a collaboration agreement with Astellas that was terminated as of March 6, 2023, a strategic collaboration and license agreement with Genentech and a termination and transfer agreement with GSK that was effective on April 6, 2023. The original collaboration and license agreement with GSK was terminated in 2022.

Revenue comprises the following categories (in thousands):

	Year ended December 31,		
	2023	2022	2021
Development revenue	$ 60,281	$ 27,148	$ 6,149
	$ 60,281	**$ 27,148**	**$ 6,149**

Deferred revenue decreased by $6,379,000 from $184,412,000 at December 31, 2022 to $178,033,000 at December 31, 2023 primarily due to $59,072,000 of revenue recognized in the year that was included in opening deferred revenue. This was offset by a $7,174,000 increase caused by the change in the exchange rate between pounds sterling and the U.S. dollar from £1.00 to $1.21 at December 31, 2022 to £1.00 to $1.27 at December 31, 2023, by additional payments of $15,000,000 received under the Genentech Collaboration and License Agreement in November 2023, and by payments of $9,613,000, $3,727,000 and $15,226,000 from GSK in the second, third and fourth quarters of 2023, respectively.

Deferred revenue decreased by $15,010,000 from $199,422,000 at December 31, 2021 to $184,412,000 at December 31, 2022 primarily due to a $20,601,000 decrease caused by the change in the exchange rate between pounds sterling and the U.S. dollar from £1.00 to $1.35 at December 31, 2021 to £1.00 to $1.21 at December 31, 2022 and due to $17,648,000 of revenue recognized during the period. This was offset by a $20,000,000 additional payment received under the Genentech Collaboration and License Agreement in December 2022.

The aggregate amount of the transaction price that is allocated to performance obligations that are unsatisfied or partially satisfied under the agreements as of December 31, 2023, was $312,747,000.

The Genentech Collaboration and License Agreement

On September 3, 2021, the Company entered into a Strategic Collaboration and License Agreement with Genentech, Inc. and F. Hoffman-La Roche Ltd, which became effective on October 19, 2021 upon expiry or termination of all applicable waiting periods under the Hart-Scott-Rodino Antitrust Improvements Act of 1976.

Under the Agreement, Genentech and Adaptimmune (each, a "party" and together, the "parties") will collaborate to develop two types of allogeneic T-cell therapies: (i) "off-the-shelf" αβ T-cell therapies directed to initial collaboration targets, with Genentech having the right to designate additional collaboration targets, up to five collaboration targets in total, and (ii) personalized therapies utilizing αβ T-cell receptors (TCRs) isolated from a patient, with such therapies being administered to the same patient.

The parties will collaborate to perform a research program, initially during an eight year period (which may be extended for up to two additional two year terms at Genentech's election upon payment of an extension fee for each two-year term), to develop the cell therapies, following which Genentech will determine whether to further develop and commercialize such therapies. Under the Agreement, Adaptimmune exclusively licenses Genentech certain intellectual property rights it controls to enable Genentech to research, develop, manufacture and commercialize (i) "off-the-shelf" T-cell therapies directed to the collaboration targets and (ii) personalized T-cell therapies developed within the scope of the Agreement, and Genentech is solely responsible for the clinical development and commercialization of any cell therapies arising from the collaboration. Adaptimmune will manufacture and supply cell therapies for Phase 1 trials of "off-the-shelf" T-cell therapies unless Genentech decides to assume responsibility for such manufacturing.

Under the Agreement, Adaptimmune is also subject to certain restrictions on its ability to further develop and commercialize certain cell therapies. In particular restrictions apply in relation to its ability to develop cell therapy products to nominated targets and to develop competing personalized cell therapies. This restriction does not prevent Adaptimmune from developing cell therapies to other targets or cell therapies containing different types of receptors.

Under the terms of the Agreement, Adaptimmune will receive $150 million as an upfront payment, which was received in the fourth quarter of 2021. Adaptimmune may also receive:

- $150 million in additional payments spread over a period of 5 years from the effective date of the Agreement, unless the agreement is earlier terminated, of which milestones of $20 million and $15 million were received in the fourth quarters of 2022 and 2023, respectively;
- Research milestones of up to $50 million;
- Development milestones of up to $100 million in relation to the development of "off-the-shelf" T-cell therapies per collaboration target (unless Adaptimmune exercises its right to opt-in to receive a profit share) and up to $200 million in relation to the development of personalized T-cell therapies;
- Commercialization milestones of up to $1.1 billion for "off-the-shelf" T-cell therapies (unless Adaptimmune exercises its right to opt-in to receive a profit share and assuming "off-the-shelf" T-cell therapies are developed to 5 targets) and for personalized T-cell therapies; and
- Net sales milestones of up to $1.5 billion for "off-the-shelf" T-cell therapies (unless Adaptimmune exercises its right to opt-in to receive a profit share and assuming "off-the-shelf" T-cell therapies are developed to 5 targets) and for personalized T-cell therapies.

In addition, Adaptimmune will receive tiered royalties on net sales in the mid-single to low-double digits. Collaboration target designation fees apply if Genentech exercises its right to designate additional "off-the-shelf" collaboration targets up to a maximum of 5 targets.

Adaptimmune also has a right to opt-in to receive a profit share and to co-promote "off-the-shelf" T-cell therapies. If Adaptimmune elects to opt in, then Adaptimmune will be eligible to share 50 percent of profits and losses from U.S. sales on such products and to receive up to $800 million in ex-U.S. regulatory and sales-based milestone payments, as well as royalties on ex-U.S. net sales.

The payments to the Company under the contract are typically due upon achievement of milestones, when rights are exercised by Genentech or on achievement of specific events for the additional payments, and within standard payment terms. The contract does not include a significant financing component.

The parties can terminate the Agreement in the event of material breach or insolvency of the other party. Genentech is entitled to terminate the Agreement in its entirety, on a product-by-product basis or collaboration target by collaboration target basis on provision of 180 days notice. Either party may terminate the Agreement on written notice in the event that the US Federal Trade Commission or US Department of Justice seeks a preliminary injunction under applicable antitrust laws against the parties or where HSR clearance has not occurred within 180 days of the effective date of the Agreement. The Agreement became effective on October 19, 2021 upon expiry of all applicable waiting periods under the Hart-Scott-Rodino Antitrust Improvements Act of 1976.

The Company has assessed the agreement under the provisions of ASC 606, Revenue from Contracts with Customers and ASC 808, Collaborative Arrangements. The Company determined that Genentech is a customer and has applied the provisions of ASC 606 to the contract and related performance obligations. The Company identified the following performance obligations under the agreement: (i) research services and rights granted under the licenses for each of the initial 'off-the-shelf' collaboration targets, (ii) research services and rights granted under the licenses for the personalized therapies, (iii) material rights relating to the option to designate each of the additional 'off-the-shelf' collaboration targets and (iv) material rights relating to the two options to extend the research term. The Company began recognizing revenue for the performance obligations relating to the initial 'off-the-shelf' collaboration targets and the personalized therapies in 2021.

The aggregate transaction price at inception of the agreement was $313.6 million comprising the $150 million upfront payment, $150 million of additional payments and $13.6 million of other consideration. The fees for extension of the research program, additional collaboration target designation fees, and future research, development and commercialization milestones are not considered probable as of December 31, 2023 and have not been included in the transaction price. The Company may also receive sales milestones and royalties for future sales of the therapies. These amounts have not been included within the transaction price as of December 31, 2023 because they are sales-based and would be recognized when the subsequent sales occur.

The aggregate transaction price is allocated to the performance obligations depending on the relative standalone selling price of the performance obligations. In determining the best estimate of the relative standalone selling price, the Company considered internal pricing objectives it used in negotiating the contract, together with internal data regarding the cost and margin of providing research services and market data from comparable arrangements.

The amount of the transaction price allocated to the performance obligation is recognized as or when the Company satisfies the performance obligation. The Company expects to satisfy the performance obligations relating to the initial 'off-the-shelf' collaboration targets and the personalized therapies as development progresses and recognizes revenue based on an estimate of the percentage of completion of the project determined based on the costs incurred on the project as a percentage of the total expected costs. The Company considers that this depicts the progress of the project, where the significant inputs would be internal project resources and third-party costs. The Company expects to satisfy the performance obligations relating to the material rights to designate additional 'off-the-shelf' collaboration targets from the point that the options are exercised and then as development progresses, in line with the initial 'off-the-shelf' collaboration targets, or at the point in time that the rights expire. The Company expects to satisfy the performance obligations relating to the material rights to extend the research term from the point that the options are exercised and then over period of the extension, or at the point in time that the rights expire.

The amount of the transaction price that is allocated to performance obligations that are unsatisfied or partially satisfied under the agreement as of December 31, 2023 was $275,185,000, of which $168,349,000 is allocated to the research services and rights granted for the initial 'off-the-shelf' collaboration targets, $87,359,000 is allocated to the research services and rights granted for the personalized therapies, $13,147,000 is allocated to the material rights to designate the additional 'off-the-shelf' collaboration targets, $5,064,000 is allocated to the material right for the first option to extend the research term and $1,266,000 is allocated to the material right for the option to extend the research term a second time.

The Astellas Collaboration Agreement

The Company and Universal Cells mutually agreed to terminate the Astellas Collaboration Agreement as of March 6, 2023 (the "Termination Date"). In connection with the termination, all licenses and sublicenses granted to either party pursuant to the Collaboration Agreement ceased as of the Termination Date. There were no termination penalties in connection with the termination; however the Company is still entitled to receive reimbursement for research and development work performed up to and including a period of 30 days after the Termination Date.

The Company originally satisfied the performance obligations relating to the three co-development targets as development progresses and recognized revenue based on an estimate of the percentage of completion of the project determined based on the costs incurred on the project as a percentage of the total expected costs. The Company originally determined that the performance obligations relating to the two independent Astellas targets would be recognized at a point-in-time, upon commencement of the licenses in the event of nomination of the target, since they were right-to-use licenses.

The termination was accounted for as a contract modification on a cumulative catch-up basis. No performance obligations were identified as a result of the modification as there were no further goods or services to be provided by the Company and the modification resulted in the remaining unsatisfied and partially satisfied performance obligations under the collaboration becoming fully satisfied. The aggregate transaction price of the contract modification was $42,365,000 which included the remaining deferred income that had not been recognized as revenue as of the date of the modification and variable consideration from the remaining reimbursement income to be billed under the collaboration

at the end of the 30 day period after the Effective Date. The transaction price of the modification was recognized in full in March 2023 and there is no remaining transaction price allocated to performance obligations that are unsatisfied or partially satisfied under, no remaining deferred income relating to, the agreement as of December 31, 2023.

The GSK Collaboration and License Agreement

The GSK Collaboration and License Agreement consisted of multiple performance obligations, including the development of a third target, which was the only performance obligation for which revenue was recognized in 2022.

The collaboration was terminated by GSK in October 2022 (effective December 23, 2022). A further amendment to the collaboration agreement was entered into on December 19, 2022 for the deletion of certain provisions relating to GSK's post termination manufacturing and supply obligations and payment of £5,000,000 by GSK to Adaptimmune. The aggregate transaction price of the contract modification was $6,500,000, which was recognized as revenue on the date of the modification. No revenue was recognized in relation to the GSK Collaboration and License Agreement in 2023.

The GSK Termination and Transfer Agreement

On April 6, 2023, the Company and GSK entered into a Termination and Transfer Agreement (the "Termination and Transfer Agreement") regarding the return of rights and materials comprised within the PRAME and NY-ESO cell therapy programs. The parties will work collaboratively to ensure continuity for patients in ongoing lete-cel clinical trials forming part of the NY-ESO cell therapy program.

As part of the agreement, sponsorship and responsibility for the ongoing IGNYTE and long-term follow-up ("LTFU") trials relating to the NY-ESO cell therapy program will transfer to Adaptimmune. In return for this, Adaptimmune received an upfront payment of £7.5 million in June 2023 following the signing of the agreement and milestone payments of £3 million and £12 million in September 2023 and December 2023, respectively. Further milestone payments totaling £7.5 million will be due in relation to successive stages of transfer of the trials.

The Company determined that GSK is a customer and has accounted for the agreement under ASC 606 *Revenue from Contracts with Customers*. The agreement is accounted for as a separate contract from the original GSK Collaboration and License Agreement. The Company has identified the following performance obligations under the agreement: (i) to take over sponsorship and complete the IGNYTE trial and (ii) to take over sponsorship and complete the LTFU trial.

The aggregate transaction price at inception of the agreement was $37,335,000 comprising the total £30,000,000 upfront and milestone payments. No value was ascribed to non-cash consideration and there was no variable consideration identified. The aggregate transaction price is allocated to the performance obligations depending on the relative standalone selling price of the performance obligations. In determining the best estimate of the relative standalone selling price, the Company considered the internal pricing objectives it used in negotiating the contract, together with internal data regarding the expected costs and a standard margin on those costs, for completing the trials. The amount of the transaction price allocated to the performance obligation is recognized as or when the Company satisfies the performance obligation.

The Company expects to satisfy the performance obligations over time from the point that sponsorship of the active trials that make up the trial transfers and then over the period that the trial is completed, based on the number of patients transferred and still actively enrolled to date on the trial at a given period-end relative to the total estimated periods of active patient enrollment over the estimated duration of the trial.

The Company considers that this depicts the progress of the completion of the trials under the Termination and Transfer Agreement, as the status of patients on the trial is not directly affected by decisions that the Company might make relating to its own development of the NY-ESO cell therapy program.

The amount of the transaction price that is allocated to performance obligations that are unsatisfied or partially satisfied under the agreement as of December 31, 2023 was $37,562,000, of which $20,903,000 is allocated to the IGNYTE performance obligation and $16,659,000 is allocated to the LTFU performance obligation.

Note 4 — Financial instruments

The Company's financial instruments consist primarily of cash and cash equivalents, marketable securities, restricted cash, accounts receivable and accounts payable.

Assets and liabilities measured at fair value on a recurring basis based on Level 1, Level 2, and Level 3 fair value measurement criteria as of December 31, 2023 are as follows (in thousands):

		Fair value measurements using		
	December 31, 2023	Level 1	Level 2	Level 3
Assets classified as cash equivalents:				
Corporate debt securities	$ 1,600	$ 1,600	$ —	$ —
Assets classified as available-for-sale debt securities:				
Corporate debt securities	$ 2,947	2,947	$	—
	$ 2,947	**$ 2,947**	**$ —**	**$ —**

Assets and liabilities measured at fair value on a recurring basis based on Level 1, Level 2, and Level 3 fair value measurement criteria as of December 31, 2022 are as follows (in thousands):

	December 31, 2022	Fair Value Measurements Using Level 1	Level 2	Level 3
Assets classified as cash equivalents:				
Corporate debt securities	$ 2,984	$ 2,984	$ —	$ —
Assets classified as available-for-sale debt securities:				
Corporate debt securities	$ 85,764	$ 85,764	$ —	$ —
U.S. Treasury securities	5,954	—	5,954	—
Agency bonds	4,854	—	4,854	—
	$ 96,572	**85,764**	**10,808**	**—**

The Company estimates the fair value of available-for-sale debt securities and corporate debt securities classified as cash equivalents with the aid of a third-party valuation service, which uses actual trade and indicative prices sourced from third-party providers on a daily basis to estimate the fair value. If observed market prices are not available (for example, securities with short maturities and infrequent secondary market trades), the securities are priced using a valuation model maximizing observable inputs, including market interest rates.

Significant concentration of credit risk

The Company held cash and cash equivalents of $143,990,614, marketable securities of $2,947,000 and restricted cash of $3,027,000 as of December 31, 2023. The cash and cash equivalents and restricted cash are held with multiple banks and the Company monitors the credit rating of those banks. The Company maintains cash balances in excess of amounts insured by the Federal Deposit Insurance Corporation in the United States and the U.K. Government Financial Services Compensation Scheme in the United Kingdom.

The Company had three customers during the year-ended December 31, 2023, which are Genentech, Astellas and GSK. There were accounts receivable of $821,000 and $7,435,000 as of the years ended December 31, 2023 and 2022, respectively. The Company has been transacting with Genentech since October 2021 and GSK since 2014, during which time no credit losses have been recognized.

Foreign exchange risk

The Company is exposed to foreign exchange rate risk because it operates in the United Kingdom and the United States. Expenses are generally denominated in the currency in which the Company's operations are located, which are the United Kingdom and the United States. However, the U.K.-based subsidiary incurs significant research and development costs in U.S. dollars and, to a lesser extent, Euros.

The results of operations and cash flows will be subject to fluctuations due to changes in foreign currency exchange rates, which could harm the Company's business in the future. Management seeks to minimize this exposure by maintaining currency cash balances at levels appropriate to meet foreseeable expenses in U.S. dollars and pounds sterling. To date, the Company has not used forward exchange contracts or other currency hedging products to manage exchange rate exposure, although it may do so in the future. The exchange rate as of December 31, 2023, the last business day of the reporting period, was £1.00 to $1.27.

Interest rate risk

Surplus cash and cash equivalents are invested in interest-bearing savings, money market funds, corporate debt securities and commercial paper from time to time. Investments in corporate debt securities are subject to fixed interest rates. The Company's exposure to interest rate sensitivity is impacted by changes in the underlying U.K. and U.S. bank interest rates and the fair market value of its corporate debt securities will fall in value if market interest rates increase. Management believes that an immediate one percentage point change in interest rates would not have a material effect

on the fair market value of our portfolio, and therefore does not expect the operating results or cash flows to be significantly affected by changes in market interest rates.

Note 5 — Other current assets

Other current assets consisted of the following (in thousands):

	December 31, 2023	December 31, 2022
Research and development credits receivable	$ 46,098	$ 30,162
Prepayments	9,954	9,472
Clinical materials	1,329	1,279
VAT receivable	—	490
Other current assets	2,412	1,927
	$ 59,793	**$ 43,330**

On January 19, 2024, a receipt of £24.2 million ($30.8 million) was received from HMRC relating to the Research and development credits receivable.

Note 6 — Property, plant and equipment, net

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

	December 31, 2023	December 31, 2022
Computer equipment	$ 4,014	$ 3,818
Laboratory equipment	33,951	30,173
Office equipment	1,009	925
Leasehold improvements	57,939	28,459
Assets under construction	53	28,729
	96,966	92,104
Less accumulated depreciation	(46,020)	(38,588)
	$ 50,946	**$ 53,516**

Depreciation expense was $9,453,000, $5,266,000, and $5,630,000 for the years ended December 31, 2023, 2022 and 2021, respectively.

Note 7 — Intangible assets, net

Intangible assets, net consisted of the following (in thousands):

	December 31, 2023	December 31, 2022
Acquired software licenses	$ 5,288	$ 4,930
Licensed IP rights – completed technology used in R&D	197	188
	5,485	5,118
Less accumulated amortization	(5,155)	(4,676)
	$ 330	**$ 442**

Amortization expense was $366,000, $809,000 and $937,000 for the years ended December 31, 2023, 2022 and 2021 respectively. The estimated aggregate amortization expense expected to be recorded in respect of these assets for each of the five years ended 2028 is $216,000, $114,000, $13,000, $1,000 and $nil, respectively.

Note 8 — Operating leases

The following table shows the lease costs for the years ended December 31, 2023 and 2022 (in thousands):

	Year ended December 31,	
	2023	2022
Lease cost:		
Operating lease cost	$ 5,791	$ 4,367
Short-term lease cost	954	389
	$ 6,745	**$ 4,756**

	Year ended December 31,	
	2023	2022
Other information:		
Operating cash outflows from operating leases (in thousands)	$ 5,863	$ 3,746

	December 31,	
	2023	2022
Weighted-average remaining lease term - operating leases	5.4 years	6.9 years
Weighted-average discount rate - operating leases	8.3%	6.8%

The maturities of operating lease liabilities as of December 31, 2023 are as follows (in thousands):

	Operating leases
2024	$ 7,130
2025	5,583
2026	4,382
2027	5,578
2028	2,159
after 2028	5,545
Total lease payments	**30,377**
Less: Imputed interest	(5,142)
Present value of lease liability	**$ 25,235**

The Company has operating leases in relation to property for office, manufacturing and research facilities. The maximum lease term without activation of termination options is to 2041.

On June 1, 2023, as part of the acquisition of TCR[2], the Company became the lessee of three office, manufacturing and research facilities in Cambridge, Massachusetts. The Company retained TCR[2]'s previous classification for two of these leases as operating leases and, upon acquisition, the lease liabilities were measured at the present value of the remaining lease payments, as if the lease were a new lease of the Company at June 1, 2023. The right-of-use assets were initially measured at the same amount as the respective lease liabilities, adjusted to reflect favorable or unfavorable terms of the leases when compared with market terms.

The third lease had a remaining lease term of less than 12 months as of June 1, 2023, and the Company elected not to recognize a lease liability or right-of-use asset as of June 1, 2023. The rent associated with this lease will be recognized on a straight-line basis over the remainder of the lease term.

Note 9 — Accrued expenses and other current liabilities

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

	December 31, 2023	December 31, 2022
Accrued clinical and development expenditure	$ 12,351	$ 16,749
Accrued employee expenses	13,226	8,232
VAT payable	1,398	—
Other accrued expenditure	3,277	4,079
Other	51	2,155
	$ 30,303	**$ 31,215**

Note 10 — Contingencies and commitments

Leases

Lease payments under operating leases as of December 31, 2023 and information about the Company's lease arrangements are disclosed in Note 8.

Capital commitments

As of December 31, 2023, the Company had commitments for capital expenditure totaling $912,000 primarily relating to future payments relating to intangible assets such as software licenses, of which the Company expects to incur $550,000 within one year and $362,000 within one to three years.

Commitments for clinical materials, clinical trials and contract manufacturing

As of December 31, 2023, the Company had non-cancellable commitments for purchase of clinical materials, contract manufacturing, commercial activities, maintenance, and committed funding under the MD Anderson strategic alliance of up to $13,746,000, which the Company expects to incur $12,408,000 within one year, $1,268,000 within one to three years and $70,000 within three to five years. The amount and timing of these payments vary depending on the rate of progress of development. Future clinical trial expenses have not been included within the purchase commitments because they are contingent on enrollment in clinical trials and the activities required to be performed by the clinical sites. The Company's subcontracted costs for clinical trials and contract manufacturing were $48,416,000, $54,689,000 and $33,744,000 for the years ended December 31, 2023, 2022, and 2021 respectively.

MD Anderson Strategic Alliance

On September 26, 2016, the Company announced that it had entered into a multi-year strategic alliance with The University of Texas MD Anderson Cancer Center ("MD Anderson") designed to expedite the development of T-cell therapies for multiple types of cancer. The Company and MD Anderson are collaborating on a number of studies including clinical and preclinical development of the Company's T-cell therapies and will collaborate on future clinical stage first and second generation T-cell therapies across a number of cancers.

Under the terms of the agreement, the Company committed at least $19,644,000 to fund studies. Payment of this funding is contingent on mutual agreement to study orders in order for any study to be included under the alliance and the performance of set milestones by MD Anderson. The Company made an upfront payment of $3,412,000 to MD Anderson in the year ended December 31, 2017 and milestone payments of $2,326,000, $3,549,000, $454,000 and $2,326,000 in the years ended December 31, 2018, 2020, 2021 and 2022, respectively. The Company is obligated to make further payments to MD Anderson as certain milestones are achieved. These costs are expensed to research and development as MD Anderson renders the services under the strategic alliance.

The agreement may be terminated by either party for material breach by the other party. Individual studies may be terminated for, amongst other things, material breach, health and safety concerns or where the institutional review board, the review board at the clinical site with oversight of the clinical study, requests termination of any study. Where any legal or regulatory authorization is finally withdrawn or terminated, the relevant study will also terminate automatically.

Universal Cells Research, Collaboration and License Agreement and Co-development and Co-commercialization agreement

On November 25, 2015, the Company entered into a Research, Collaboration and License Agreement relating to gene editing and Human Leukocyte Antigen ("HLA") engineering technology with Universal Cells, Inc. ("Universal Cells"). The Company paid an upfront license and start-up fee of $2,500,000 to Universal Cells in November 2015, a milestone payment of $3,000,000 in February 2016 and further milestone payments of $200,000 and $900,000 were made in the year ended December 31, 2018 and 2017, respectively.

The agreement was amended and re-stated as of January 13, 2020, primarily to reflect changes to the development plan agreed between the parties. The agreement was further amended as of July 22, 2022, primarily to make certain changes to development milestones and to agree on the status thereof, as agreed between the parties. Following the amendment, milestone payments of $500,000, $600,000 and $400,000 were made in the year ended December 31, 2022. No remaining milestones have been accrued as of December 31, 2023. The upfront license and start-up fee and milestone payments were expensed to Research and development when incurred.

This Agreement was terminated by notice on January 27, 2023, effective 30 days following receipt of notice of termination. As a result of termination, all licenses between the parties to the Agreement ceased and each party was required to return all confidential information of the other party.

Astellas Collaboration Agreement

Under the Astellas Collaboration Agreement, described further in Note 3, if Adaptimmune had unilaterally developed a product with technology contributed by Astellas, Astellas could have been eligible to receive milestones and royalties relating to future commercialization and sales. As a result of the termination of the collaboration, Astellas no longer has the right to receive these milestones or royalties in future.

Noile-Immune Collaboration Agreement

On August 26, 2019, the Company entered into a collaboration and license agreement relating to the development of next-generation T-cell products with Noile-Immune. An upfront exclusive license option fee of $2,500,000 was paid to Noile-Immune in 2019. This was recognized within Research and Development in the Consolidated Statement of Operations for the year ended December 31, 2019. Under the agreement, development and commercialization milestone payments up to a maximum of $312,000,000 may be payable if all possible targets are selected and milestones achieved. Noile-Immune would also receive mid-single-digit royalties on net sales of resulting products.

Alpine Collaboration Agreement

On May 14, 2019, the Company entered into a Collaboration Agreement relating to the development of next-generation T-cell products with Alpine. The Company paid an upfront exclusive license option fee of $2,000,000 to Alpine in June 2019. Under the agreement, Adaptimmune will pay Alpine for ongoing research and development funding costs and development and commercialization milestone payments up to a maximum of $288,000,000 may be payable if all possible targets are selected and milestones achieved. The upfront payment of $2,000,000 and the payments for ongoing research was recognized within Research and development in the Consolidated Statement of Operations for the year ended December 31, 2019. A further payment of $1,000,000 was paid and recognized within Research and development in the Consolidated Statement of Operations for the year ended December 31, 2022. Alpine would also receive low single-digit royalties on worldwide net sales of applicable products.

ThermoFisher License Agreement

In 2012, the Company entered into a series of license and sub-license agreements with Life Technologies Corporation, part of ThermoFisher Scientific, Inc. ("ThermoFisher") that provide the Company with a field-based license under certain intellectual property rights owned or controlled by ThermoFisher. The Company paid upfront license fees of $1,000,000 relating to the license and sublicense agreements and has an obligation to pay minimum annual royalties (in the tens of thousands of U.S. dollars prior to licensed product approval and thereafter at a level of 50% of running royalties in the previous year), milestone payments and a low single-digit running royalty payable on the net selling price of each licensed product. The upfront payment made in 2012 was expensed to research and development when incurred. Subsequent milestone payments have been recognized as an intangible asset due to the technology having alternative future use in research and development projects at the time of the payment. The minimum annual royalties have been expensed as incurred.

In 2016, the Company entered into a supply agreement with ThermoFisher for the supply of the Dynabeads® CD3/CD28 technology. The Dynabeads® CD3/CD28 technology is designed to isolate, activate and expand human T-cells, and is being used in the manufacturing of the Company's affinity enhanced T-cell therapies. The supply agreement runs until December 31, 2025. Under the supply agreement the Company is required to purchase its requirements for CD3/CD28 magnetic bead product from ThermoFisher for a period of 5 years. ThermoFisher has the right to terminate the supply agreement for material breach or insolvency.

Regulatory Assay Development

As part of the process of obtaining regulatory approval for its products, the Company has entered into various agreements for the development of assays for commercial supply, some of which have milestone or other payments that trigger on or after regulatory approval is received from the FDA, and upon the occurrence of future sales or commercial usage of the respective assay.

Note 11 — Stockholders' equity

Ordinary shares

Subject to any other provisions of our articles of association and without prejudice to any special rights, privileges or restrictions as to voting attached to any shares forming part of our share capital, the voting rights of shareholders are as follows. On a show of hands, each shareholder present in person, and each duly authorized representative present in person of a shareholder that is a corporation, has one vote. On a show of hands, each proxy present in person who has been duly appointed by one or more shareholders entitled to vote on a resolution has one vote, but a proxy has one vote for and one vote against a resolution if, in certain circumstances, the proxy is instructed by more than one shareholder to vote in different ways on a resolution. On a poll, each shareholder present in person or by proxy or (being a corporation) by a duly authorized representative has one vote for each share held by the shareholder. We are prohibited (to the extent specified by the Companies Act 2006) from exercising any rights to attend or vote at meetings in respect of any shares held by the Company as treasury shares.

Subject to the Companies Act 2006 and the provisions of all other relevant legislation, we may by ordinary resolution declare dividends out of our profits available for distribution in accordance with the respective rights of shareholders but no such dividend shall exceed the amount recommended by the directors. If, in the opinion of the directors, our profits available for distribution justify such payments, the directors may from time to time pay interim dividends to the holders of any class of shares. Subject to any special rights attaching to or terms of issue of any shares, all dividends shall be declared and paid according to the amounts paid up on the shares on which the dividend is paid. No dividend shall be payable to us in respect of any shares held by us as treasury shares (except to the extent permitted by the Companies Act 2006 and any other relevant legislation). As of December 31, 2023, Adaptimmune Therapeutics plc and Adaptimmune Limited have accumulated net losses and, accordingly, no profits available for distribution out of which to declare or pay dividends.

Subject to any special rights attaching to or the terms of issue of any shares, on any winding-up of the Company our surplus assets remaining after satisfaction of our liabilities will be distributed among our shareholders in proportion to their respective holdings of shares and the amounts paid up on those shares.

Effective from May 16, 2023, the Directors were generally authorized to allot new shares or to grant rights to subscribe for or to convert any security into shares in the Company up to a maximum aggregate nominal amount of £327,921.00. This authority will expire on the earlier of the conclusion of the Company's annual general meeting in 2024 and June 30, 2024 (unless previously renewed, varied or revoked). Effective from May 16, 2023, the Directors were also empowered to allot equity securities for cash, pursuant to their general authority to allot described in this paragraph, without first offering them to existing shareholders in proportion to their existing holdings up to an aggregate maximum nominal amount of £327,921.00. This power will expire on the earlier of the conclusion of the Company's annual general meeting in 2024 and June 30, 2024 (unless previously renewed, varied or revoked).

Without prejudice to all prior existing authorities, effective from May 30, 2023, the Directors were generally authorized to allot new shares or to grant rights to subscribe for or to convert any security into shares in the Company up to a maximum aggregate nominal amount of £380,600.712 in connection with the transactions contemplated by the Agreement and Plan of Merger, dated as of March 5, 2023, as amended, by and among Adaptimmune, TCR[2] Therapeutics Inc. and CM Merger Sub, Inc. (the "merger") This authority will expire on the earlier of the conclusion of the Company's annual general meeting in 2024 and June 30, 2024 (unless previously renewed, varied or revoked). Effective from May 30, 2023, the Directors were also empowered to approve the issuance of ordinary shares of the Company, par value £0.001 per share to be represented by American Depositary Shares in connection with the merger for purposes of applicable Nasdaq rules.

At-the-Market Offerings

On April 8, 2022 the Company entered into a sales agreement with Cowen (the "Sales Agreement") under which we may from time to time issue and sell ADSs representing our ordinary shares through Cowen in at-the-market "ATM" offerings for an aggregate offering price of up to $200 million. In the year ended December 31, 2023, the Company sold 642,416 ADSs under the Sales Agreement representing 3,854,496 ordinary shares resulting in net proceeds to the Company of $596,716 after deducting commissions payable under the Sales Agreement and estimated issuance costs. As of December 31, 2023, approximately $186,067,867 remained available for sale under the Sales Agreement.

Note 12 — Share-based compensation

The Company grants options over ordinary shares in Adaptimmune Therapeutics plc under the following option plans: (i) the Adaptimmune Therapeutics plc Employee Share Option Scheme (adopted on January 14, 2016), (ii) the Adaptimmune Therapeutics plc 2015 Share Option Scheme (adopted on March 16, 2015) and (iii) the Adaptimmune Therapeutics plc Company Share Option Plan (adopted on March 16, 2015).

The Adaptimmune Therapeutics plc Company Share Option Plan is a tax efficient option scheme intended to comply with the requirements of Schedule 4 to the Income Tax (Earnings and Pensions) Act 2003 of the United

Kingdom, which provides for the grant of company share option plan ("CSOP") options. Grants may not exceed the maximum value of £60,000 per participant for the shares under the option, which is a CSOP compliance requirement.

Generally, the vesting dates for the options granted under these plans up to December 31, 2023 are 25% on the first anniversary of the grant date and 75% in monthly installments over the following three years. However, the options granted to non-executive directors under the Adaptimmune Therapeutics plc 2015 Share Option Scheme vest and become exercisable as follows:

Options granted to non-executive directors on May 11, 2015:	Immediately on grant date
Options granted to a non-executive director on June 23, 2016:	25% on the first anniversary of the grant date and 75% in monthly installments over the following two years
Options granted to non-executive directors on August 11, 2016:	100% on the first anniversary of the grant date
Options granted to non-executive directors on November 28, 2016:	25% on the first anniversary of the grant date and 75% in monthly installments over the following two years
Options granted to non-executive directors on July 3, 2017	100% on the first anniversary of the grant date
Options granted to non-executive directors on June 22, 2018:	100% on the first anniversary of the grant date
Options granted to a non-executive director on July 5, 2018:	25% on the first anniversary of the grant date and 75% in monthly instalments over the following two years
Options granted to non-executive directors on July 2, 2019:	100% on the first anniversary of the grant date
Options granted to non-executive directors on July 1, 2020:	100% on the first anniversary of the grant date
Options granted to non-executive directors on July 1, 2021:	100% on the first anniversary of the grant date
Options granted to non-executive directors on July 1, 2022:	100% on the first anniversary of the grant date
Options granted to non-executive directors on July 3, 2023:	100% on the first anniversary of the grant date
Options granted to a non-executive director on November 1, 2023:	25% on the first anniversary of the grant date and 75% in monthly instalments over the following two years

Effective from January 2018, the Company has also granted restricted stock unit style options ("RSU-style"). The RSU-style options over ordinary shares in Adaptimmune Therapeutics plc are granted under the Adaptimmune Therapeutics plc Employee Share Option Scheme (adopted on January 14, 2016). These options have an exercise price equal to the nominal value of an ordinary share, of £0.001, and generally vest over four years, with 25% on the first, and each subsequent, anniversary of the grant date.

Options granted under these plans are not subject to performance conditions. The contractual term of options granted under these plans is ten years.

The maximum aggregate number of options which may be granted under these plans and any incentive plans adopted by the Company cannot exceed a scheme limit that equates to 8% of the initial fully diluted share capital of the Company immediately following its IPO plus an automatic annual increase of an amount equivalent to 4% of the issued share capital on each 30 June (or such lower number as the Board, or an appropriate committee of the Board, may determine). The automatic increase is effective from July 1, 2016.

Prior to December 31, 2014, the Company granted options to purchase ordinary shares in Adaptimmune Limited under three option schemes:

(i) The Adaptimmune Limited Share Option Scheme was adopted on May 30, 2008. Under this scheme Enterprise Management Incentive ("EMI") options (which are potentially tax-advantaged in the United Kingdom) have

been granted (subject to the relevant conditions being met) to its employees who are eligible to receive EMI options under applicable U.K. tax law and unapproved options (which do not attract tax advantages) have been granted to its employees who are not eligible to receive EMI options, and to its Directors and consultants. In May 2014, the Company no longer qualified for EMI status and since that date, no further EMI options were granted under this scheme; however, unapproved options have been under granted under this scheme since that date.

(ii) The Adaptimmune Limited 2014 Share Option Scheme was adopted on April 11, 2014. EMI options were granted (subject to the relevant conditions being met) under this scheme to our employees who are eligible to receive EMI options under applicable U.K. tax law. Unapproved options were granted to its employees who are not eligible to receive EMI options and to directors. In May 2014, the Company no longer qualified for EMI status and since that date, no further EMI options were granted under this scheme; however, unapproved options have been under granted under this scheme since that date.

(iii) The Adaptimmune Limited Company Share Option Plan was adopted on December 16, 2014. This scheme allowed the grant of options to our eligible employees prior to the Company's corporate reorganization in 2015. This scheme is a tax efficient option scheme and options were granted on December 19, 2014 and on December 31, 2014 to our part-time and full-time employees.

As part of the corporate reorganization in connection with our IPO, the holders of options granted under these schemes over ordinary shares of Adaptimmune Limited were granted equivalent options on substantially the same terms over ordinary shares of Adaptimmune Therapeutics plc ("Replacement Options") in exchange for the release of these options. The Company does not intend to grant any further options under these schemes.

As of December 31, 2023, all the Replacement Options under the Adaptimmune Limited schemes have vested.

The contractual life of options granted under these schemes is ten years.

The following table shows the total share-based compensation expense included in the Consolidated Statements of Operations (in thousands):

	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021
Research and development	$ 3,061	$ 6,264	$ 9,052
General and administrative	8,712	11,976	11,577
	$ 11,773	**$ 18,240**	**$ 20,629**

As of December 31, 2023, there was $9,702,000 of total unrecognized compensation cost related to stock options granted but not vested under the plans. That cost will be recognized over an expected remaining weighted-average period of 2.4 years. The following table shows information about share options granted:

	Year ended December 31,		
	2023	2022	2021
Number of options over ordinary shares granted	60,891,430	31,826,293	21,300,998
Weighted average fair value of ordinary shares options	$ 0.12	$ 0.37	$ 0.70
Number of additional options with a nominal exercise price granted	27,375,252	24,248,424	17,765,778
Weighted average fair value of options with a nominal exercise price	$ 0.27	$ 0.51	$ 0.97

The following table summarizes all stock option activity for the year ended December 31, 2023:

	Options	Weighted average exercise price per option	Average remaining contractual term (years)	Aggregate intrinsic value (thousands)
Outstanding at January 1, 2023	152,539,089	£ 0.44		
Changes during the period:				
Granted	88,266,682	£ 0.26		
Exercised	(14,614,410)	£ 0.01		
Expired	(14,916,414)	£ 0.54		
Forfeited	(20,124,772)	£ 0.18		
Outstanding at December 31, 2023	**191,150,175**	**£ 0.41**	**6.4**	**£ 4,601**
Exercisable at December 31, 2023	111,671,247	£ 0.57	4.8	£ 876

The following table summarizes information about stock options granted based on the market value at grant date which were outstanding as of December 31, 2023:

	Options	Weighted average exercise price per option	Average remaining contractual term (years)	Aggregate intrinsic value (thousands)
Outstanding at January 1, 2023	112,477,463	£ 0.60		68
Changes during the period:				
Granted	60,891,430	£ 0.38		
Exercised	(2,318,712)	£ 0.08		
Expired	(14,681,143)	£ 0.55		
Forfeited	(8,698,923)	£ 0.42		
Outstanding at December 31, 2023	**147,670,115**	**£ 0.53**	**5.9**	**£ 131**
Exercisable at December 31, 2023	104,062,503	£ 0.61	4.7	£ 94

The following table summarizes information about RSU-style options which were outstanding as of December 31, 2023:

	Options	Average remaining contractual term (years)	Aggregate intrinsic value (thousands)
Outstanding at January 1, 2023	40,061,626	8.4	8,014
Changes during the period:			
Granted	27,375,252		
Exercised	(12,295,698)		
Expired	(235,271)		
Forfeited	(11,425,849)		
Outstanding at December 31, 2023	**43,480,060**	**8.1**	**£ 4,470**
Exercisable at December 31, 2023	7,608,744	6.3	£ 782

There were 14,614,410, 5,823,534 and 5,723,646 share options exercised in the years ended December 31, 2023, 2022 and 2021 respectively. In the years ended December 31, 2023, 2022 and 2021 the total intrinsic value of stock options exercised was $2,527,000, $2,368,000 and $4,321,000, respectively and the cash received from exercise of stock options was $256,000, $50,000 and $759,000 respectively. The Company recognizes tax benefits arising on the exercise of stock options regardless of whether the benefit reduces current taxes. The tax benefit arising on

the exercise of stock options was $541,000, $488,000 and $862,000 for the years ended December 31, 2023, 2022 and 2021 respectively. The Company satisfies the exercise of stock options through newly issued shares.

	Outstanding			Exercisable	
Exercise price	Total share options	Weighted-average remaining contractual life	Weighted-average exercise price	Total share options	Weighted-average exercise price
£ 0.001	43,480,060	8.1	£ 0.00	7,608,744	£ 0.00
0.01 - 0.25	21,971,325	7.3	0.15	12,088,355	0.17
0.26 - 0.50	58,019,113	6.8	0.36	29,574,227	0.41
0.51 - 0.75	37,467,776	4.4	0.59	36,525,314	0.59
0.76 - 1.00	22,398,887	5.0	0.84	19,100,118	0.85
1.01 - 1.50	4,760,589	4.1	1.30	4,423,554	1.29
1.51 - 2.00	2,208,807	4.7	1.67	1,735,989	1.68
Over 2.00	843,618	6.0	3.94	614,946	4.05
Total	**191,150,175**	**6.4**	**£ 0.41**	**111,671,247**	**£ 0.57**

The fair value of the stock options granted during the period was calculated using the Black-Scholes option-pricing model using the following assumptions:

	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021
Expected term	5 years	5 years	5 years
Expected term (TCR[2] replacement options)	0.5 - 4 years	—	—
Expected volatility	84-113%	99-101%	98-100%
Risk free rate	3.27-4.52%	0.94-3.90%	0.00-0.61%
Expected dividend yield	0%	0%	0%

The expected term of the option is based on management judgment. The life of the options depends on the option expiration date, volatility of the underlying shares and vesting features. We do not have sufficient history to determine the expected life based on internal data and therefore the estimate is based on empirical data. For Replacement Options issued former to TCR[2] employees as part of the acquisition of TCR[2] the expected term of the options was adjusted to account for options that were already fully or partially vested on the grant date and for known factors that would impact the expected term such as redundancy post-acquisition.

Management uses historical data to determine the volatility of the Company's share price. The risk-free rate is based on the Bank of England's estimates of the gilt yield curve as of the respective grant dates.

Note 13 — Income taxes

Loss before income tax expense is as follows (in thousands):

	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021
U.S.	$ (9,597)	$ (3,245)	$ 1,625
U.K.	(102,938)	(159,714)	(158,924)
Loss before income tax expense	**$ (112,535)**	**$ (162,959)**	**$ (157,299)**

The amount allocated to the U.S. includes the $22,049,000 gain on bargain purchase.

The components of income tax expense are as follows (in thousands):

	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021
United States:			
Federal	$ 1,301	$ 2,492	$ 791
State and local	9	5	—
U.K.	26	—	—
Total current tax expense	**1,336**	**2,497**	**791**
United States:			
Federal	—	—	—
State and local	—	—	—
U.K.	—	—	—
Total deferred tax expense	—	—	—
Total income tax expense	**$ 1,336**	**$ 2,497**	**$ 791**

As of December 31, 2023 and 2022 the tax effects of temporary differences and carryforwards that give rise to deferred tax assets and liabilities were as follows (in thousands):

	December 31, 2023	December 31, 2022
Deferred tax liabilities		
Property, plant and equipment	$ (4,954)	$ (3,486)
Operating lease right-of-use assets	(1,780)	(1,529)
Other	(365)	(251)
Total	**(7,099)**	**(5,266)**
Deferred tax assets		
Share-based compensation expense	15,039	16,963
Property, plant and equipment	391	—
Intangible assets	1,392	1,324
Operating lease liabilities	2,556	1,958
Net operating loss and tax credit carryforwards	241,337	136,592
Capitalized research and development expenditure	37,699	8,409
Other	3,605	532
Total	**302,019**	**165,778**
Valuation allowance	(294,920)	(160,512)
	7,099	**5,266**
Net deferred tax asset/(liability)	**$ (0)**	**$ —**

The valuation allowance is primarily related to deferred tax assets for operating loss and tax credit carry-forwards and temporary differences relating to share-based compensation expense and research and development expenditure. Deferred tax assets have been recognized without a valuation allowance to the extent supported by reversing taxable temporary differences. A valuation allowance has been provided over the remaining deferred tax assets, which management considered are not more likely than not of being realized after weighing all available positive and negative evidence including cumulative losses in recent years and projections of future taxable losses.

The movements in the deferred tax asset valuation allowance for the year ended December 31, 2023 and 2022 are as follows (thousands):

	2023	2022
Valuation allowance at January 1,	$ 160,512	$ 132,443
Valuation allowance for deferred tax assets acquired from TCR2	114,294	—
Increase in valuation allowance through net loss	21,076	30,455
(Decrease)/increase in valuation allowance through other comprehensive loss	(8,042)	9,836
Foreign currency translation adjustments	7,080	(12,222)
Net change in the valuation allowance	134,408	28,069
Valuation allowance at December 31,	**$ 294,920**	**$ 160,512**

Reconciliation of the U.K. statutory income tax rate, the income tax rate of the country of domicile of the Company, to the Company's effective income tax rate is as follows (in percentages):

	Year ended December 31, 2023	Year ended December 31, 2022	Year ended December 31, 2021
U.K. tax rate	23.5 %	19.0 %	19.0 %
Tax-exempt reimbursable tax credits included within pretax Research and development expense	2.5 %	3.6 %	4.1 %
Income not taxable	5.3 %	— %	— %
Surrender of R&D expenditures for R&D tax credit refund	(13.3)%	(10.5)%	(10.3)%
Expenses not deductible	(2.3)%	(0.3)%	(0.2)%
Change in valuation allowances	(18.9)%	(18.8)%	(31.8)%
Change in tax rates	— %	— %	13.7 %
Difference in tax rates	0.0 %	5.5 %	4.4 %
R&D tax credits generated	3.1 %	2.1 %	2.0 %
Other	(1.0)%	(2.1)%	(1.4)%
Effective income tax rate	**(1.1)%**	**(1.5)%**	**(0.5)%**

The Company is headquartered in the United Kingdom and has subsidiaries in the United Kingdom and the United States. The Company incurs tax losses in the United Kingdom. The U.K. corporate income tax rate for the year ended December 31, 2023 was 23.5% and for the years ended December 31, 2022 and 2021 it was 19% in each year. Adaptimmune LLC in the United States has generated taxable profits due to a service agreement between Adaptimmune LLC and the Company's subsidiaries in the United Kingdom. The U.S. federal corporate income tax rate was 21% for the years ended December 31, 2023, 2022 and 2021, respectively. TCR^2 has incurred net losses in the United States since acquisition and generates research and development tax credits. TCR^2's deferred tax assets for operating loss and tax credit carryforwards and other tax attributes are reduced by a valuation allowance to the amount supported by reversing taxable temporary differences because there is currently no indication that we will make sufficient taxable profits to utilize these deferred tax assets. Income not taxable primarily relates to the gain on bargain purchase, which only arises at a consolidated level and is not taxable.

The United Kingdom's Finance Act 2021, which was enacted on June 10, 2021, maintained the corporate income tax rate at 19% up until the year commencing April 1, 2023, at which point the rate rose to 25%. As of December 31, 2023, the Company used a 25% and 21% tax rate in respect of the measurement of deferred taxes existing in the U.K. and the U.S., respectively, which reflects the currently enacted tax rates and the anticipated timing of the reversing of the deferred tax balances.

As of December 31, 2023, we do not have unremitted earnings in our U.S. subsidiaries.

As of December 31, 2023, we had U.K. net operating loss carryforwards of approximately $563,883,000, U.K. expenditure credit carryforwards of $915,000, U.S. net operating loss carryforwards of approximately $366,609,000,

U.S. tax credit carryforwards of $3,759,000 and U.S. capitalized research and development expenditure of $179,519,000. Unsurrendered U.K. net operating loss carryforwards can be carried forward indefinitely to be offset against future taxable profits; however, this is restricted to an annual £5,000,000 allowance in each standalone company or group and above this allowance, there will be a 50% restriction in the profits that can be covered by losses brought forward. U.K. tax credit carryforwards can be carried forward indefinitely to be offset against future tax liabilities of the company. U.S. tax credit carryforwards can be carried forward for 20 years to be offset against future tax liabilities, subject to a minimum tax payment of 25% of the tax charge. The U.S. tax credit carryforwards expire between 2041 and 2043.

Our tax returns are under routine examination in the U.K. and U.S. tax jurisdictions. The scope of these examinations includes, but is not limited to, the review of our taxable presence in a jurisdiction, our deduction of certain items, our claims for research and development credits, our compliance with transfer pricing rules and regulations and the inclusion or exclusion of amounts from our tax returns as filed. The Company is no longer subject to examinations by tax authorities for the tax years 2016 and prior in the U.K. and there are no ongoing enquiries in the U.K. However, U.K. net operating losses from the tax years 2016 and prior would be subject to examination if and when used in a future tax return to offset taxable income. Our U.K. income tax returns have been accepted by His Majesty's Revenue and Customs through the period ended December 31, 2017. The Company is subject to examinations by taxing authorities in the United States for all tax years 2020 through 2023. We are also subject to audits by U.S. state taxing authorities where we have operations.

Unrecognized tax benefits arise when the estimated benefit recorded in the financial statements differs from the amounts taken or expected to be taken in a tax return because of uncertainties in the tax law. As of December 31, 2023 and 2022, the Company had no unrecognized tax benefits.

Note 14 — Geographic information

Operations by geographic area

Revenue represents recognized income from the Astellas Collaboration Agreement, the Genentech Collaboration and License Agreement, the GSK Collaboration and License Agreement and the GSK Termination and Transfer Agreement. All revenue was derived in the United Kingdom.

Long-lived assets (excluding intangibles, deferred tax and financial instruments) were located as follows (in thousands):

	December 31, 2023	December 31, 2022
U.K.	$ 40,988	$ 42,387
U.S.	30,720	29,148
Total long-lived assets[(1)]	**$ 71,708**	**$ 71,535**

Major customers:

During the year ended December 31, 2023, 73%, 26% and 1% of the Company's revenues were generated from Astellas, Genentech and GSK, respectively.

Note 15 – Restructuring programs

On November 8, 2022, the Company announced that in order to extend the Company's cash runway, it was re-focusing the business on core programs and deprioritizing non-core programs and undertaking a restructuring of the Company including a headcount reduction to be completed in the first quarter of 2023.

The redundancy process was completed in the first quarter of 2023 with a reduction of approximately 25% of global headcount. The redundancy packages to be paid to departing staff comprise a combination of contractual termination benefits, relating to payments that arise from terms of employment contracts and statutory redundancy pay, and one-time employee termination benefits that were provided or enhanced specifically for this redundancy process. Due to the structure of the redundancy scheme and the different employment regulations affecting the Company's U.K. and U.S. employees, some of the expense associated with the one-time employee termination benefits were recognized over the remaining period of employee service to be rendered. Contractual termination benefits and other one-time employee termination benefits were expensed and recognized in the year ended December 31, 2022. All expenses have been recognized in General and administrative expenses in the Statement of Operations.

The amounts expected to be incurred in relation to the redundancy program are as follows:

	Contractual termination benefits	One-time employee termination benefits	Total restructuring costs
Cumulative amount incurred to December 31, 2022	$ 1,171	$ 1,114	$ 2,285
Amount incurred in the year ended December 31, 2023	778	925	1,703
Total amount and cumulative amount incurred to December 31, 2023	**$ 1,949**	**$ 2,039**	**$ 3,988**

The table below is a summary of the changes in the restructuring provision in the consolidated balance sheets in the year ended December 31, 2023:

	Contractual termination benefits	One-time employee termination benefits	Total restructuring provision
Provision at January 1, 2022	$ —	$ —	$ —
Costs incurred and charged to General and administrative expenses	1,171	1,114	2,285
Provision at December 31, 2022	**$ 1,171**	**$ 1,114**	**$ 2,285**
Costs incurred and charged to General and administrative expenses	670	947	1,617
Costs paid during the period	(1,955)	(2,041)	(3,996)
Adjustments to the liability	108	(22)	86
Effect of foreign exchange rates	6	2	8
Provision at December 31, 2023	**$ —**	**$ —**	**$ —**

The costs incurred during the period includes the element of one-time employee termination benefits that was recognized over the remaining period of employee service. The costs incurred during the year ended December 31, 2023 also include an addition to the provision for costs incurred relating to termination benefits paid to the former Chief Commercial Officer, who left employment with the Company in the first quarter of 2023.

No impairment losses were recognised as a result of the restructuring.

TCR² post-acquisition senior leadership severance

Following the acquisition of TCR² Therapeutics Inc. in June 2023 (see Note 16), the Company made most of the former members of TCR²'s senior leadership team, comprising the executive officers and most vice presidents, redundant and paid severance packages. The redundancy packages are considered contractual termination benefits as they arise from terms of employment contracts including change-in-control 'dual trigger' provisions, and were comprised of severance and other payments and accelerated vesting of share option awards.

The amounts incurred in relation to these redundancies in the year ended December 31, 2023, are as follows:

	Year ended December 31, 2023
Severance and other cash payments	$ 5,655
Accelerated vesting of share-based compensation awards	1,032
Total and cumulative amount incurred to December 31, 2023	**$ 6,687**

The expense associated with the accelerated vesting of share-based compensation awards recognized in Research and development and General and administrative expenses in the Consolidated Statement of Operations was $0.2 million and $0.8 million, respectively. The table below is a summary of the changes in the liability in the Consolidated Balance Sheet in the year ended December 31, 2023:

	Liability
Liability at June 1, 2023	$ 805
Costs incurred and charged to Research and development expenses	1,267
Costs incurred and charged to General and administrative expenses	4,388
Costs paid during the period	(5,887)
Liability at December 31, 2023	**$ 573**

The amounts included in the liabilities at December 31, 2023 and the cash paid during the period, include amounts relating to accrued payments to these employees for services provided prior to the acquisition of TCR^2 by the Company.

Note 16 – Business combinations

On March 6, 2023 the Company announced entry into a definitive agreement under which it would combine with TCR^2 Therapeutics Inc. ("TCR^2") in an all-stock transaction to create a preeminent cell therapy company focused on treating solid tumors. TCR^2 is a Boston, Massachusetts-based T-cell therapy company focused on treating solid tumors, with clinical franchises undergoing trials and a preclinical pipeline. The combination provides extensive benefits for clinical development and product delivery supported by complementary technology platforms.

The transaction was approved by the Company's shareholders and TCR^2 stockholders on May 30, 2023 and the merger became effective on June 1, 2023. The Company issued 357,429,306 shares to TCR^2 stockholders in return for 100% of TCR^2's stock. As a result, TCR^2 and all entities within the TCR^2 group, became wholly owned by the Company. Following the completion of the transaction, the former TCR^2 stockholders held approximately 25% of the Company, whereas the Company's pre-existing shareholders held approximately 75%.

The Company was identified as the acquirer, with TCR^2 as the acquiree, and June 1, 2023 was determined to be the acquisition date.

The consideration transferred for TCR^2 includes the shares issued by the Company to former TCR^2 shareholders, plus the fair value of replacement awards of the Company granted to TCR^2 grant holders attributable to

pre-combination vesting. The table below summarizes the consideration transferred and the amounts of the assets acquired and liabilities assumed recognized at the acquisition date:

Consideration transferred:		
Fair value of 357,429,306 ordinary shares issued	$	60,763
Fair value of replacement options and RSU-style options granted attributable to pre-combination service:		963
Purchase consideration	**$**	**61,726**
Identifiable assets acquired and liabilities assumed:		
Assets acquired		
Cash and cash equivalents	$	43,610
Restricted cash		1,654
Marketable securities - available-for-sale debt securities		39,532
Other current assets and prepaid expenses		6,029
Property, plant and equipment		2,712
Operating lease right-of-use assets		5,145
Intangible assets		58
Total assets acquired	**$**	**98,740**
Liabilities assumed		
Accounts payable		(6,210)
Accrued expenses and other current liabilities		(4,537)
Operating lease liabilities, current		(1,974)
Operating lease liabilities, non-current		(2,244)
Total liabilities assumed	**$**	**(14,965)**
Net assets acquired and liabilities assumed	**$**	**83,775**

The fair value of the 357,429,306 ordinary shares issued to TCR^2 stockholders of $60,763,000 was determined on the basis of the closing market price of $1.02 ($0.17 per ordinary share) of the Company's ADSs as of May 31, 2023.

The assets acquired and liabilities assumed were measured based on management's estimates of the fair value as of the acquisition date, excluding leases.

The lease contracts acquired by the Company relate to the rental of office and manufacturing spaces in which TCR^2 was the lessee. The Company retained TCR^2's previous classification of acquired leases as operating leases as there were no lease modifications as a result of the combination, with the exception of leases with a remaining lease term of 12 months or less at the acquisition date, for which no assets or liabilities were recognized at the acquisition date. The lease liabilities were measured at the present value of the remaining lease payments as if the leases were a new lease as of June 1, 2023, discounted using the incremental borrowing rate. The right-of-use assets were measured at the same amount as the lease liabilities, with adjustments to reflect favorable or unfavorable terms compared to market terms. No intangible assets were identified in relation to lease contracts acquired.

The table below summarizes the calculation for the gain on bargain purchase, recognized in the Gain on bargain purchase line in the Consolidated Statement of Operations:

Gain on bargain purchase

Purchase consideration	$	(61,726)
Net assets acquired and liabilities assumed		83,775
Gain on bargain purchase	**$**	**22,049**

The transaction resulted in a gain on bargain purchase as the purchase consideration included in the agreement on March 6, 2023 comprising Company ADSs was based on a fixed ratio of 1.5117 of the Company's ADSs to be issued for each TCR^2 stock acquired. As the transaction was an all-stock transaction, the value of the consideration was highly sensitive to changes in the Company's ADS price. The price of a Company ADS fell from a closing price of $1.32 on March 6, 2023 compared to a closing price of $1.02 on May 31, 2023.

The amount of TCR^2's earnings that are included in the Company's Consolidated Statement of Operations for the year ended December 31, 2023 was a loss of $32,427,000 which excludes the gain on bargain purchase.

The amount of revenue and earnings of the combined entity for the years ended December 31, 2023 and 2022, had the acquisition date been January 1, 2022, are as follows:

	Year ended December 31, 2023	Year ended December 31, 2022
Revenue	$ 60,281	$ 27,148
Net loss	(177,312)	(301,879)

The supplemental pro forma earnings for the year ended December 31, 2023 were adjusted to exclude the $22.0 million Gain on bargain purchase, the $7.3 million of acquisition-related costs recognized by the Company, as detailed below, and the $9.0 million of acquisition-related costs incurred by TCR^2. The pro forma earnings for the year ended December 31, 2022 were adjusted to include these gains and losses. The supplemental pro forma earnings for both periods were adjusted to include the impact of replacement options issued, as if these had been issued as of January 1, 2022. Accordingly, the share-based compensation expense recognized by TCR^2 in the year ended December 31, 2022, and the five months ended May 31, 2023, prior to the acquisition by the Company, of $11.4 million and $1.0 million, respectively, were excluded from the pro forma earnings.

TCR^2 did not generate revenue in the period from January 1, 2022 to December 31, 2023, as it has no contracts with customers, so there was no impact on the revenue included in the Company's Consolidated Statement of Operations or in the supplemental pro forma revenue and earnings presented above.

The Company incurred the following acquisition-related costs that were recognized as an expense in the nine months ended December 31, 2023:

Legal, professional and accounting fees	$ 5,174
Bankers' fees	2,172
Total acquisition-related costs	**$ 7,346**

All acquisition-related costs that were recognized as an expense were recognized in General and administrative expenses in the Consolidated Statement of Operations. No issuance costs were incurred relating to the issuance of shares to TCR^2 stockholders.

Note 17 – Subsequent events

The Company has evaluated subsequent events from January 1, 2024 up to March 6, 2024.

At-the-Market Offerings

During the period from January 1, 2024 through March 6, 2024, we sold 18,750,000 ADSs under the Sales Agreement representing 112,500,000 ordinary shares resulting in net proceeds to the Company of $14,653,500 after deducting commissions payable under the Sales Agreement and estimated issuance costs. As of March 6, 2024, approximately $171,067,867 remained available for sale under the Sales Agreement.