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, 2017

OR

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

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	**(44) 1235 430000**
(Address of principal executive offices)	(Registrant's telephone number, including area code)

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

Title of each class	**Name of exchange on which registered**
American Depositary Shares, each representing 6 Ordinary Shares, par value £0.001 per share	The NASDAQ Global Select Market

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

☐ Yes ☒ No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

☒

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 ☐ (Do not check if a smaller reporting company)	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 is a shell company (as defined in Rule 12b-2 of the Act).

☐ Yes ☒ No

As of June 30, 2017, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's ordinary shares, par value £0.001 per share, held by non-affiliates was approximately $438,546,644.

As of March 9, 2018 the number of outstanding ordinary shares, par value £0.001 per share, of the Registrant is 562,142,638.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents (or parts thereof) are incorporated by reference into the following parts of this Form 10-K: Certain information required by Part III of this Annual Report on Form 10-K is incorporated from 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, 2017.

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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®" and "SPEAR" are registered trademarks of Adaptimmune.

Information Regarding Forward-Looking Statements

This Annual Report contains forward-looking statements that are based on our current expectations, assumptions, estimates and projections about us and our industry. All statements other than statements of historical fact in this Annual Report are forward-looking statements.

These forward-looking statements are subject to known and unknown risks, uncertainties, assumptions and other factors that could cause our actual results of operations, financial condition, liquidity, performance, prospects, opportunities, achievements or industry results, as well as those of the markets we serve or intend to serve, to differ materially from those expressed in, or suggested by, these forward-looking statements. These forward-looking statements are based on assumptions regarding our present and future business strategies and the environment in which we expect to operate in the future. Important factors that could cause those differences include, but are not limited to:

- our ability to successfully advance our MAGE-A10, MAGE-A4 and AFP SPEAR T-cells through clinical development and the timing within which we can recruit patients and treat patients in our clinical trials;
- our ability to successfully and reproducibly manufacture SPEAR T-cells in order to meet patient demand;
- our ability to further develop our commercial manufacturing process for our SPEAR T-cells, transfer such commercial process to third party contract manufacturers, if required, and for such third party contract manufacturers or ourselves to manufacture SPEAR T-cells to the quality and on the timescales we require;
- the scope and timing of performance of our ongoing collaboration with GSK and the scope and timing of transition of the NY-ESO SPEAR T-cell program to GSK following exercise of option by GSK;
- our ability to successfully advance our SPEAR T-cell technology platform to improve the safety and effectiveness of our existing SPEAR T-cell candidates and to submit Investigational New Drug Applications, or INDs, for new SPEAR T-cell candidates;
- the rate and degree of market acceptance of T-cell therapy generally, and of our SPEAR T-cells;
- government regulation and approval, including, but not limited to, the expected regulatory approval timelines for our SPEAR T-cells and the level of pricing and reimbursement for our SPEAR T-cells, if approved for marketing;
- the existence of any third party patents preventing further development of any of our SPEAR T-cells, including, any inability to obtain appropriate third party licenses, or enforcement of patents against us;
- our ability to obtain granted patents covering our SPEAR T-cells and to enforce such patents against third parties;
- volatility in equity markets in general and in the biopharmaceutical sector in particular;
- fluctuations in the price of materials and bought-in components;
- our relationships with suppliers, contract manufacturing organizations or CROs and other third-party providers including fluctuations in the price of materials and services, ability to obtain reagents particularly where such reagents are only available from a single source, and performance of third party providers;
- increased competition from other companies in the biotechnology and pharmaceutical industries including where such competition impacts ability to recruit patients in to clinical trials;
- claims for personal injury or death arising from the use of our SPEAR T-cell candidates;

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- our ability to attract and retain qualified personnel;
- a change in our status as an emerging growth company under the Jumpstart Our Business Start-ups Act of 2012, or JOBS Act; and
- additional factors that are not known to us at this time.

Additional factors that could cause actual results, financial condition, liquidity, performance, prospects, opportunities, achievements or industry results to differ materially include, but are not limited to, those discussed under "Risk Factors" in Part I, Item 1A in this Annual Report and in our other filings with the Securities and Exchange Commission (the "SEC"). Additional risks that we may currently deem immaterial or that are not presently known to us could also cause the forward-looking events discussed in this Annual Report not to occur. The words "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "expect" and similar words are intended to identify estimates and forward-looking statements. Estimates and forward-looking statements speak only at the date they were made, and we undertake no obligation to update or to review any estimate and/or forward-looking statement because of new information, future events or other factors. Estimates and forward-looking statements involve risks and uncertainties and are not guarantees of future performance. Our future results may differ materially from those expressed in these estimates and forward-looking statements. In light of the risks and uncertainties described above, the estimates and forward-looking statements discussed in this Annual Report might not occur, and our future results and our performance may differ materially from those expressed in these forward-looking statements due to, inclusive of, but not limited to, the factors mentioned above. Because of these uncertainties, you should not make any investment decision based on these estimates and forward-looking statements.

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Item 1. Business

Overview

We are a clinical-stage biopharmaceutical company focused on providing novel cell therapies to patients, particularly in solid tumors. Our comprehensive and proprietary SPEAR (Specific Peptide Enhanced Affinity Receptor) T-cell platform enables us to identify cancer targets, find and genetically engineer T-cell receptors ("TCRs"), and produce therapeutic candidates for administration to patients. Using our affinity engineered TCRs, we aim to become a fully integrated cell therapy company and to be the first company to have a TCR T-cell approved for a solid tumor indication.

We have four SPEAR T-cells in clinical trials, MAGE-A10, MAGE-A4, AFP and NY-ESO. Phase 1/2 clinical trials are ongoing in patients with various cancer tumor types including urothelial, melanoma, head and neck, ovarian, esophageal, gastric, multiple myeloma, hepatocellular cancers and in synovial sarcoma, myxoid round cell liposarcoma ("MRCLS") and non small cell lung cancer ("NSCLC").

Our MAGE-A10 SPEAR T-cells have shown promising tolerability profiles with no evidence of off-target toxicities observed. In particular as of January 27, 2018, there have been no reports of any severe neurotoxic events similar to CAR-T cell related encephalopathy syndrome ("CRES"). The MAGE-A10 triple tumor study dose escalation to 1 billion transduced cells, which is the dose previously observed to provide responses with our NY-ESO SPEAR T-cell, has been recommended by the Safety Review Committee ("SRC"). In the MAGE-A10 NSCLC study, the SRC has recommended modification of the protocol to permit escalation of the patient dose to 1 billion transduced cells with fludarabine and cyclophosphamide preconditioning in the next treatment cohort. In the MAGE-A4 trial patient enrollment has started in bladder, melanoma, head and neck, ovarian, NSCLC, esophageal and gastric cancers.

Our NY-ESO SPEAR T-cell has shown promising initial results in clinical trials with a 50% response rate and a median projected overall survival of 120 weeks (~28 months) in Cohort 1 of synovial sarcoma (a solid tumor) and 76% overall response rate at day 100 in multiple myeloma. We have also now seen three partial responses (two confirmed and one to be confirmed) and one stable disease in the first four patients dosed in a second solid tumor indication, MRCLS. Our NY-ESO SPEAR T-cell therapy has breakthrough therapy designation in the United States and has also received orphan drug designation from the U.S. Food and Drug Administration ("FDA"), and European Commission for the treatment of soft tissue sarcoma. The European Medicines Agency ("EMA") has also granted PRIME regulatory access for our NY-ESO SPEAR T-cell therapy for the synovial sarcoma indication.

In September 2017, GlaxoSmithKline ("GSK") exercised its option to obtain an exclusive global license to the NY-ESO SPEAR T-cell program. Upon transition of the NY-ESO program to GSK which is anticipated to occur during 2018, GSK will assume full responsibility for all development, manufacturing and commercialization activities for the NY-ESO SPEAR T-cell including progression of the SPEAR T-cell into further clinical trials.

In January 2018, we announced that we had successfully manufactured the first SPEAR T-cells for a patient at our Navy Yard facility in Philadelphia. We intend to use the facility to manufacture SPEAR T-cells for all three of our wholly owned programs. In addition in January 2018 we also announced an agreement with Cell and Gene Therapy Catapult for vector production in the U.K., which is intended to ensure vector supply for our ongoing and future clinical studies.

Our SPEAR T-cell platform is being utilized with the aim of maximizing both patient and disease indication coverage in a number of different ways.

- We are using our platform to identify and validate cancer targets for development of SPEAR T-cells in multiple indications. Within a given indication, the frequency of expression of these identified targets may be low, and may not be uniformly expressed in every cell within a tumor. As a result, we are developing multiple SPEAR T-cells to different target antigens within selected disease indications to increase treatment potential for any given disease. For example the NY-ESO-1, MAGE-A4 and MAGE-A10 SPEAR T-cells address targets expressed in NSCLC, melanoma, urothelial (bladder) cancers and head and neck cancers, with each of these indications being addressed by at least two of the SPEAR T-cells.

- We are also developing SPEAR T-cells directed to targets which are closely related to a specific disease indication. The first of these SPEAR T-cells is our AFP SPEAR T-cell which is directed to hepatocellular cancer. Further targets closely associated with other cancers are also being validated.

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- Finally, we are identifying peptides to different Human Leukocyte Antigen ("HLA") types ensuring that for any given target, for example NY-ESO, MAGE-A10, MAGE-A4 or AFP, we can address patient populations with different HLA types.

We also recognize that further development of our SPEAR T-cells may be assisted by an enhancement in efficacy and durability of response. We therefore have a number of next generation and combination SPEAR T-cell strategies designed to further develop and engineer our SPEAR T-cells in addition to the initiation of combination therapy approaches, the first of which is with Merck & Co., Inc's ("Merck") KEYTRUDA®. In addition to our internal next generation programs, to enable continued innovation and development, we also have collaborations with third parties intended to promote further next generation solutions. These include our collaboration with Universal Cells, Inc. ("Universal Cells") and our collaboration with Bellicum Pharmaceutical Inc. ("Bellicum"). With Universal Cells, we are looking to develop affinity engineered donor T cells that are universally applicable to all patients. While these "universal cells" would be specific for a given HLA type and target antigen, they would overcome the current limitation of autologous therapies that need to be manufactured specifically for each patient. The enhanced T-cell technology being developed involves selective engineering of cell surface proteins, without the use of nucleases, to develop universal T-cell products. If successful, this will enable us to treat patient populations with an off-the-shelf product. Our Bellicum collaboration was announced in December 2016 and under the collaboration, we will evaluate Bellicum's GoTCR technology (inducible MyD88/CD40 co-stimulation, or iMC) with our SPEAR T-cells for the potential to create enhanced T-cell therapeutics.

Business Strategy

Our strategic objective is to be a world leader in discovering, developing and commercializing TCR-based T-cell therapies that transform the clinical outcomes of patients with cancer. We have an ambition to be a fully integrated cell therapy company and to have the first TCR T-cell approved for a solid tumor indication. In order to achieve our objectives, we are focused on the following strategies:

Advance our clinical studies for our MAGE-A10, MAGE-A4 and AFP SPEAR T-cells. We have four SPEAR T-cells with open INDs covering multiple indications, three of these being wholly owned. We plan to advance these wholly owned SPEAR T-cells further during 2018 with the aim of providing initial tolerability and response data for at least one wholly owned SPEAR T-cell during 2018. We are working with leading cancer centers including through our strategic alliance agreement with MD Anderson to advance our SPEAR T-cells.

Continue to use our SPEAR T-cell platform to generate SPEAR T-cells for cancers where existing therapeutic approaches are limited. We intend to continue to generate new SPEAR T-cells from our fully integrated technology platform, which enables the systematic identification and validation of suitable target peptides, T-cell cloning, engineering of TCRs and preclinical testing processes.

Continue to understand, further enhance and improve the effectiveness and persistence of our SPEAR T-cell therapies. We continue to evaluate and work to understand the mechanism of action of our SPEAR T-cells, in particular the best approaches for further enhancing the effectiveness and persistence of our SPEAR T-cells. We continue to further develop our SPEAR T-cells by exploring the addition of other components in our lentiviral vector, which would be expressed in the SPEAR T-cells alongside the engineered TCR. In addition, we are evaluating the combination of our NY-ESO SPEAR T-cell with Merck's KEYTRUDA® (pembrolizumab) in patients with multiple myeloma. This combination trial is anticipated to transition to GSK during 2018.

Optimize and expand our process development and manufacturing capabilities to maintain our leadership position in the TCR space. We have now opened our own SPEAR T-cell manufacturing facility at the Navy Yard in Philadelphia, U.S. and have secured vector manufacturing capability within a manufacturing facility operated by the Cell and Gene Therapy Catapult in the U.K. We will continue to expand our SPEAR T-cell and vector manufacturing capability during 2018. In addition we continue to optimize the manufacture, supply, associated analytical expertise and quality systems for our SPEAR T-cell therapies to ensure that our manufacturing capability is sufficient for later-stage clinical trials and, potentially, initial commercial supply.

Expand our intellectual property portfolio. We intend to continue building on our technology platform, comprising intellectual property, proprietary methods and know-how in the field of TCRs and T-cells. These assets form the foundation for our ability not only to strengthen our product pipeline, but also to defend and expand our position as a leader in the field of T-cell therapies.

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Our SPEAR T-cell Therapies

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, or 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 TCR expressed on the T-cells. Binding of naturally occurring TCRs to cancer targets, however, tends to be very poor because cancer proteins appear very similar to naturally occurring proteins on healthy cells and TCRs that recognize what the body sees as "self-proteins" are eliminated during early human development. Even when TCRs recognize cancer cells

expressing novel proteins caused by mutations, elements of the immune system, or the cancer itself often suppress the T-cell response.

Target Identification and Validation

Before developing any engineered T-cell or TCR it is important to identify and validate a suitable target cancer peptide. The target must be expressed primarily only on the cancer cells of interest and with expression in normal non-cancerous tissue only where a risk to the patient would be deemed acceptable. Careful validation and identification of targets is important to ensuring that any engineered TCR is specific to the targeted cancer and does not bind to the same target on non-cancer cells, or that the TCR does not recognize a similar peptide derived from a protein in normal cells. Our target identification platform is focused on three approaches. First, we are using our platform to validate cancer testis antigens, for example the NY-ESO, MAGE-A4 and MAGE-A10 antigens. Second, we are using our platform to identify non-cancer testis antigens which are closely related to a specific disease indication, for example the AFP antigen which is closely related to hepatocellular cancer. Finally, we are identifying targets to different HLA types ensuring that for any given target, we can address patient populations with different HLA types.

Affinity Engineering

Following identification of a suitable target peptide, we identify TCRs that are capable of binding to that target peptide. We then engineer those identified TCRs to enhance and optimize their ability to target and bind to the cancer peptides, thereby enabling a highly targeted immunotherapy. The optimized TCR then undergoes extensive preclinical safety testing prior to administration to patients. Our SPEAR T-cell platform technology enables us to develop a pipeline of targets and TCR therapeutic candidates that we believe may be effective in a variety of cancer types that are unresponsive to currently available and experimental therapies. We have four SPEAR T-cells already in clinical trials (NY-ESO, MAGE-A10, MAGE-A4 and AFP) and a pipeline of SPEAR T-cells in development.

Administration to Patients

The process for treating a patient with an engineered TCR therapeutic candidate involves extracting the patient's T-cells and then combining the extracted cells with our delivery system containing the gene for our affinity-enhanced TCR, through a process known as transduction. Our delivery system uses a type of self-inactivating (SIN) virus, known as SIN-lentivirus, to transduce the patient's T-cells and is referred to as a lentiviral vector. The transduced T-cells are then expanded and infused into the patient. When these T-cells encounter a recognized HLA-peptide complex, they multiply and initiate the destruction of the targeted cancer cells.

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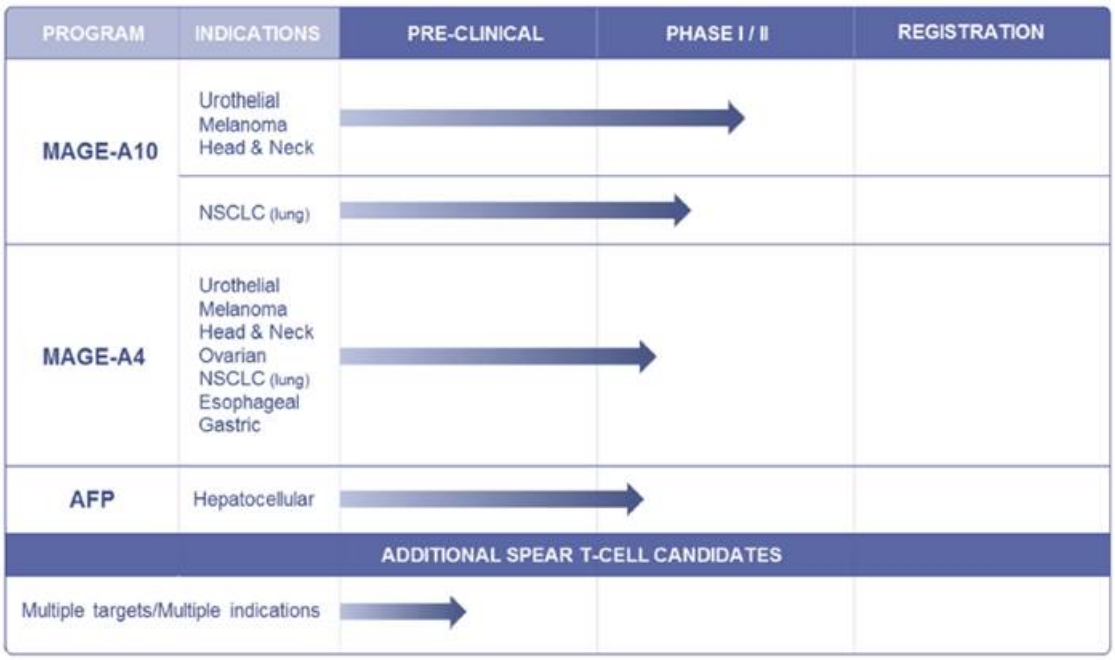
Our Wholly Owned Clinical Product Pipeline



We have Phase 1 clinical trials ongoing with our wholly-owned MAGE-A10, MAGE-A4 and AFP SPEAR T-cells in a total of eight tumor types including NSCLC, head and neck cancer, ovarian, urothelial, melanoma, esophageal, gastric and liver cancers and as shown in the table above.

Our MAGE-A10 SPEAR T-cell Therapy

Phase 1 clinical trials are ongoing with our MAGE-A10 SPEAR T-cell in NSCLC, urothelial, melanoma and head and neck cancers in the United States, Canada, the United Kingdom and most recently Spain. Initial safety data from the phase 1 studies has shown no evidence of off-target toxicity and as of January 27, 2018 there have been no reports of severe neurotoxic events similar to CAR-T cell-related encephalopathy syndrome (CRES). Further data from our MAGE-A10 SPEAR T-cell trials is expected to be presented at the American Society of Cancer Oncology ("ASCO") conference in June 2018.

- ***NSCLC:*** Approximately 80 to 85 percent of all lung cancers are NSCLC, and smoking is by far the leading risk factor. About 40 percent of all NSCLCs are adenocarcinomas. Squamous cell carcinoma is the second most common in the United States and Europe being 25 to 30 percent of NSCLC. Lung cancer is by far the leading cause of cancer death among both men and women, and it is estimated that one out of four cancer deaths are from lung cancer. Lung cancer mainly occurs in older people, and approximately two out of three people diagnosed with lung cancer are 65 or older, while less than two percent are younger than 45.

  The initial clinical program in NSCLC is an open label Phase 1 modified 3+3 dose escalating study in patients with advanced stage NSCLC expressing the MAGE-A10 antigen. Patients receive preconditioning with fludarabine and cyclophosphamide. The primary objectives of the study are to assess safety and tolerability of our MAGE-A10 TCR therapeutic candidate in patients. Secondary objectives include the assessment of anti-tumor activity and durability of persistence. Enrollment of patients into this program is challenging, however the Safety Review Committee has now recommended a protocol modification to allow dose escalation to treatment of patients with 1 billion T-cells with fludarabine and cyclophosphamide preconditioning in the next treatment cohort, following the initial 100 million T-cell dose level.

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- ***3-tumor trial:*** This is a Phase 1 open-label, modified 3+3 dose escalation study of the MAGE-A10 SPEAR T-cell in HLA-A*0201 and HLA-A*0206 positive patients with inoperable or metastatic urothelial cancer (transitional cell cancer of the bladder, ureter or renal pelvis), melanoma, or squamous cell carcinoma of the head and neck expressing the MAGE-A10 antigen. Patients receive preconditioning with modified fludarabine and cyclophosphamide.

  - ***Urothelial:*** Urothelial carcinoma is the most common type of bladder cancer. These cancers mainly start in the urothelial cells that line the inside of the bladder or other parts of the urinary tract. Bladder cancer accounts for approximately five percent of all new cancers in the United States, and is the fourth most common cancer in men. Men are about three to four times more likely to get bladder cancer than women. It was estimated that 79,030 new cases of bladder cancer will be diagnosed (about 60,490 in men and 18,540 in women), and about 16,870 deaths from bladder cancer will occur (about 12,240 in men and 4,630 in women) in the United States in 2017. Bladder cancer occurs mainly in older people, and approximately 9 out of 10 people with this cancer are over the age of 55.

  - ***Melanoma:*** Melanoma is a cancer that begins in specific skin cells called melanocytes, and exposure to ultraviolet rays is a major risk factor for most melanomas. It is estimated that approximately 87,110 new melanomas will be diagnosed (about 52,170 in men and 34,940 in women), and about 9,730 people were expected to die of melanoma (about 6,380 men and 3,350 women) in the United States in 2017. The risk of melanoma increases as people age, and the average age at diagnosis is 63 years. However, melanoma is not uncommon among those younger than 30, and it is one of the most common cancers in young adults (especially young women).

  - ***Head and Neck*:** Cancers of the head and neck, which include cancers of the oral cavity, larynx, pharynx, salivary glands, and nose/nasal passages, account for approximately three percent of all malignancies in the United States. At least 75 percent of head and neck cancers are caused by tobacco and alcohol use. Infection with cancer-causing types of human papillomavirus ("HPV") is also a risk factor for some types of head and neck cancers. In recent years, there has been a drop in the incidence of head and neck cancers caused by tobacco and alcohol, and a rise in the incidence of head and neck cancers caused by HPV.

  Initial patients in this trial have been treated with 100 million T-cells. The Safety Review Committee has now recommended dose escalation to treatment of patients with the 1 billion cell dose.

Our MAGE-A4 SPEAR T-cell Therapy

Enrollment in the MAGE-A4 SPEAR T-cell trial in urothelial, melanoma, head and neck, ovarian, NSCLC, esophageal and gastric cancers is ongoing. Patients are initially being treated with an initial target dose of 100 million T-cells (safety dose). Multiple sites in the United States are now active and recruiting and will enroll up to 32 patients. Initial data is anticipated during 2018.

The Phase 1, open-label, modified 3+3 dose escalation study is in HLA*02 positive patients with inoperable locally advanced or metastatic melanoma, and urothelial, head and neck, ovarian, non-small cell lung, esophageal, and gastric cancers expressing the MAGE-A4 target peptides. Patients will receive preconditioning with fludarabine and cyclophosphamide.

Our AFP SPEAR T-cell Therapy

We have a Phase 1, open label, dose escalation study designed to evaluate the safety and anti-tumor activity of our alpha fetoprotein ("AFP") therapeutic candidate in hepatocellular carcinoma ("HCC") ongoing in the United States. The trial is also open in the United Kingdom and Spain. The Phase 1 clinical trial will include a dose escalation and expansion of a tolerable dose to explore initial evidence of anti-tumor activity.

AFP is a target peptide associated with hepatocellular carcinoma. Hepatocellular carcinoma is the most common type of liver cancer in adults. Many patients who develop liver cancer have long-standing cirrhosis (scar tissue formation from liver cell damage), and early detection can be difficult because signs and symptoms often do not appear until later stages. It was estimated that approximately 40,710 new cases of liver cancer will be diagnosed (about 29,200 in men and 11,510 in women) and about 28,920 people will die from this disease (about 19,610 men and 9,310 women) in the United States in 2017.

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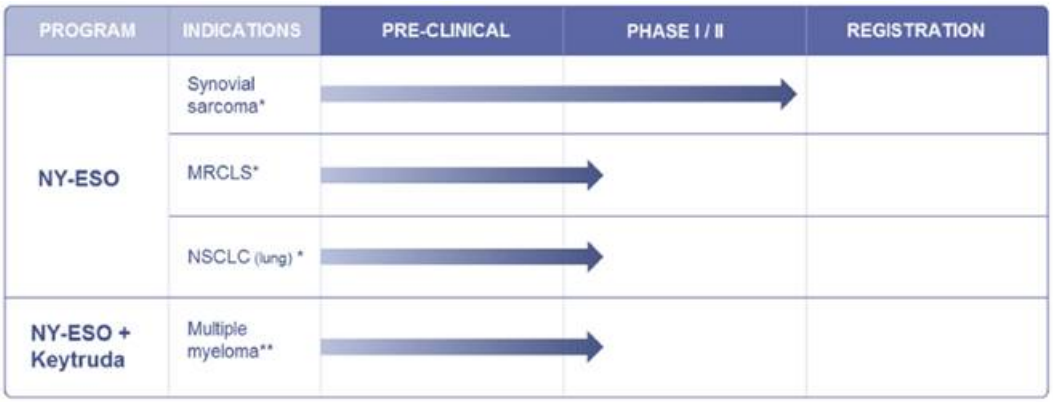
Our NY-ESO SPEAR T-cell Therapy (partnered with GSK)



*Adaptimmune's accrual complete
**Ongoing
MRCLS = myxoid/round cell liposarcoma

The NY-ESO SPEAR T-cell is currently in clinical trials in the United Statesand continues to show a promising tolerability profile in all clinical trials as of

September 5, 2017 with no severe neurotoxic events similar to CAR-T cell related encephalopathy syndrome ("CRES") as at January 27, 2018.

On September 7, 2017, we announced that GSK had exercised its option under the GSK Collaboration and License Agreement to exclusively license the right to research, develop and commercialize the NY-ESO SPEAR T-cell. Further details on exercise of the option can be found in the *Core Alliances and Collaborations* section below.

Following exercise of this option by GSK, we are transitioning the NY-ESO SPEAR T-cell program to GSK, with full transition anticipated during 2018.

- *Synovial Sarcoma*:

Soft tissue sarcomas can develop from tissues like fat, muscle, nerves, fibrous tissues, blood vessels, or deep skin tissues. There are approximately 50 types of soft tissue sarcomas, including synovial sarcoma, which is a malignant tumor of the soft tissues arising often around joints. Synovial sarcoma is associated with a characteristic chromosomal translocation, and represents about nine percent of all soft tissue sarcomas. This disease is more common in children and young adults, and typically presents at an age ranging from 15 to 40 years. The majority of patients who develop metastatic soft tissue sarcomas are currently incurable, with 75% to 80% of patients not surviving past two to three years. First line therapy typically involves radiotherapy and chemotherapy, as well as surgical resection where possible. There are limited additional treatment options for unresectable, recurrent and metastatic synovial sarcoma, which is nearly always fatal, and systemic therapy is mainly used to provide palliation and slow disease progression.

There are four cohorts in the Phase 1/2 pilot study:

- Cohort 1 (patients with high NY-ESO-1 antigen expression and lymphodepletion with cyclophosphamide and fludarabine) — enrollment in this first cohort is now complete.
- Cohort 2 (patients with low NY-ESO-1 antigen expression and lymphodepletion with cyclophosphamide and fludarabine) — enrollment continues in this cohort.
- Cohort 3 (patients with high NY-ESO-1 antigen expression and lymphodepletion with cyclophosphamide alone) — only one confirmed response was observed in evaluable patients treated in cohort 3 and as a result, this cohort has now closed. The data from this cohort 3 suggest that fludarabine may be required as part of the pre-conditioning regimen.

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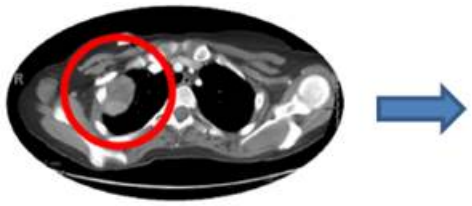
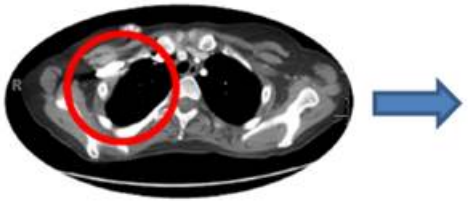
- Cohort 4 (patients with high NY-ESO-1 antigen expression and lymphodepletion with a modified (lower) dose of cyclophosphamide and fludarabine) — given the lack of response seen in cohort 3, cohort 4 was opened and has now fully enrolled. We expect to present data comparing cohorts 1 and 4 during the American Society of Clinical Oncology ("ASCO") conference in June 2018.

As of September 2017, initial anti-tumor activity was observed in all ongoing cohorts, including low expressors of NY-ESO. NY-ESO SPEAR T-cells continued to be well-tolerated with all reported events of cytokine release syndrome resolved. There have been no reports of severe neurotoxicity safety events similar to CAR-T cell-related encephalopathy syndrome (CRES) as of January 27, 2018 . One patient experienced a fatal bone marrow failure which was considered related to study treatment by the investigator in the trial. Internal investigations have not identified a mechanism by which the NY-ESO SPEAR T-cells may have caused this bone marrow failure. Survival data was promising with a median predicted overall survival of 120 weeks (~28 months) among the 12 treated patients in Cohort 1; or, 159 weeks (~37 months) for the ten patients in this cohort who received the target dose of greater than one billion cells.

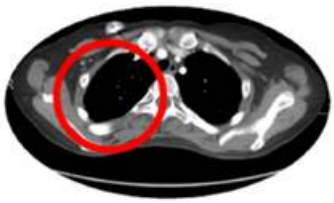
The following diagram illustrates the response seen in one patient with synovial sarcoma in cohort 4 of our synovial sarcoma trial. The red circle indicates one of the two target lesions which was in the patient's lung prior to treatment, at week 4 after T-cell infusion and up to week 8 after T-cell infusion.



Baseline (cohort 4)
· 34 yr old female; synovial sarcoma lung
· Prior therapies doxorubicin, ifosfamide,pazopanib, gemcitabine, 7 surgical resections
· Showing target lesion 1 of 2, 54mm per RECIST(v1.1)



Week 4
· Had received 2.8 x 10^9 transduced T-cells
· Partial response at 4 weeks
· 90.7% decrease in target lesion 1, 77% decrease in both target lesions 1 and 2 per RECIST (v1.1)



Week 8
· Partial response maintained
· Target lesion 1 not measurable at week 12 due to reduction in size

· *MRCLS*:

Enrollment in this program is continuing in the United States and the program is anticipated to transition to GSK during 2018.This is an open-label pilot study in patients to assess preliminary safety and efficacy in this indication. Initially, ten patients will be enrolled. If further characterization of the treatment is required, up to five additional patients may be enrolled. Eligible patients will be HLA-A*02:01, HLA-A*02:05 and/or HLA-A*02:06 with advanced (metastatic or inoperable) MRCLS whose tumor express NY-ESO-1 (defined as ≥30% of tumor cells that are 2+ or 3+ by immunohistochemistry). Patients receive preconditioning with fludarabine and cyclophosphamide at the same dose that is being used in cohort 4 of our ongoing synovial sarcoma Phase 1/2 study.

Soft tissue sarcomas can develop from tissues like fat, muscle, nerves, fibrous tissues, blood vessels, or deep skin tissues. There are more than 50 types of soft tissue sarcomas, including MRCLS, which is mostly located in the limbs (most

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frequently in the thighs). MRCLS is a solid tumor associated with a characteristic chromosomal translocation, and represents about 30 to 35 percent of liposarcomas and 5 to 10 percent of all adult soft tissue sarcomas. MRCLS commonly presents at an age ranging from 35 to 55 years.

The NY-ESO SPEAR T-cell appears to have a promising tolerability profile in MRCLS patients and initial responses have been observed in the first four patients dosed, with three partial responses (two confirmed and one to be confirmed) and one stable disease seen.

· *Ovarian program:*

Enrollment in the ovarian program has ceased. GSK will assume responsibility for any further development for this indication and any long term follow up for patients previously enrolled and treated in the program. To date no objective clinical responses have been reported in patients.

· *Melanoma program:*

Enrollment in the melanoma program has ceased. To date no objective clinical responses have been reported in patients.

· *Myeloma program:*

Multiple myeloma is a cancer formed by malignancies of plasma cells, which are found in the bone marrow and are an important part of the immune system. It is estimated that approximately 30,280 new cases of multiple myeloma will be diagnosed in the United States in 2017 (17,490 in men and 12,790 in women). Multiple myeloma is characterized by several features, including low blood counts, bone and calcium problems, infections, kidney problems, monoclonal gammopathy, and by the proliferation of malignant plasma cells within bone marrow. The risk of multiple myeloma goes up as people age, and less than one percent of cases are diagnosed in people younger than 35. Most people diagnosed with this cancer are at least 65 years of age.

Interim results from a Phase 1/2 clinical trial in multiple myeloma patients were reported in Nature Medicine, published on July 20, 2015. This trial has now closed. 25 patients were treated in the study. As at July 2017, the overall response rate at day 100 was 76% (1 sCR, 1 CR, 8 VGPR and 1PR). Three patients remain disease progression free at 39, 56 and 61 months post T-cell infusion. These results were reported in Blood, 130 (Supplement 1), 845.

Enrollment of patients has now started into a multiple myeloma combination study withMerck's anti-programmed death-1 ("PD-1") inhibitor, KEYTRUDA® (pembrolizumab). This trial is anticipated to transition to GSK during 2018. The study is evaluating the safety, pharmacodynamics, and preliminary efficacy of the combination.

· *NSCLC program*:

Enrollment in the NSCLC study has completed and GSK will assume responsibility for any further development for this indicationAny patients already enrolled in the NSCLC study will continue to be treated and followed for safety, efficacy and long term follow up.

The conduct and timing of any pivotal trial or other trials using the NY-ESO SPEAR T-cell will be the responsibility of GSK following exercise of its option over the NY-ESO SPEAR T-cell program and full transition of the program to GSK.

Next Generation Technology and Manufacturing Platform Development

Next Generation Therapeutics

We believe that there is potential to enhance the potency and durability of our SPEAR T-cells, for instance by adding further active proteins into the lentiviral delivery system. These enhancements are designed to result in next generation SPEAR T-cells for future clinical programs. We have multiple development programs ongoing which are researching different modifications to our SPEAR T-cells. For example, we have an active development program for a 'dnTGFBRII' SPEAR T-cell. This next generation SPEAR T-cell is designed to block immune suppression by TGFB in certain tumor microenvironments, thereby enhancing the activity and duration of response seen with our SPEAR T-cells within those environments. We are also considering CD8 constructs where the aim is to promote the antigen spread, anti-tumor memory and tumor inflammation seen with our SPEAR T-cells.

Manufacturing Improvements

We now have our own SPEAR T-cell manufacturing capability at the Navy Yard in Philadelphia, Pennsylvania. Patient SPEAR T-cell manufacture for our wholly owned assets has started. Control of our own manufacturing process enables to improve and further develop our processes for manufacture of our lentiviral vector and SPEAR T-cells. Our goal is to achieve a more consistent and efficient manufacturing process and ultimately to reduce the cost of supply.

We have made a number of changes to our current SPEAR T-cell manufacturing process. In particular, we are now streamlining some of the manual steps in the process by simplifying the initial T-cell selection through increased use of the antibody-bound magnetic Dynabeads® CD3/CD28. We have also introduced cryopreservation steps which make the logistics of administering our SPEAR T-cells more flexible for patients and which also facilitate treatment of patients outside the United States. Expansion and harvest of the SPEAR T-cells is now serum-free after initial culture preparation and is being further optimized. Finally, we are also working towards automation of parts of the manufacturing process.

For the vector supply, we are developing and evaluating alternative approaches to increase volume and continuity of supply while at the same time decreasing the cost of the vector supply. We are also collaborating with the Cell and Gene Therapy Catapult for the provision of a module within its manufacturing facility at Stevenage, UK to enable our own manufacturing of vector and further enhance our ability to optimize the vector manufacturing process.

Core Alliances and Collaborations

We have entered into core alliance or collaboration agreements with GSK (collaboration and license agreement),MD Anderson (collaboration designed to expedite the development of T-cell therapies for multiple types of cancer); Merck (clinical trial collaboration agreement for the assessment of our NY-ESO SPEAR T-cell therapy in combination with Merck's PD-1 inhibitor, KEYTRUDA® (pembrolizumab), in patients with multiple myeloma); Universal Cells (collaboration relating to gene editing and HLA-engineering technology); and Bellicum Pharmaceuticals Inc. (Co-Development and Co-Commercialization Agreement).

GSK Collaboration and License Agreement

We entered into a strategic collaboration and license agreement with GSK in May 2014 (the "GSK Collaboration and License Agreement") regarding the development, manufacture and commercialization of TCR therapeutic candidates. The collaboration is for up to five programs, the first being the NY-ESO SPEAR T-cell program and the second the PRAME SPEAR T-cell program.

On September 7, 2017 we announced that GSK had exercised its exclusive option for the NY-ESO SPEAR T-cell program. As part of the option exercise a transition plan was agreed between us and GSK for the transition of the NY-ESO SPEAR T-cell clinical trials and program to GSK. Transition is expected to occur during 2018. Following transition of the program to GSK, GSK will assume full responsibility for the NY-ESO SPEAR T-cell program including any ongoing clinical trials. As a result of the option exercise, we will receive up to £48 million (~$61 million) from GSK over the course of the transition period. This includes development milestones of up to £18 million (~$23 million) and an option payment of £30 million (~$38 million), which also allows GSK to nominate two additional targets following completion of the transition. Successful continuation of development and subsequent commercialization of NY-ESO would trigger additional payments for development milestones, tiered sales milestones, and mid-single to low double-digit royalties on worldwide net sales.

In relation to the second target nominated, Adaptimmune will be responsible for taking the PRAME SPEAR T-cell program through preclinical testing and up to Investigational New Drug ("IND") application filing. GSK is responsible for the IND filing itself. GSK has an exclusive option over the program. Under the terms of the GSK Collaboration and License Agreement, the potential development milestones eligible related to the PRAME program could amount to approximately $300 million, if GSK exercises its option and successfully develops this target in more than one indication and more than one HLA type. Adaptimmune would also receive tiered sales milestones and mid-single to low double-digit royalties on worldwide net sales.

Three other targets may be nominated by GSK at specified times under the GSK Collaboration and License Agreement, excluding any research programs already in progress by Adaptimmune. Upon nomination by GSK of any of these three additional targets, we will grant to GSK an exclusive option on each target, which can be exercised up to four months after approval of an IND application in relation to a TCR therapeutic candidate directed against the nominated target. Nomination also triggers the start of a collaboration program to develop the relevant TCR therapeutic candidate directed to the nominated target peptide.

Following exercise of any option (including the options for the NY-ESO SPEAR T-cell and PRAME SPEAR T-cell programs), we will grant to GSK an exclusive worldwide license under intellectual property rights specific to the SPEAR T-cell developed under the relevant collaboration programs. GSK will, at its own expense, be fully responsible for all further development and commercialization of the relevant T-cell candidates. The licenses do not include a right for GSK to develop alternative affinity-enhanced TCRs using our intellectual property rights or to develop other TCR therapeutic candidates directed to different target peptides. Under the agreement, we are also prohibited from independently developing or commercializing T-cell therapeutics directed at the targets subject to outstanding options granted to GSK.

Under the GSK Collaboration and License Agreement, we received an upfront payment of $42.1 million in June 2014 and are entitled to various milestone payments based on the achievement of specified development and commercialization milestones. As of December 31, 2017, we had achieved development milestones of $49.3 million.

In addition to the development milestones, we are entitled to royalties from GSK on all GSK sales of SPEAR T-cells licensed under the agreement, varying between a mid-single-digit percentage and a low-double-digit percentage of net sales, subject to certain agreed reductions, dependent on the cumulative annual net sales for each calendar year. Royalties are payable while there is a jointly owned or solely owned valid patent claim covering the SPEAR T-cell in the country in which the relevant SPEAR T-cell is being sold and, in each case, for a minimum of 10 years from first commercial sale of the relevant TCR therapeutic. Sales milestones also apply once any TCR therapeutic covered by the GSK Collaboration and License Agreement is on the market.

The GSK Collaboration and License Agreement is effective until all payment obligations expire, including any ongoing royalty payments due in relation to GSK's sale of any covered TCR therapeutic candidates. The agreement can also be terminated on a collaboration program-by-collaboration program basis by GSK for lack of feasibility or inability to meet certain agreed requirements. Both parties have rights to terminate the agreement for material breach upon 60 days' written notice or immediately upon insolvency of the other party. GSK has additional rights to terminate either the agreement or any specific license or collaboration program upon 60 days' written notice to us. Additional payments may be due to us as a result of such termination, and where we continue any development of any TCR therapeutic candidate resulting from a terminated collaboration program, depending on the stage of development, royalties may be payable to GSK at a mid-single-digit percentage rate of net sales. We also have rights to terminate any license where GSK ceases development or withdraws any licensed SPEAR T-cells in specified circumstances.

Details of the relationship are also set out in "Risk Factors — Risks Related to Our Reliance Upon Third Parties — We rely heavily on GSK for our NY-ESO TCR therapeutic candidate clinical program, which may also affect other SPEAR T-cell programs".

Intellectual Property

We actively 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 SPEAR T-cells 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 SPEAR T-cells and SPEAR platform technology, preserve the confidentiality of our know-how 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 claiming priority from the initial application(s) and then application for patent grant in, for example, the United States, 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 our SPEAR T-cells or TCRs. 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 technology, manufacturing processes and SPEAR T-cells.

As of December 31, 2017 we owned or jointly owned approximately 150 granted patents (of which 15 are U.S.-issued patents) and 107 pending patent applications (of which 7 are U.S. National patent applications). These patents and patent applications include claims directed to our SPEAR T-cells, our platform technology used to identify and generate engineered TCR therapeutic candidates, our next generation SPEAR T-cell technology and our manufacturing and process technology.

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Product Patents

NY-ESO - We own granted patents covering the composition of matter of our NY-ESO SPEAR T-cell. The patent claims are directed to the NY-ESO SPEAR TCR and in particular the amino acid substitutions required for such engineered TCR therapeutic candidate. The patent has been granted in major territories including Australia, Europe (Switzerland, Germany, Denmark, France, United Kingdom, Ireland and the Netherlands), New Zealand, Japan and the United States. These granted patents are expected to expire in May 2025.

MAGE-A10 - We own patent applications covering the composition of matter of our MAGE-A10 TCR therapeutic candidate. The patent application claims are directed to the engineered TCR therapeutic candidate and in particular the amino acid substitutions required for such engineered TCR therapeutic candidate. An initial priority patent application was filed in the UKIPO and a patent application under the applicable Patent Co-operation Treaty has since been filed claiming priority from that U.K. patent application. National applications have been filed in all commercially relevant territories.

AFP - We own patent applications covering the composition of matter of our AFP therapeutic candidate. As with our NY-ESO and MAGE-A10 TCR therapeutic candidates, the patent application claims are directed to the engineered TCR therapeutic candidate and in particular the amino acid substitutions required for such engineered TCR therapeutic candidate. An initial priority patent application was filed in the UKIPO and a patent application under the applicable Patent Co-operation Treaty has since been filed claiming priority from that U.K. patent application. National applications have been filed in all commercially relevant territories.

MAGE-A4 - We own three patent applications covering the composition of matter of our MAGE-A4 therapeutic candidate and other related TCRs. As with our NY-ESO and MAGE-A10 TCR therapeutic candidates, the patent application claims are directed to the engineered TCR therapeutic candidate and in particular the amino acid substitutions required for such engineered TCR therapeutic candidate. The initial priority patent applications were filed in the UKIPO and patent applications under the applicable Patent Co-operation Treaty have since been filed claiming priority from that U.K. patent application.

Platform Technology

We jointly own a number of platform technology patents and patent applications. These are jointly owned with Immunocore Limited ("Immunocore"), a company with whom we have historically had a shared development history, and are directed to certain aspects of the process that we use to engineer our SPEAR TCRs. For example, patents directed to the di-sulphide bond stabilization technique required to solubilize TCRs for isolation, characterization and validation have been issued in major territories including Australia, Canada, China, major European territories (including the United Kingdom, France, Germany, Spain and Italy), India, Hong Kong, Japan, the United States and South Africa and are expected to expire beginning in 2022. Patents have also been granted in relation to our phage display approach for TCRs and are expected to expire beginning in 2023. The priority patent application was filed in 2002 and patents are now granted in the United States, Australia, Canada, China, major European territories (including the United Kingdom, France, Germany, Spain and Italy), Japan, South Africa, India, Norway and New Zealand. Other examples include an issued patent directed to a method for increasing the affinity of given TCRs to a target peptide (expected to expire in 2025) and patent applications directed to decreasing off-target reactivity and selection for the affinity-enhanced TCRs.

For further information on Immunocore, see further "Related "Risk Factors—Risks Related to Our Reliance Upon Third Parties—We have a shared development history with Immunocore and as a result jointly-own certainly intellectual property rights which are required for our ongoing business."

Novel targets

We have filed 29 patent applications under the Patent Cooperation Treaty which cover peptides expressed on the tumor cell surface and the TCRs which recognize them. The applications as filed cover 872 peptides from 63 different target proteins.

TCR libraries

We have filed 10 patent applications which cover large libraries of TCR genes which we have generated and the method of their generation: these act as proprietary sources for screening for TCRs which are the starting points for affinity engineering into clinical candidates.

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Manufacturing Process Patents and Patent Applications

We also have know-how and patent applications that we own which relate to the manufacture of our SPEAR T-cells. For example, we have filed patent applications in the major 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. A further patent application has been filed on enhancing the activity of our manufactured T-cells, and two further patent applications on increasing the efficiency of manufacture of our T-cell product are expected to be filed shortly.

Next Generation Approaches

We have recently filed a priority generating patent application in relation to a gene which prevents our cytotoxic T-cells from being inhibited by the immunosuppressive tumor microenvironment. A patent application under the applicable Patent Co-operation Treaty has since been filed claiming priority from that U.K. patent application and a patent application was filed in the US for accelerated prosecution under the Cancer Immunotherapy Pilot Program. This is potentially relevant to all of our SPEAR T-cells in solid tumor indications and protects one of the next generation SPEAR T-cell products under development.

Exclusive License for Bead Products

In December 2012, we entered into two agreements, a license and a sub-license, with ThermoFisher Scientific Inc. ("ThermoFisher"). The license agreement grants us a field-based exclusive license under certain intellectual property rights owned or controlled by ThermoFisher in relation to the methods of use of the ThermoFisher Scientific 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 licensed products and use and sell those TCR products to treat cancer, infectious disease and/or autoimmune disease. The licensed field relates to the *ex-vivo* activation and expansion of human T cells containing engineered TCRs for use as a therapy for treating cancer, infectious disease and/or autoimmune disease and where the therapy comprises the steps of (a) removing a sample containing T cells from a patient; (b) isolating T cells from that sample using the ThermoFisher bead product or similar magnetic beads; (c) transfecting those isolated T cells with a gene or genes encoding engineered TCRs of known antigen specificity; (d) activating and expanding the population of those engineered T cells using the ThermoFisher bead product or similar magnetic beads; and (e) introducing the expanded, engineered T cells back into the same patient. The license is not sub-licensable, but we are able to sub-contract manufacture of the licensed products to our contract manufacturing organizations. Our sub-licensees have access to the required license directly from ThermoFisher under the above-described intellectual property rights on terms equivalent to those we have obtained from ThermoFisher in relation to our partnered licensed products.

We have granted an option under the license agreement to ThermoFisher to take an exclusive license under any improvements made by or for, or controlled by, us to the ThermoFisher patented technology to the extent any such improvements are dominated by the patent rights licensed to us. Any license will be outside of the exclusive field we have been granted, namely engineered T-cell therapy.

Under the license agreement, we have to demonstrate reasonable commercial efforts to carry out development and commercialization of the licensed products and we are required to make certain expenditures for research and development relating to the commercialization of the licensed products. This obligation is deemed satisfied upon first commercial sale of a licensed product. We have certain payment obligations under the license agreement including an upfront license fee of $335,000, which has already been paid, minimum annual royalty (in the low 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 (payable for each licensed product on achievement of certain development and commercialization milestones per licensed product) and a low single-digit running royalty payable on the net selling price of each licensed product. The license agreement will last until the expiration of the latest to expire of the licensed patent rights. The license agreement can be terminated before the end of its term by mutual agreement, by ThermoFisher on the occurrence of certain events (failure to use reasonable commercial efforts, willful making of a false statement of a material fact, breach of antitrust laws or other laws, material breach of the agreement, payment default or if we have challenged the validity or enforceability of any of the licensed patents). The license may also be terminated in the event of insolvency by either party.

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We also have a field-based 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 U.S. Navy and the Dana-Farber Cancer Institute. The sub-license has the same relevant exclusivity scope and field-based restrictions and many of the terms are equivalent to those set out in the main license agreement with ThermoFisher, including the same requirement to demonstrate reasonable commercial efforts to carry out development and commercialization of the licensed products as in the main license agreement with ThermoFisher. We have certain payment obligations under the sub-license agreement including an upfront license fee of $665,000, which has already been paid, minimum annual royalty (in the tens of thousands of U.S. dollars prior to product approval and thereafter at a level of 50% of running royalties in the previous year), milestone payments (payable for each sub-licensed product on achievement of certain development and commercialization milestones per sub-licensed product) and a low single-digit running royalty payable on the net selling price of each sub-licensed product. The sub-license agreement will last until the expiration of the latest to expire of the sub-licensed patent rights. The sub-license agreement can be terminated before the end of its term by mutual agreement, by ThermoFisher or the head licensors on the occurrence of certain events (failure to use reasonable commercial efforts, willful making of a false statement of a material fact, failure to adequately meet any requirement for public use required under Federal regulations, breach of antitrust laws or other laws, material breach of the agreement, payment default or if we have challenged the validity or enforceability of any of the sub-licensed patents). The sub-license may also be terminated in the event of insolvency by either party. The sub-license has an additional requirement that any manufacture of engineered TCR products for sale in the United States must occur in the United States and reserves rights for the U.S. government to use the technology in accordance with 35 USC §200 *et seq.* and for the University of Michigan, and Dana-Farber Cancer Institute to use the technology for non-commercial research purposes. The aggregate milestone payments payable per product under the license and sub-license agreements do not exceed $5 million.

On June 16, 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 used in our manufacturing process to isolate, activate and expand patient T-cells. 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 exclusively from ThermoFisher for a period of 5 years and there are also minimum purchasing obligations. ThermoFisher has the right to terminate the supply agreement for material breach or insolvency.

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

Immunocore Limited

We have an assignment and license agreement in place with Immunocore that relates to certain co-owned patents, patent applications and rights in know-how that were originally developed by Avidex and subsequently acquired by Medigene. The patents, patent applications and rights in know-how are now fully co-owned by Adaptimmune and Immunocore. Each company utilizes the jointly owned patents and know-how within separate fields or applications, with our focus being on the treatment of patients with our SPEAR T-cells and Immunocore's focus being on the treatment of patients with soluble TCRs. There are no termination rights in the assignment and license agreement.

See further "Related "Risk Factors—Risks Related to Our Reliance Upon Third Parties—We have a shared development history with Immunocore and as a result jointly-own certainly intellectual property rights which are required for our ongoing business."

Other Third-Party Intellectual Property Rights

Third-party patents do exist that purport to cover some or all of our current lentiviral vectors/systems or our process for manufacture. However, the majority of these patents will expire prior to any commercial supply by us of any TCR therapeutic candidates and we do not currently require a license. Whether licenses are required under any remaining third-party patents or other third-party patents depends on what steps we take going forward in relation to our lentiviral transduction process and manufacturing process. We may, however, need to negotiate a license under any remaining third party patents or develop alternative strategies for dealing with any remaining third party patents if licenses are not available on commercially acceptable terms or at all.

From time to time, we will use samples or cell lines obtained from third parties in order to identify either suitable targets or TCRs that bind to certain targets. The agreements under which samples are provided vary between third parties and certain third parties require entry into license agreements. These agreements may also contain

payment obligations relating to the use of the various samples or the information obtained from use of those samples.

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Competition

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition, a strong emphasis on proprietary products and intellectual property. While we believe that our scientific knowledge, technology and development experience provide us with competitive advantages, we face potential competition from many different sources, including major pharmaceutical, specialty pharmaceutical and biotechnology companies, academic institutions, governmental agencies and public and private research institutions. Any SPEAR T-cells that we successfully develop and commercialize will compete with existing products and new products that may become available in the future.

Immunotherapy is an active area of research and a number of immune-related products have been identified in recent years that are alleged to modulate the immune system. Many of these products utilize dendritic cells, a form of immune cell that presents cancer target peptides to T cells and that can in turn result in T-cell activation. More recently, bi-specific antibodies and checkpoint inhibitors (for instance PD-1/PD-L1 antibodies) have been identified as having utility in the treatment of cancer. Bi-specific antibodies commonly target both the cancer peptide and the TCR, thus bringing both cancer cells and T cells into close proximity to maximize the chance of TCR binding and hence an immune response to the cancer cells. Checkpoint inhibitors on the other hand work by targeting receptors that inhibit T-cell effectiveness and proliferation and essentially activate T cells. Other immunotherapies that are being actively investigated include: antibody-drug complexes, TCR-mimic antibodies, oncolytic viruses, cancer vaccines. A variety of cell-based autologous and allogeneic approaches are also being researched and developed, including but not limited to: CAR-T cell, TCR T cell, GammaDelta T cell, CAR-NK cell, NK cell, NKT cell and CTL.

- **CAR-T in hematological malignancies:** Engineered T cell therapeutics have been identified using antibody recognition systems engineered into T cells, so-called CAR-T cells. For the majority of approaches, CAR-T cells have access to extracellular proteins only and are independent of human leukocyte antigens (HLAs). A number of targets in hematological malignancies have been well characterized including, but not limited to: BCMA, CD4, CD5, CD19, CD22, CD20, CD33, CD38, CD70 and CD123. In 2017, the US FDA approved two CD-19 directed autologous CAR-T cell products, which are commercially available: Kymriah™ (tisagenlecleucel; Novartis) for the treatment of patients up to 25 years of age with B-cell precursor acute lymphoblastic leukemia (ALL) that is refractory or in second or later relapse, and Yescarta™ (axicabtagene ciloleucel) for the treatment of adult patients with relapsed or refractory large B-cell lymphoma after two or more lines of systemic therapy, including diffuse large B-cell lymphoma (DLBCL) not otherwise specified, primary mediastinal large B-cell lymphoma, high grade B-cell lymphoma, and DLBCL arising from follicular lymphoma. In addition a number of pharmaceutical, biotechnology, and academic institutions are researching and developing autologous and allogeneic CAR-T therapies to a variety of target antigen. Many of these CAR-T cells in development are undergoing pivotal or Phase I/II clinical trials and some could seek marketing approval submissions during 2018 and beyond.

- **CAR-T in solid tumors:** In addition to hematological malignancies, there are a growing number of pharmaceutical, biotechnology, and academic institutions researching and developing autologous and allogeneic CAR-T therapies in the solid tumor setting. These CAR-T cell therapies are at a variety of stages of preclinical and clinical development, as well as directed towards a broad target spectrum, including but not limited to: EGFR, GD2, HER-2, IL13rα2, Lewis Y, L1-CAM, Mesothelin, MUC16, PSCA, PSMA and ROR1.

- **CARs & TCR-mimics targeting peptide-HLA complexes:** Most CAR-T therapies in development are directed towards antigen targets. However competitors are also developing a CAR-T that selectively binds to the peptide-HLA (pHLA) complex (the natural binding site for endogenous TCR). Furthermore, competitors are also looking at pHLA antibodies or TCR mimic antibodies that can either be engineered in T-cells or developed as standalone antibody therapies in cancer indications (both hematologic malignancies and solid tumors). Targets of such pHLA CAR-T or TCR mimic antibodies include: AFP, CD19, BCMA, NY-ESO-1, p53 and WT1.

- **TCR T-cells:** Competitors are developing TCR T-cells (including affinity engineered T-cells) that are directed towards a multitude of targets including: HPV-16 E6, KRAS, MAGE-A1, MAGE-A3, MAGE A3/A6, NY-ESO-1, PRAME and WT1. Juno Therapeutics has developed an engineered TCR therapeutic candidate where the end TCR is purported to have enhanced affinity through stem-cell selection. Juno's candidate JTCR016 (WT1-specific TCR), in collaboration with Fred Hutchinson Cancer Research Center and the National Cancer Institute (NCI), is currently undergoing a Phase 1/2 trial in NSCLC and mesothelioma setting as well as a separate Phase 1/2 in AML. Data from the NSCLC trial is likely to emerge in 2018. Medigene AG has reported development of a PRAME TCR therapeutic candidate, which is due to begin Phase 1/2 clinical investigation in AML, MM and myelodysplastic syndromes.

- **Other cell-based approaches:** In addition to all the adoptive cell therapy approaches above, our competitors are also investigating the potential of GammaDelta T cell, CAR-NK cell, NK cell, NKT cell and CTLs either in a preclinical or clinical setting (both hematologic malignancies and solid tumors).

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Government Regulation and Product Approvals

Government authorities in the United States, at the federal, state and local level, and in other countries and jurisdictions, including the European Union, 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 United States 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.

The failure to comply with applicable U.S. requirements at any time during the product development process, approval process or after approval may subject an applicant and/or sponsor to a variety of administrative or judicial sanctions, including refusal by the FDA to approve pending applications, withdrawal of an approval, imposition of a clinical hold, issuance of warning letters and other types of letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement of profits, or civil or criminal investigations and penalties brought by the FDA and the Department of Justice ("DOJ"), or other governmental entities.

FDA Approval Process

In the United States, therapeutic products, including drugs, biologics, and medical devices are subject to extensive regulation by the FDA. The Federal Food, Drug, and Cosmetic Act (the "FDC Act"), 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. Some biological products are subject to regulation under the FDC Act. Most biological products are approved for marketing under provisions of the Public Health Service Act ("PHSA") via a Biologics License Application ("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, warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties, and criminal prosecution.

Biological product development for a new product or certain changes to an approved product in the United States typically involves preclinical laboratory and animal tests, the submission to the FDA of an 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 drug 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 tests include laboratory evaluation of product chemistry, formulation, and toxicity, as well as animal trials to assess the characteristics and potential safety and efficacy of the product. The conduct of the preclinical tests must comply with federal regulations and requirements, including good laboratory practices. The results of preclinical testing are submitted to the FDA as part of an IND along with other information, including information about product chemistry, manufacturing and controls, and a proposed clinical trial protocol. Long term preclinical tests, such as animal tests of reproductive toxicity and carcinogenicity, may continue after the IND is submitted.

A 30-day waiting period after the submission of each IND is required prior to the commencement of clinical testing in humans. If the FDA has neither commented on nor questioned the IND within this 30-day period, the clinical trial proposed in the IND may begin.

Clinical trials involve the administration of the investigational biologic to healthy volunteers or patients under the supervision of a qualified investigator. Clinical trials must be conducted: (i) in compliance with federal regulations; (ii) in compliance with good clinical practice, or GCP, an international standard meant to protect the rights and health of patients and to define the roles of clinical trial sponsors, administrators, and monitors; as well as (iii) under protocols detailing the objectives of the trial, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated. Each protocol involving testing on U.S. patients and subsequent protocol amendments must be submitted to the FDA as part of the IND.

The FDA may order 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. The trial protocol and informed consent information for patients in clinical trials must also be submitted to an IRB for approval. An 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.

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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 drug or 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 relationship of the drug or biologic and to provide adequate information for the labeling of the product.

In most cases, the FDA requires two adequate and well-controlled Phase 3 clinical trials to demonstrate the efficacy of the biologic. A single Phase 3 trial with other confirmatory evidence may be sufficient in some instances 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 impossible.

After completion of the required clinical testing, a BLA is prepared and submitted to the FDA. FDA approval of the BLA is required before marketing of the product may begin in the United States. The BLA must include the results of all preclinical, clinical, and other testing and a compilation of data relating to the product's pharmacology, chemistry, manufacture, and controls. The cost of preparing and submitting a BLA is substantial. The submission of most BLAs is additionally subject to a substantial application user fee, currently exceeding $2,335,000, and the manufacturer and/or sponsor under an approved new drug application are also subject to annual product and establishment user fees, currently exceeding $110,000 per product and $569,000 per establishment. These fees are typically increased annually.

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 it is sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth review. The FDA has agreed to certain performance goals in the review of BLAs. Most such applications for standard review biologic products are reviewed within 10 months of the date the FDA files the BLA; most applications for priority review biologics are reviewed within six months of the date the FDA files the BLA. Priority review can be applied to a biologic that the FDA determines 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 review process for both standard and priority review may be extended by the FDA for three additional months to consider certain late-submitted information, or information intended to clarify information already provided in the submission.

The FDA may also refer applications for novel biologic products, or biologic products that present difficult questions of safety or efficacy, to an advisory committee —typically a panel that includes clinicians and other experts—for review, evaluation, and a recommendation as to whether the application should be approved. The FDA is not bound by the recommendation of an advisory committee, but it generally follows such recommendations. Before approving a BLA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP. Additionally, the FDA will inspect the facility or the facilities at which the biologic product is manufactured. The FDA will not approve the product unless compliance with current good manufacturing practice cGMP is satisfactory and the BLA contains data that provide substantial evidence that the biologic is safe, pure, potent and effective in the indication studied.

After the FDA evaluates the BLA and the manufacturing facilities, it issues either an approval letter or a complete response letter. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing, or information, 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.

An approval letter authorizes commercial marketing of the biologic with specific prescribing information for specific indications. 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. The requirement for a REMS can materially affect the potential market and profitability of the product. Moreover, product approval may require substantial post-approval testing and surveillance to monitor the product's safety or efficacy. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

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Changes to some of the conditions established in an approved application, including changes in indications, labeling, or manufacturing processes or facilities, may require submission and FDA approval of a new BLA or BLA supplement before the change can be implemented. A BLA supplement for a new indication may require clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing BLA supplements as it does in reviewing BLAs.

FDA Guidance Governing Gene Therapy Products

The FDA has issued various guidance documents regarding gene therapies, which outline additional factors that the FDA will consider at each of the above stages of development and relate to, among other things, the proper preclinical assessment of gene therapies; the chemistry, manufacturing, and controls information that should be included in an IND application; the proper design of tests to measure product potency in support of an IND application or BLA; and measures to observe delayed adverse effects in subjects who have been exposed to investigational gene therapies when the risk of such effects is high.

If a gene therapy trial is conducted at, or sponsored by, institutions receiving NIH funding for recombinant DNA research, a protocol and related documentation must be submitted to, and the study registered with, the NIH Office of Biotechnology Activities ("OBA"), pursuant to the NIH Guidelines for Research Involving Recombinant DNA Molecules, prior to the submission of an IND to the FDA. In addition, many companies and other institutions not subject to the NIH Guidelines voluntarily follow them. The NIH convenes the RAC, a federal advisory committee, to discuss protocols that raise novel or particularly important scientific, safety or ethical considerations at one of its quarterly public meetings. The OBA notifies the FDA of the RAC's decision regarding the necessity for full public review of a gene therapy protocol. RAC proceedings and reports are posted to the OBA website and may be accessed by the public.

Fast Track Designation and Accelerated Approval

The FDA is required to facilitate the development, and expedite the review, of biologics that are intended for the treatment of a serious or life- threatening disease or condition for which there is no effective treatment and which demonstrate the potential to address unmet medical needs for the condition. Under the fast track program, the sponsor of a new biologic candidate may request that the FDA designate the candidate for a specific indication as a fast track biologic concurrent with, or after, the filing of the IND for the candidate. The FDA must determine if the biologic candidate qualifies for fast track designation within 60 days of receipt of the sponsor's request.

Under the fast track program and FDA's accelerated approval regulations, the FDA may approve a 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.

In clinical trials, a surrogate endpoint is a measurement of laboratory or clinical signs of a disease or condition that substitutes for a direct measurement of how a patient feels, functions, or survives. Surrogate endpoints can often be measured more easily or more rapidly than clinical endpoints. A biologic candidate approved on this basis is subject to rigorous post- marketing compliance requirements, including the completion of Phase 4 or post-approval clinical trials to confirm the effect on the clinical endpoint. Failure to conduct required post-approval trials, or confirm a clinical benefit during post-marketing trials, will allow the FDA to withdraw the biologic from the market on an expedited basis. All promotional materials for biologic candidates approved under accelerated regulations are subject to prior review by the FDA.

In addition to other benefits such as the ability to use surrogate endpoints and engage in more frequent interactions with the FDA, the FDA may initiate review of sections of a fast track product's BLA before the application is complete. This rolling review is available if the applicant provides, and the FDA approves, a schedule for the submission of the remaining information and the applicant pays applicable user fees. However, the FDA's time period goal for reviewing an application does not begin until the last section of the BLA is submitted. Additionally, the fast track designation may be withdrawn by the FDA if the FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

Breakthrough Therapy Designation

The FDA is also required to expedite the development and review of the application for approval of biological products that are intended to treat a serious or life-threatening disease or condition where preliminary clinical evidence indicates that the biologic may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints.

Under the breakthrough therapy program, the sponsor of a new biologic candidate may request that the FDA designate the candidate for a specific indication as a breakthrough therapy concurrent with, or after, the filing of the IND for the biologic candidate. The FDA must determine if the biological product qualifies for breakthrough therapy designation within 60 days of receipt of the sponsor's request.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan drug designation to biological products intended to treat a rare disease or condition, generally a disease or condition that affects fewer than 200,000 individuals in the United States, or if it affects more than 200,000 individuals in the United States, there is no reasonable expectation that the cost of developing and making a product available in the United States 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. The first BLA applicant to receive FDA approval for a particular active moiety to treat a particular disease with FDA orphan drug designation is entitled to a seven-year exclusive marketing period in the United States for that product for that indication. During the seven-year exclusivity period, the FDA may not approve any other applications to market a biological product containing the same active moiety for the same disease, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity. A product is clinically superior if it is safer, more effective or makes 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. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the BLA user fee.

Disclosure of Clinical Trial Information

Sponsors of human clinical trials of FDA-regulated products, including biological products, are required to register and disclose certain clinical trial information. Information related to the product, patient population, phase of investigation, trial sites and investigators, and other aspects of the clinical trial is then made public as part of the registration. Sponsors are also obligated to discuss the results of their clinical trials after completion. Disclosure of the results of these trials can be delayed until the new product or new indication being studied has been approved. Competitors may use this publicly available information to gain knowledge regarding the progress of development programs.

Pediatric Information

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

not apply to any biological product for an indication for which orphan designation has been granted.

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 United States 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.

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Biosimilars

The Biologics Price Competition and Innovation Act of 2009, or 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, a biological product may be deemed biosimilar to an FDA-approved biological product or reference biological product upon a showing that there are no differences in conditions of use, route of administration, dosage form, and strength, and no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency. Biosimilarity generally must be shown through analytical trials, animal trials, and a clinical trial or trials, unless the Secretary waives a required element. A biosimilar product may be deemed interchangeable with a prior approved product if it meets the higher hurdle of demonstrating that it can be expected to produce the same clinical results as the reference product and, for products administered multiple times, the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. On March 6, 2015, the FDA approved the first biosimilar product under the BPCIA. Complexities associated with the larger, and often more complex, structures of biological products, as well as the process by which such products are manufactured, pose significant hurdles to implementation, which is still being evaluated by the FDA.

A reference biologic is granted 12 years of marketing exclusivity from the time of first licensure of the reference product, and in addition no application for a biosimilar can be submitted for four years from the date of licensure of the reference product. 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 biologics for the same condition of use for the lesser of (i) one year after first commercial marketing of the first interchangeable biosimilar, (ii) eighteen months after the first interchangeable biosimilar is approved if there is no patent challenge, (iii) eighteen 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's application has been approved if a patent lawsuit is ongoing within the 42-month period.

Post-Approval Requirements

Once a BLA is approved, a product will be subject to certain post-approval requirements. For instance, the FDA closely regulates the post-approval marketing and promotion of biologics, including standards and regulations for direct-to-consumer advertising, off-label promotion, industry- sponsored scientific and educational activities and promotional activities involving the internet. Biologics may be marketed only for the approved indications and in accordance with the provisions of the approved labeling.

Adverse event reporting and submission of periodic reports is required following FDA approval of a BLA. The FDA also may require post-marketing testing, known as Phase 4 testing, REMS, and surveillance to monitor the effects of an approved product, or the FDA may place conditions on an approval that could restrict the distribution or use of the product. In addition, quality control, biological product manufacture, packaging, and labeling procedures must continue to conform to cGMPs after approval. Biologic manufacturers and certain of their subcontractors are required to register their establishments with the FDA and certain state agencies. Registration with the FDA subjects entities to periodic unannounced inspections by the FDA, during which the agency inspects manufacturing facilities to assess compliance with cGMPs. Accordingly, manufacturers must continue to expend time, money, and effort in the areas of production and quality-control to maintain compliance with cGMPs. Regulatory authorities may withdraw product approvals or request product recalls if a company fails to comply with regulatory standards, if it encounters problems following initial marketing, or if previously unrecognized problems are subsequently discovered.

FDA Regulation of Companion Diagnostics

If safe and effective use of a therapeutic product depends on an *in vitro* diagnostic, then 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 and by the FDA's Center for Devices and Radiological Health.

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The PMA process, including the gathering of clinical and preclinical data and the submission to and review by the FDA, can take several years or longer. It 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. PMA applications are subject to an application fee, which exceeds $250,000 for most PMAs. 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. In particular, for a diagnostic, the applicant must demonstrate that the diagnostic produces reproducible results when the same sample is tested multiple times by multiple users at multiple laboratories. As part of the PMA review, the FDA will typically inspect the manufacturer's facilities for compliance with the Quality System Regulation, or QSR, which imposes elaborate testing, control, documentation and other quality assurance requirements.

PMA approval is not guaranteed, 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.

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

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. The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, collectively, the Healthcare Reform Act, amended the intent element of the federal statute so that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it. This statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers, and formulary managers on the other. Violations of the anti-kickback statute are punishable by imprisonment, criminal fines, civil monetary penalties, and exclusion from participation in federal healthcare programs. Although there are a number of statutory exemptions and regulatory safe harbors protecting certain common activities from prosecution or other regulatory sanctions, the exemptions and safe harbors are drawn narrowly, and practices that involve remuneration intended to induce prescribing, purchases, or recommendations may be subject to scrutiny if they do not qualify for an exemption or safe harbor.

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. This includes claims made to programs where the federal government reimburses, such as Medicaid, as well as programs where the federal government is a direct purchaser, such as when it purchases off the Federal Supply Schedule. Recently, several pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly inflating drug prices they report to pricing services, which in turn were used by the government to set Medicare and Medicaid reimbursement rates, and for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product.

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. The majority of states also have statutes or regulations similar to the federal anti-kickback law and false claims laws, which apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor.

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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.

Other Federal and State Regulatory Requirements

The Centers for Medicare & Medicaid Services, or CMS, has issued a final rule that implements a statutory requirement under the Healthcare Reform Act that requires applicable manufacturers of drugs, devices, biologicals, or medical supplies that are covered under Medicare, Medicaid, or the Children's Health Insurance Program, or CHIP, to begin collecting and reporting annually information on payments or transfers of value to physicians and teaching hospitals, as well as investment interests held by physicians and their immediate family members. Manufacturers had to begin collecting information in 2013, with the first reports due in 2014. On September 30, 2014, CMS posted the first round of data in searchable form on a public website. Failure to submit required information may result in civil monetary penalties.

In addition, several states now require prescription drug companies to report expenses relating to the marketing and promotion of drug products and to report gifts and payments to individual physicians in these states. Other states prohibit various other marketing-related activities. Still other states require the posting of information relating to clinical trials and their outcomes. In addition, California, Connecticut, Nevada, and Massachusetts require pharmaceutical companies to implement compliance programs and/or marketing codes. Several additional states are considering similar proposals. Compliance with these laws is difficult and time consuming, and companies that do not comply with these state laws face civil penalties.

Europe and Rest of the World Regulation

In addition to regulations in the United States, we will be subject to a variety of regulations in other jurisdictions both due to our location and the fact that we are engaging in clinical programs outside of the United States and will want to obtain worldwide regulatory approval for our TCR therapeutic candidates. In particular we have clinical trials ongoing in the UK and Spain and will be subject to regulations relating to performance of those clinical trials and manufacture and supply of our SPEAR T-cells and patient materials in the UK and Spain. Prior to supplying any TCR therapeutic candidate in any country or starting any clinical trials in any country outside of the United States we must obtain the requisite approvals from regulatory authorities in such countries. The existence of a United States 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 TCR therapeutic candidates. 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 is then submitted prior to any commercial supply, again to each relevant country's national health authority.

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 GCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki. However these requirements may well differ from country to country.

Review and Approval of Drug Products outside of the United States

In order to market any product outside of the United States, 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.

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Procedures Governing Approval of Products in the EU

Pursuant to the European Clinical Trials Directive, a system for the approval of clinical trials in the European Union 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 European Union 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. 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.

To obtain marketing approval of a product under European Union 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 European Union member states. The centralized procedure is compulsory for specific products, including for medicines produced by certain biotechnological processes, products designated as orphan medicinal products, advanced therapy products and products with a new active substance indicated for the treatment of certain diseases. For products with a new active substance indicated for the treatment of other diseases and products that are highly innovative or for which a centralized process is in the interest of patients, the centralized procedure may be optional.

Under the centralized procedure, the Committee for Medicinal Products for Human Use, or the CHMP, established at the EMA is responsible for conducting the initial assessment of a product. The CHMP is also responsible for several post-authorization and maintenance activities, such as the assessment of modifications or extensions to an existing marketing authorization. Under the centralized procedure in the European Union, 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.

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

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

In order to market any product outside of the United States, 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 drug products. Whether or not it obtains FDA approval for a product, the company would need to obtain the necessary approvals by the comparable foreign regulatory authorities before it can commence clinical trials or marketing of the product in those countries or jurisdictions. The approval process ultimately varies between countries and jurisdictions and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries and jurisdictions might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country or jurisdiction may negatively impact the regulatory process in others.

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. 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).

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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

As of December 31, 2017, we had 371 full-time equivalent employees. Of these employees, 288 were in research and development (including in manufacturing and operations, and quality control and quality assurance) and 83 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 represented by a labor union. We believe our employee relations are good.

Available Information

Access to our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to these reports filed with or furnished to the SEC, may be obtained through the investor section of our website at www.adaptimmune.com as soon as reasonably practical after we electronically file or furnish these reports. We do not charge for access to and viewing of these reports. 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 by reference. In addition, the public may read and copy any materials that we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. Also, our filings with the SEC may be accessed through the SEC's website at www.sec.gov. All statements made in any of our securities filings, including all forward-looking statements or information, are made as of the date of the document in which the statement is included, and we do not assume or undertake any obligation to update any of those statements or documents unless we are required to do so by law.

Corporate Information

Adaptimmune Therapeutics plc was incorporated on December 3, 2014 and is a public limited company incorporated under the laws of England and Wales. Pursuant to a corporate reorganization, completed on April 1, 2015, Adaptimmune Therapeutics plc holds the entire issued share capital of Adaptimmune Limited. Prior to the corporate reorganization, our business was conducted by Adaptimmune Limited and its consolidated subsidiary. Adaptimmune Limited was incorporated on December 19, 2007. Subsequent to the corporate reorganization our business was conducted by Adaptimmune Therapeutics plc and its consolidated subsidiaries, including Adaptimmune Limited. Our registered and principal executive offices are located at 60 Jubilee Avenue, Milton Park, Abingdon, Oxfordshire OX14 4RX, United Kingdom, our general telephone number is (+44) 1235 430000 and our corporate website address is www.adaptimmune.com. Our website and the information contained on or accessible through our website are not part of this document. Our agent for service of process in the United States is Adaptimmune LLC, located at 351 Rouse Boulevard, The Navy Yard, Philadelphia PA 19112, United States.

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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 condensed consolidated financial statements and the related notes, before making an investment decision regarding our securities. The risks and uncertainties described below are those significant 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.

Risks Related to Our Financial Condition and Capital Requirements

We are a clinical-stage biopharmaceutical company with no commercial products and prediction of future performance is very difficult.

We are a clinical-stage biopharmaceutical company focused on novel cancer immunotherapy products. We have no products or therapeutics approved for commercial sale and have not generated any revenue from product supplies or royalties. Our therapeutic candidates are based on engineered TCRs and are new and largely unproven. Our limited operating history, particularly in light of the rapidly evolving cancer immunotherapy field, may make it difficult to evaluate our current business and predict our future performance. Investment in biopharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate effect or an acceptable safety profile, gain regulatory approval and become commercially viable. Our inability to address these risks successfully would have a materially adverse effect on our business and prospects.

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 SPEAR T-cells, including engaging in activities to manufacture and supply our SPEAR T-cells for clinical trials in compliance with current good manufacturing practice, or cGMP, conducting clinical trials of our SPEAR T-cells, providing general and administrative support for these operations and protecting our intellectual property. 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 SPEAR T-cells.

For the years ended December 31, 2017 and 2016 and six months ended December 31, 2015 and the years ended June 30, 2015, we incurred net losses of $70.1 million, $71.6 million, $23.0 million and $22.1 million, respectively. As of December 31, 2017, we had accumulated losses of $231.6 million. 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 product candidates is difficult to estimate given the novel nature of our SPEAR T-cells and their un-proven route to market. Our profitability is dependent upon the successful development, approval, and commercialization of our SPEAR T-cells, successfully transferring the NY-ESO SPEAR T-cell program to GSK and achieving GSK milestones and achieving a level of revenues adequate to support our cost structure. We may never achieve profitability, and unless and until we do, we will continue to need to raise additional cash.

We have never generated any revenue from sales of our SPEAR T-cells and our ability to generate revenue from sales of our SPEAR T-cells and become profitable depends significantly on our success in a number of factors.

We have no SPEAR T-cells approved for commercial sale, have not generated any revenue from sales of our SPEAR T-cells, and do not anticipate generating any revenue from sales of our SPEAR T-cells until some time after we receive regulatory approval, if at all, for the commercial sale of a SPEAR T-cell. We intend to fund future operations through milestone payments under our collaboration and license agreement with GSK and through additional equity financings or other third party collaborations. Our ability to generate revenue and achieve profitability depends on our success in many factors, including:

- completing preclinical development and advancing our SPEAR T-cells to clinic;
- delivering on the clinical development strategy for our SPEAR T-cells;
- progressing our clinical trials within predicted timeframes and without any substantial delays, for example as may be caused by delays in patient recruitment, regulatory requirements to hold or suspend any clinical trials or delays in obtaining approvals required to conduct clinical trials;

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- demonstrating a favorable benefit (efficacy parameters): risk (safety) for our SPEAR T-cells that translate into a differentiated product of value for patients;
- obtaining data from clinical trials which are ongoing for SPEAR T-cells other than the NY-ESO SPEAR T-cell;
- obtaining regulatory approvals and marketing authorizations for our SPEAR T-cells for which we complete clinical trials;
- progressing our clinical trials within predicted timeframes and without any substantial delays, for example as may be caused by delays in patient recruitment, regulatory requirements to hold or suspend any clinical trials or delays in obtaining approvals required to conduct clinical trials;
- developing sustainable and scalable manufacturing and supply processes for our SPEAR T-cells, including establishing and maintaining commercially viable supply relationships with third parties and establishing our own commercial manufacturing capabilities and infrastructure;

- developing a reliable and commercially viable/cost effective commercial manufacturing process to enable commercial supply of our SPEAR T-cells;
- launching and commercializing SPEAR T-cells for which we obtain regulatory approvals and marketing authorizations, either directly or with a collaborator or distributor;
- obtaining market acceptance, pricing and reimbursement of our SPEAR T-cells as viable treatment options;
- addressing any competing technological and market developments;
- identifying, assessing, acquiring and/or developing new SPEAR T-cells;
- maintaining, protecting, and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how; and
- attracting, hiring and retaining qualified personnel.

Even if one or more of our SPEAR T-cells is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved SPEAR T-cell. Our expenses could increase beyond expectations if the FDA or any other regulatory agency requires changes to our manufacturing processes or assays, or for us to perform preclinical programs and clinical or other types of trials in addition to those that we currently anticipate. If we are successful in obtaining regulatory approvals to market one or more of our SPEAR T-cells, our revenue will be dependent, in part, upon the size of the markets in the territories for which we gain regulatory approval, the accepted price for the SPEAR T-cell, the ability to get reimbursement at any price, and whether we own the commercial rights for that territory. If the number of our addressable disease patients is not as significant as we estimate, the indication approved by regulatory authorities is narrower than we expect, or the reasonably accepted population for treatment is narrowed by competition, physician choice or treatment guidelines, we may not generate significant revenue from sales or supplies of such SPEAR T-cells, even if approved. If we are not able to generate revenue from the sale of any approved SPEAR T-cells, we may never become profitable.

If we fail to obtain additional financing, we may be unable to complete the development and commercialization of our SPEAR T-cells.

Our operations have required substantial amounts of cash since inception. We expect to continue to spend substantial amounts to continue the development of our SPEAR T-cells, including future clinical trials. If we receive approval for any of our SPEAR T-cells, we will require significant additional amounts in order to launch and commercialize these therapeutic candidates.

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As of December 31, 2017, we had $84.0 million of cash and cash equivalents and $124.2 million of marketable securities. We expect to use these funds to advance and accelerate the clinical development of our MAGE-A10, MAGE-A4 and AFP SPEAR T-cells, to further develop and enhance our manufacturing capabilities and secure a commercially viable manufacturing platform for all of our SPEAR T-cells, to advance additional SPEAR T-cells into preclinical testing and progress such SPEAR T-cells through to clinical trials as quickly as possible and to fund working capital, including other general corporate purposes. We believe that such proceeds, our existing cash, and cash equivalents, short-term deposits and marketable securities together with milestones payments to us under the GSK Collaboration and License Agreement will be sufficient to fund our operations for the foreseeable future, including for at least the next 12 months. However, changing circumstances beyond our control, including changes to the scope and timing of the programs under the GSK collaboration and in particular transition of NY-ESO program to GSK, may cause us to increase our spending significantly faster than we currently anticipate. We may require additional capital for the further development and commercialization of our SPEAR T-cells and may need to raise additional funds sooner if we choose to expand more rapidly than we presently anticipate.

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 SPEAR T-cells 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 SPEAR T-cells at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available or relinquish or license on unfavorable terms our rights to our SPEAR T-cells in markets where we otherwise would seek to pursue development or commercialization ourselves. Any of the above events could significantly harm our business, prospects, financial condition and results of operations and cause the price of our American Depositary Shares, or ADSs, to decline.

Risks Related to the Development of Our SPEAR T-cells

Our business is highly dependent on our existing SPEAR T-cell candidates including the NY-ESO SPEAR T-cell, the MAGE-A10 Spear T-cell, MAGE-A4 SPEAR T-cell and AFP SPEAR T-cell, which will require significant additional clinical testing before we can seek regulatory approval and begin commercialization of any of our SPEAR T-cells.

There is no guarantee that any of our SPEAR T-cells will achieve regulatory approval or proceed to the next stage of clinical programs. The process for obtaining marketing approval for any candidate is very long and risky and there will be significant challenges for us to address in order to obtain marketing approval, if at all.

There is no guarantee that the results obtained in current clinical trials for the NY-ESO SPEAR T-cell will be sufficient for GSK to plan one or more pivotal clinical trials and obtain regulatory approval or marketing authorization. Negative results in the NY-ESO SPEAR T-cell clinical program or in other investigator-initiated clinical programs utilizing the NY-ESO therapeutic candidate may also impact our ability to obtain regulatory approval for other SPEAR T-cells, either at all or within anticipated timeframes because, although the SPEAR T-cell may target a different cancer peptide, the underlying technology platform, manufacturing process and development process is the same for all of our SPEAR T-cells. 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 SPEAR T-cells.

We may not be able to submit INDs, or the foreign equivalent outside of the United States, to commence additional clinical trials for other SPEAR T-cells on the timeframes we expect, and even if we are able to, the FDA or comparable foreign regulatory authorities may not permit us to proceed with planned clinical trials.

Progression of new SPEAR T-cells into clinical trials is inherently risky and dependent on the results obtained in preclinical programs, the results of other clinical programs and results of third-party programs that utilize common components, such as production of the lentiviral vector lot used for production and administration of our SPEAR T-cell. If results are not available when expected or problems are identified during SPEAR T-cell development, we may experience significant delays in development of pipeline products and in existing clinical programs, which may impact our ability to receive regulatory approval. This may also impact our ability to achieve certain financial milestones and the expected timeframes to market any of our SPEAR T-cells. Failure to submit further IND or the foreign equivalent and commence additional clinical programs will significantly limit our opportunity to generate revenue.

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There is no guarantee that the FDA, or any other regulatory authority, will approve any IND (or equivalent application) for any of our future SPEAR T-cells, or for new indications for our SPEAR T-cells already in clinical trials, or that amendments to existing protocols will not be required. For example, the FDA issued a partial clinical hold for the Company's proposed MRCLS trial with NY-ESO following review of the IND submitted for the trial. The FDA notification was not based on safety concerns. In its correspondence the FDA requested additional Chemistry Manufacturing and Controls, or CMC, and clinical information prior to the commencement of the proposed trial. An amendment to the ADP-0011-007 protocol for the trial was filed with the FDA which converted the trial into a pilot trial (rather than the previously proposed pivotal trial design with a futility phase) and this amended protocol has now been approved by the FDA resulting in a lift of the partial clinical hold. The start of the MRCLS trial was delayed as a result of the FDA issued partial clinical hold and there is no guarantee that any later MRCLS pivotal trial or further SPEAR T-cell trial will be approved by the FDA.

We are in the process of expanding our clinical trial foot print to Europe. This requires gaining the approval of country specific review bodies for GMO application and CTA. As this is not a harmonized process, the requirements can vary considerably and delays can be incurred at a country level.

In the USA, some institutional review boards, or IRBs, have requested that the Sponsor obtain Investigational Device Exemptions (IDE) from the FDA for the validated clinical trial assay being used to select patients. This has delayed the initiation of some sites and limited the ability to obtain high risk biopsies until an IDE has been granted. Adaptimmune plans to proactively seek IDEs for our SPEAR T-cell assays where appropriate.

Our SPEAR T-cells being developed may have potentially fatal cross-reactivity to other peptides or protein sequences within the body.

One of our prior SPEAR T-cells, designed to target an HLA-1 restricted MAGE-A3 cancer-specific peptide, recognized another unrelated peptide from a protein called TITIN, expressed within normal cardiac and other muscle tissues in patients. As a result of this cross-reactivity to the TITIN protein in the heart, two patients died during our MAGE-A3 clinical program, the program was put on pause, then formally placed on hold by the FDA, after which we terminated the program. We subsequently developed a preclinical safety testing program that identifies potential cross-reactivity risks but there may be gaps or other problems detected in the testing program at a later date. Even with the use of this testing program, there can be no guarantee that the FDA will permit us to begin clinical trials of any additional SPEAR T-cells other than those for which INDs already exist or that other off-target cross-reactivity will not be identified or present in any patient group. Failure to develop an effective preclinical safety testing program will prevent or delay clinical trials of any SPEAR T-cell. Detection of any cross-reactivity will halt or delay any ongoing clinical trials for any SPEAR T-cell and prevent or delay regulatory approval. Given that the underlying technology platform, manufacturing process and development process is similar for all of our TCR therapies, issues pertaining to cross-reactivity for one SPEAR T-cell may impact our ability to obtain regulatory approval for other SPEAR T-cells undergoing development and clinical trials, which would significantly harm our business, prospects, financial condition and results of operations.

Cross-reactivity or allo-reactivity (binding to peptides presented on other HLA types) could also occur where the affinity-enhanced engineered TCR contained within our SPEAR T-cell binds to peptides presented by HLAs other than the HLA type for which the relevant TCR was developed. We have developed a preclinical screening process to identify allo-reactivity risk. Where any allo-reactivity risk is identified, patients with the allo-reactive alleles will be excluded from the trial. Any allo-reactivity or other cross-reactivity that impacts patient safety could materially impact our ability to advance our SPEAR T-cells into clinical trials or to proceed to market approval and commercialization. In addition, there is no guarantee that exclusion of patients with the identified allo-reactive allele will successfully eliminate the risk of allo-reactivity, and serious side effects for patients may still exist. Given that the underlying technology platform, manufacturing process and development process are similar for all of our SPEAR T-cells, issues pertaining to allo-reactivity for one SPEAR T-cell may impact our ability to obtain regulatory approval for other SPEAR T-cells undergoing development and clinical trials, which would significantly harm our business, prospects, financial condition and results of operations.

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Our T-cell therapy, which is a type of cell therapy that uses gene therapy technology, represents a novel approach to cancer treatment that could result in heightened regulatory scrutiny, delays in clinical development, or delays in or our inability to achieve regulatory approval or commercialization of our SPEAR T-cells.

Use of our SPEAR T-cells to treat a patient requires the use of gene therapy technology, which involves combining a patient's T cells with our lentiviral delivery vector containing the gene for our affinity-enhanced engineered TCR. This is a novel treatment approach that carries inherent development risks. We are therefore constantly evaluating and adapting our SPEAR T-cells following the results obtained during development work and the clinical programs. Further development, characterization and evaluation may be required, depending on the results obtained, in particular where such results suggest any potential safety risk for patients. The need to develop further assays, or to modify in any way the protocols related to our SPEAR T-cells to improve safety or effectiveness, may delay the clinical program, regulatory approval or commercialization, if approved at all, of any SPEAR T-cell. Consequently, this may have a material impact on our ability to receive milestone payments and/or generate revenue from our SPEAR T-cells.

In addition, given the novelty of our SPEAR T-cells, the end users and medical personnel require a substantial amount of education and training in their administration of our SPEAR T-cells. Regulatory authorities have very limited experience with commercial engineered cell therapies and SPEAR T-cells for the treatment of cancer. As a result, regulators may be more risk adverse or require substantial dialogue and education as part of the normal regulatory approval process for each stage of development of any SPEAR T-cell. To date, only a limited number of gene therapy products have been approved in the United States and European Union. Consequently, it is difficult to predict and evaluate what additional regulatory hurdles may apply to the development of our SPEAR T-cells and whether additional investment, time or resources will be required to overcome any such hurdles.

Additionally, because our technology involves the genetic modification of patient cells*ex-vivo* using a viral vector, we are subject to many of the challenges and risks of gene therapy, including the following challenges:

- 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 United States in 2003. In those studies, insertional oncogenesis resulted in patients developing leukemia following treatment with the relevant gene therapy, with one patient dying. As a result of the data from those studies, the FDA temporarily halted gene therapy trials in the United States. The previous trials involved modification of stem cells rather than T cells and utilized a murine gamma-retroviral vector rather than a lentiviral vector. We cannot guarantee that insertional oncogenesis resulting from administration of our SPEAR T-cells will not occur.
- 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. We may need to adopt such an observation period for our therapeutic candidates; however, the FDA does not require that the tracking be complete prior to its review of the Biologics License Application, or BLA.
- Clinical trials using genetically modified cells conducted at institutions that receive funding for recombinant DNA research from the NIH may be subject to review by the NIH Office of Biotechnology Activities' Recombinant DNA Advisory Committee, or RAC. The RAC review process can delay or impede the initiation of a clinical trial.

If adverse events of the type described above were to occur, further advancement of our clinical trials could be halted or delayed, which would have a material adverse effect on our business and operations. In addition, heightened regulatory scrutiny of gene therapy product candidates may result in delays and increased costs in bringing a product candidate to market, if at all. Delay or failure to obtain, or unexpected costs in obtaining, the regulatory approval necessary to bring a potential product to market could decrease our ability to generate revenue in the future.

In addition, results seen in third party clinical trials using other cell therapy products, for example CAR-T products, may impact on the further advancement of our clinical trials. Based on the data currently available to us in relation to our clinical trials there is no evidence that the type and severity of neurotox events observed with CD19-directed CAR-T cell treatments, including the fatal events observed in the NCT02535364 trial, occur with our SPEAR TCRs and we do not therefore believe that any changes to our SPEAR T-cell clinical trial protocols are required. However there is no guarantee that the FDA or other regulatory authorities will agree with that position and further education and discussion with regulatory authorities may be required.

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Results seen in clinical trials using products that are used in our combination clinical trials, may impact on the further advancement of our clinical trials. For example, the FDA placed a clinical hold on three combination studies using KEYTRUDA (pembrolizumab), an anti-PD-1 therapy used to treat multiple myeloma. There is no guarantee that further reviews of safety data with KEYTRUDA or other anti-PD-1 therapies will not result in delays or holds to our clinical trials or the requirement to amend the protocol for such clinical trials.

T-cell therapy is a novel approach to cancer treatment that creates significant increased risk in terms of side-effect profile, ability to satisfy regulatory requirements associated with clinical trials and the long- term viability of administered SPEAR T-cells.

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 SPEAR T-cell is not completely understood, which means that we cannot predict the long-term effects of treatment with our SPEAR T-cells. In addition it is not possible for any pre-clinical safety package to completely identify all potential safety risks.

We are aware that certain patients do not respond to our SPEAR T-cells and that other patients may relapse or cease to present the peptide being targeted by such SPEAR T-cells. 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 SPEAR T-cell.

Our clinical trials and the investigator-initiated clinical trials using the NY-ESO TCR therapeutic are still in the early stages, and it is difficult to predict the results that will be obtained in ongoing clinical trials or the next phase or phases of any clinical program. Our SPEAR T-cells have not previously been tested in combination clinical trials, for example use in combination with Merck's PD-1 inhibitor, KEYTRUDA® (pembrolizumab) in patients with multiple myeloma. It is difficult to predict the way in which our SPEAR T-cells will interact with third-party products used in combination clinical trials. Data seen in other combination trials with KEYTRUDA has resulted in certain combination trials with KEYTRUDA being placed on clinical hold by the FDA. We do not, as yet know, whether similar negative side effects will be seen using KEYTRUDA in combination with the NY-ESO T-cell therapy. 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 SPEAR T-cell therapies alone.

There is a significant risk at each stage of any clinical program that serious adverse events or low efficacy, as well as less favorable benefit:risk profiles, will prevent our SPEAR T-cells from proceeding further or will result in those programs being suspended or placed on hold (whether voluntarily or as a result of a regulatory authority requirement). For example, there is a risk that the target (or similar) peptide to which any SPEAR T-cell is directed may be present in both patients' cancer cells and other non-cancer cells and tissues. Should this be the case patients may suffer a range of side effects associated with the SPEAR 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. Further, following infusion of any of our SPEAR 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 and require medical intervention.

Common and more severe adverse events as of September 5, 2017 considered by investigators to be at least possibly related to administration of our SPEAR T-cells include: fever, fatigue, chest pain, nausea, diarrhea, enterocolitis, anemia, leukopenia, neutropenia, febrile neutropenia, lymphopenia, thrombocytopenia, bone marrow failure, dehydration, hyponatremia, ALT increased, rhabdomyolysis, rash, acute inflammatory demyelinating polyradiculoneuropathy, dyspnea, hypoxia, pneumonitis, respiratory failure, pericardial effusion, supraventricular tachycardia, hypotension, embolism, CRS (including grade 3 and 4 events which resolved with treatment), and graft versus host disease (GVHD). There has been one report of fatal (grade 5) bone marrow failure, which was considered related to the study treatment regimen (preconditioning plus SPEAR T-cell). Internal investigations have not identified a mechanism by which NY-ESO SPEAR T-cells may have caused bone marrow failure. To date, GVHD, impacting the skin and gastrointestinal tract, has only been reported in our myeloma study involving autologous stem cell transplants (ASCT). Although GVHD is a known complication of ASCT, symptoms such as rash, enterocolitis and diarrhea have been reported in other SPEAR T-cell studies.

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In addition to our Company sponsored clinical programs, the NY-ESO TCR therapeutic has also been used in an investigator-initiated clinical program funded by the European Union, referred to as the ATTACK 2 program. The therapy, which was produced under a different manufacturing process than Adaptimmune's NY-ESO TCR therapy, was being evaluated for the treatment of patients with advanced gastro-esophageal cancer. Two patients have been treated under this protocol, one of whom passed away 46 days after initial treatment. Said patient experienced enterocolitis and bone marrow failure followed by fatal gangrenous gastrointestinal necrosis and hemorrhage. The investigator determined there was a reasonable possibility that these events were caused by study treatment.

Enrollment in the trial was temporarily paused pending investigation of the patient fatality, but an independent data monitoring committee recommended that recruitment could resume following a protocol amendment. Despite this, the study is expected to terminate and is not currently recruiting.

Because administration of our SPEAR T-cells is patient-specific, the process requires careful handling of patient-specific products and fail-safe tracking, namely the need 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. 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 a patient fatality. We will need to invest in systems, such as bar coding, to 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 a patient fatality if a patient receives another patient's T-cells. This risk may be increased where our SPEAR T-cells are used in clinical programs that we do not control or sponsor and, should an error be made in the administration of our SPEAR T-cells 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 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.

Validation of our SPEAR T-cells requires access to human samples but there is no guarantee that such samples can be obtained 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 SPEAR T-cells require access to 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 satisfaction of certain terms and conditions. There can be no guarantee that we will be able to obtain samples in sufficient quantities to enable development of and use of the full preclinical safety testing program for all SPEAR T-cells undergoing development. 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 SPEAR T-cells and their application are not fully scientifically understood and are still undergoing validation and investigation.

Our SPEAR T-cells and their potential associated risks are still under investigation. For example, there is a potential risk that, given that the TCR chains 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 mis-pairing 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 SPEAR T-cells and is still being studied and investigated. This could delay regulatory approval, if any, for the relevant SPEAR T-cells. To the extent that any mis-pairing of TCR chains is identified, either in our or our competitors' clinical trials, additional investment may be required in order to modify relevant SPEAR T-cells and to further assess and validate the risk of such mis-pairing to patients. There is also no guarantee that following modification of the relevant SPEAR T-cell, such modified SPEAR T-cell will remain suitable for patient treatment, that it will eliminate the risk of mis-pairing of TCR chains or that regulatory approval will be obtained at all or on a timely basis in relation to such modified SPEAR T-cells. The occurrence of such events would significantly harm our business, prospects, financial condition and results of operations.

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

The success of our SPEAR T-cells depends on both the identification of target peptides presented on cancer cells, which can be bound by TCRs, and isolation and affinity enhancement of TCRs, which can be used to treat patients if regulatory approval is obtained. There is an inherent risk that the number of target peptides that can be identified and/or our ability to develop and isolate suitable TCRs for affinity enhancement could be significantly lower than projected or that no additional SPEAR T-cells suitable for further development can be identified. Any failure to identify and validate further target peptides will reduce the number of potential SPEAR T-cells that we can successfully develop, which in turn will reduce the commercial opportunities available to us and increase our reliance on our existing SPEAR T-cells.

In addition, there is no guarantee that our attempts to develop further SPEAR T-cells will result in candidates for which the safety and efficacy profiles enable progression to and through preclinical testing. Failure to identify further candidates for progression into preclinical testing and clinical programs will significantly impact our commercial returns, increase our reliance on the success of our existing SPEAR T-cell programs and may significantly harm our business, prospects, financial condition and results of operations. If resources become limited or if we fail to identify suitable target peptides, TCRs or affinity-enhanced TCRs, our ability to submit INDs for further SPEAR T-cells may be delayed or never realized, which would have a materially adverse effect on our business. We have multiple research projects ongoing both internally and with third parties, for example Universal Cells Inc and Bellicum Inc. The outcomes of these research projects are uncertain and such research projects may or may not generate next generation SPEAR T-cells with profiles suitable for further development or progression into clinical trials.

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

Conduct of clinical trials is dependent on 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. It is difficult to predict how quickly we will be able to recruit suitable patients, find suitable sites, begin clinical programs and administer our SPEAR T-cells. The patient population in which any required peptide antigen is presented 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 most of our clinical trials. For example, it has taken longer to recruit patients into our NSCLC trials with both the NY-ESO SPEAR T-cell and MAGE-A10 SPEAR T-cell due to the low percentage expression of peptide antigen seen in the patient populations at the relevant clinical trial sites. With the NY-ESO SPEAR T-cell, presentation of the antigen occurs predominantly in certain sub-types of NSCLC and additional clinical sites may need to be initiated in order to identify patients with those certain NSCLC sub-types. With MAGE-A10, presentation of the peptide antigen is seen in a lower number of patients than anticipated. This has delayed recruitment of patients into NSCLC trials for both therapies and has resulted in the Company incurring additional costs associated with the need to find and initiate additional clinical trial sites. It is also difficult to predict whether changes may be required to any clinical trial design as our clinical trials progress. For example, initial results from current Phase 1/2 clinical trials with the NY-ESO SPEAR T-cell have suggested that fludarabine is required as part of any patient pre-conditioning regimen. This has required amendment to protocol designs, which did not previously include fludarabine, to include fludarabine.

Our clinical trials will compete with other clinical trials that are in the same therapeutic areas as our SPEAR T-cells, which will reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Because the number of qualified clinical investigators is limited, we will conduct some of our clinical trials at the same clinical trial sites that some of our competitors use or where competing investigator-led trials are ongoing, which will reduce the number of patients who are available for our clinical trials at such clinical trial sites. Moreover, because our SPEAR T-cells 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. In addition, in relation to any indication, the standard of care for patients in that indication may change or further develop meaning that clinical sites are no longer prepared to continue with any clinical trial or require amendments to agreed protocols for clinical trials. For example, the standard of care in melanoma has changed since the start of our clinical trials in melanoma with the NY-ESO SPEAR T-cell and as a result the clinical trial has been halted due to anticipated unavailability of patients. 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 SPEAR T-cell through clinical trials.

Even if we are able to enroll a sufficient number of patients in our clinical trials, delays in patient enrollment may result 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 SPEAR T-cells.

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Comparability studies related to the manufacturing of our SPEAR T-cells may be required ahead of any pivotal trial start date or ahead of use in the European Union or alternatively in connection with any changes made to our manufacturing process. The requirement to carry out such comparability studies may delay the uptake of any

changed process, start of any pivotal trial or use of the relevant SPEAR T-cells in Europe. If the results from the comparability studies are not acceptable, this may further delay the start of such trials or changed process and require re-evaluation of the process used to manufacture of our SPEAR T-cells. For example, comparability studies are ongoing in relation to changes made to the process for manufacture of our NY-ESO SPEAR T-cells. The results from these comparability studies may impact the start date for any registrational study or impact what data can be used for any marketing application for the NY-ESO SPEAR T-cells. Failure in such comparability studies may also impact other studies in which the modified process is already being used.

We may not be able to develop or obtain approval for the analytical assays and companion diagnostics required for commercialization of our SPEAR T-cells.

Administration of our SPEAR T-cells 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 SPEAR T-cells. This assay requires the identification of suitable antibodies which can be used to identify the presence of the relevant target cancer peptide.

If safe and effective use of a biologic product depends on an *in vitro* diagnostic, such as a test to detect patients with HLA type A2, 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 of our SPEAR T-cells, the FDA and similar regulatory authorities outside of the United States 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 SPEAR T-cells. 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 any third parties that we engage to assist us, are unable to successfully develop companion diagnostic assays for use with our SPEAR T-cells, 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 our SPEAR T-cells for enrollment in our clinical trials. 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 to conduct further clinical trials or obtain regulatory approval.

Manufacturing and administering our SPEAR T-cells is complex and we may encounter difficulties in production, particularly with respect to process development or scaling up of our manufacturing capabilities. If we encounter such difficulties, our ability to provide supply of our SPEAR T-cells for clinical trials or for commercial purposes could be delayed or stopped.

The process of manufacturing and administering our SPEAR T-cells is complex and highly regulated. The manufacture of our SPEAR T-cells involves complex processes, including manufacture of a lentiviral delivery vector containing the gene for our affinity-enhanced engineered TCR. Administration of our SPEAR T-cells includes harvesting white blood cells from the patient, isolating certain T cells from the 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 our SPEAR T-cells (whether by us or our third party contract manufacturer) can result in a patient being unable to receive their SPEAR T-cells or a requirement to re-manufacture SPEAR T-cells 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. 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 (including failure in the bags the Company uses to freeze , differences in patient material, failure in any step of the manufacturing process, failure to maintain a GMP environment, contamination during process;

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- A lack of reliability or reproducibility in the manufacturing process itself leading to variability in end manufacture of SPEAR T-cells. Should the process be unreliable, the relevant regulatory agency (for example the FDA in the United States) 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;
- 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 obtain manufacturing slots from third party contract manufacturers or to have enough manufacturing slots (including those at our Navy Yard facility) to manufacture SPEAR T-cells for patients as and when those patients require manufacture;
- Inability to procure starting materials, for example vector required for SPEAR T-cell manufacture. For example in our AFP clinical trial lack of vector availability delayed the start of the clinical trial;
- Inability to procure manufacturing slots from third party manufacturers (whether for SPEAR T-cell manufacture or for starting materials manufacture, including vector) at all or on a timely basis. Even where manufacturing slots are agreed in advance with third party manufacturers we cannot guarantee they will not be delayed or cancelled or that any manufacturing process will be successful;
- Loss of or close-down of any manufacturing facility used in the manufacture of our SPEAR T-cells. For example we will be manufacturing MAGE-A10 and MAGE-A4 SPEAR T-cells at our Navy Yard manufacturing facility. Should there be a contamination event at the facility resulting in the close-down of that facility it may not be possible to find alternative manufacturing capability for the MAGE-A10 and MAGE-A4 SPEAR T-cells within the timescales required for ongoing clinical trials;
- 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; and
- 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 patient SPEAR T-cells. 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.

The requirements for manufacture and supply of SPEAR T-cells for clinical trials in Europe have additional complexities and the manufacture and supply of our SPEAR T-cells is raising issues which have not previously been regulated or observed by the relevant regulatory authorities. For example, supply of SPEAR T-cells for European clinical trials will either require manufacture of SPEAR T-cells in the United States or use of a new CMO in Europe. Where manufacture continues in the United States, there is a need to transfer patient product from clinical sites in Europe to the manufacturer in the United States, for the patient product to be converted into our end SPEAR T-cell product and then for that SPEAR T-cell 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 in the supply and manufacturing chain. Any inability to set up acceptable manufacturing and supply chains to enable treatment of patients in Europe could result in a delay to those trials starting in Europe or could result in a delay in patient treatment, requirement to re-apherese a patient or a requirement to re-manufacture patient material.

As our SPEAR T-cells 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 SPEAR T-cells to perform differently or affect the results of planned clinical trials or other future clinical trials. In addition, such changes may require amendments to be made to regulatory applications or comparability tests to be conducted which may further delay the timeframes under which modified manufacturing processes can be used for any SPEAR T-cell. If SPEAR T-cells manufactured under the new process has 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.

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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, 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. In addition, we may ultimately be unable to reduce the expenses associated with our SPEAR T-cells to levels that will allow us to achieve a profitable return on investment. We have entered into an alliance with Universal Cells Inc that, if successful, will enable us to treat patient populations with an off-the-shelf product. However, there is no guarantee that the research program with Universal Cells Inc will be successful, will be carried out within the timescales currently anticipated or that even if successful it will result in a SPEAR T-cell that can be used to treat patients or that such SPEAR T-cell will allow us to achieve a profitable return on investment.

We have insurance to cover certain business interruption events, particularly research and development expenditure (capped at £10 million) and committed costs (capped at £250,000). 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 FDA regulations and foreign regulations relating to the quality and reliability of such processes. 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 cGMP requirements at both our Navy Yard facility and at our 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 SPEAR T-cells 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 SPEAR T-cells, including leading to significant delays in the availability of our SPEAR T-cells 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 applications for our SPEAR T-cells. 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 SPEAR T-cells, 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.

We now manufacture SPEAR T-cells at our own manufacturing facility. There is no guarantee that regulatory authorities will not raise non-compliance issues or that regulatory authorities may require us to make changes to the way in which the facility is operated. This may result in a delay in our ability to manufacture SPEAR T-cells at our own facility. In addition, now our manufacturing facility is operating there is no guarantee that any SPEAR T-cells produced in such facility will be able to meet regulatory requirements or that we will be able to recruit and maintain sufficient staff to enable manufacture of products within required timescales. Any failure to meet regulatory requirements or produce SPEAR T-cells 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.

The outcome of clinical trials is uncertain and our clinical trials may fail to demonstrate adequately the safety and efficacy of any of our SPEAR T-cells which would prevent or delay regulatory approval and commercialization.

There is a risk in any clinical trial (whether sponsored by us or investigator-initiated) that side effects from our SPEAR T-cells will require a hold on, or termination of, our clinical programs or further adjustments to our clinical programs in order to progress our SPEAR T-cell. Our SPEAR T-cells are novel and unproven and regulators will therefore require evidence that the SPEAR T-cells are safe before permitting clinical trials to commence and evidence that the SPEAR T-cells are safe and effective before granting any regulatory approval. In particular, because our SPEAR T-cells are subject to regulation as biological products, we will need to demonstrate that they are safe, pure and potent for use in each target indication. The SPEAR T-cell 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 SPEAR T-cells will not be sufficient to obtain regulatory approval unless we can also show an adequate duration of response.

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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. For example, safety concerns have been reported in combination trials with KEYTRUDA which resulted in clinical holds to those combination trials. The clinical holds to such trials have not, as yet, impacted our own combination study with KEYTRUDA in multiple myeloma but there is no guarantee that the FDA or other regulatory authorities will not issue a similar hold in relation to our combination trials as data continues to emerge. Any such hold will require addressing by the Company and will inevitably delay progression of the clinical trials concerned, if such clinical trials progress at all.

Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. Success in preclinical programs and early clinical trials does not ensure that later clinical trials will be successful. Moreover, the results of preclinical programs and early clinical trials of our SPEAR T-cells may not be predictive of the results of later-stage clinical trials. To date, we have only obtained interim results from Phase 1/2 clinical trials that are uncontrolled, involve small sample sizes and are of shorter duration than might be required for regulatory approval. There may be other reasons why our

early clinical trials are not predictive of later clinical trials. In addition, the results of trials in one set of patients or line of treatment may not be predictive of those obtained in another and protocols may need to be revised based on unexpected early results. For example, in our ovarian cancer trial with our NY-ESO SPEAR T-cell, the first patient treated experienced a grade 3 cytokine release syndrome at day seven post-infusion, concomitant with a significant proliferation of the engineered T cells that constituted nearly 100% of the peripheral blood at day 14. This level of cytokine release syndrome had not been seen in previous patients from trials using the NY-ESO SPEAR T-cell. As of January 27, 2018, we have not observed any severe neurotoxic events similar to CAR-T cell related encephalopathy syndrome ("CRES"). However as the number of patients increases we may observe severe neurotoxic events with our SPEAR T-cells. As another example, in both the European investigator-initiated clinical program in gastro-esophageal cancer and in our own sponsored synovial sarcoma trial there has been one patient death considered to be related to treatment according to the investigator.

We expect there may be greater variability in results for our SPEAR T-cells 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. SPEAR T-cells 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 cannot therefore guarantee that we will be successful in obtaining the required efficacy and safety profile from the performance of any of our clinical programs.

Certain of our clinical trials include dose escalation studies in which the dose of SPEAR T-cells 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 MAGE-A4, MAGE-A10 and AFP trials includes dose escalation and therefore efficacy data may not be obtained from initial patients treated in such studies.

In addition, even if such trials are successfully completed, we cannot guarantee that the FDA or foreign regulatory authorities will interpret the results as we do. Accordingly, more trials may be required before we can submit our SPEAR T-cell for regulatory 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 application, we may be required to expend significant resources, which may not be available to us, to conduct additional trials in support of potential approval of our SPEAR T-cells. We cannot predict whether any of our SPEAR T-cells will satisfy regulatory requirements at all or for indications in which such SPEAR T-cells are currently being evaluated as part of any clinical programs.

We have limited experience conducting 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 and no 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.

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Our SPEAR T-cells may have undesirable side effects or have other properties that could halt their clinical development, prevent their regulatory approval, limit their commercial potential or otherwise result in significant negative consequences.

Where any SPEAR T-cell has undesirable side effects, regulatory approval for such therapeutic may be delayed or suspended, or alternatively may be restricted to particular disease indications or states that are more limited than desirable. This could result in the failure of our products reaching the market or a reduction in the patient population for which any SPEAR T-cell can be used.

Common and more severe adverse events as of September 5, 2017 considered by investigators to be at least possibly related to administration of our SPEAR T-cells include: fever, fatigue, chest pain, nausea, diarrhea, enterocolitis, anemia, leukopenia, neutropenia, febrile neutropenia, lymphopenia, thrombocytopenia, bone marrow failure, dehydration, hyponatremia, ALT increased, rhabdomyolysis, rash, acute inflammatory demyelinating polyradiculoneuropathy, dyspnea, hypoxia, pneumonitis, respiratory failure, pericardial effusion, supraventricular tachycardia, hypotension, embolism, CRS (including grade 3 and 4 events which resolved with treatment), and graft versus host disease (GVHD). There has been one report of fatal (grade 5) bone marrow failure, which was considered related to the study treatment regimen (preconditioning plus SPEAR T-cell). Internal investigations have not identified a mechanism by which NY-ESO SPEAR T-cells may have caused bone marrow failure. To date, GVHD, impacting the skin and gastrointestinal tract, has only been reported in our myeloma study involving autologous stem cell transplants (ASCT). Although GVHD is a known complication of ASCT, symptoms such as rash, enterocolitis and diarrhea have been reported in other SPEAR T-cell studies.

In our NY-ESO SPEAR T-cell trials, CRS has been reported in 21/83 subjects who received NY-ESO SPEAR T-cells as of January 27, 2017. Of these 21 subjects, five subjects have experienced CRS at either Grade 3 or 4 in severity. Within cohorts 1-4 of our synovial sarcoma trial as of Januray 27, 2018, four subjects out of 43 patients who received NY-ESO SPEAR T-cells have experienced CRS at Grade 3 or 4 . There have been no reports as of January 27, 2018 of any severe neurotoxic events similar to CAR-T cell related encephalopathy syndrome (CRES). Subjects with more severe CRS symptoms have generally responded to treatment with the anti-IL6R antibody, tocilizumab. All Adaptimmune protocols now allow for use of tocilizumab for treatment of cytokine release syndrome. Tocilizumab has been shown to control cytokine release syndrome likely without abrogating the anti-tumor responseIn addition to our Company sponsored clinical programs, the NY-ESO TCR therapeutic has also been used in an investigator-initiated clinical program funded by the European Union, referred to as the ATTACK 2 program. The therapy, which was produced under a different manufacturing process than Adaptimmune's NY-ESO TCR therapy, was being evaluated for the treatment of patients with advanced gastro-esophageal cancer for the first time. To date, two patients have been treated under this protocol, one of whom passed away 46 days after initial treatment. Said patient experienced enterocolitis and bone marrow failure followed by fatal gangrenous gastrointestinal necrosis and hemorrhage. The investigator determined there was a reasonable possibility that these events were caused by study treatment. Enrollment in the trial was temporarily paused pending investigation of the patient fatality. The investigator determined there was a reasonable possibility that these events were caused by study treatment. Enrollment in the trial was temporarily paused pending investigation of the patient fatality but an independent data monitoring committee has since recommended that recruitment can resume following a protocol amendment. Despite this, the study is expected to terminate and is not currently recruiting.

Any unacceptable toxicities arising in ongoing clinical programs could result in suspension or termination of those clinical programs. Any suspension or termination may affect other SPEAR T-cells and thereby impact our ability to recognize any product revenues. Any side effects may also result in the need to perform additional trials, which will delay regulatory approval for such SPEAR T-cell, if at all, and require additional resources and financial investment to bring the relevant SPEAR T-cell to market.

In addition, the impact of SPEAR T-cells may vary from patient to patient and this may affect the number of patients who can be successfully treated with our SPEAR T-cells. Depending on the nature of the indication, certain patients may need to be excluded from treatment, which could also impact our ability to recruit patients to utilize such therapies or to recruit patients to conduct clinical trials in general for our SPEAR T-cells.

Use of our SPEAR T-cells in combination with other third party products or therapies, for example use in combination with Merck's PD-1 inhibitor, KEYTRUDA® (pembrolizumab) in patients with multiple myeloma may increase or exacerbate side effects that have been seen with our SPEAR T-cells alone or may result in new side effects that have not previously been identified with our SPEAR T-cells alone. Our SPEAR T-cells have not previously been used in any combination clinical trials. 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 SPEAR T-cell therapies alone. Adverse events seen in subjects in other clinical trials using the same

combination product, for example other clinical combination trials using Merck's PD-1 inhibitor, KEYTRUDA® (pembrolizumab), may affect our ability to progress our own combination trial, resulting in pausing or holding of recruitment or require changes to be made to the protocol to the clinical trial. Merck has recently announced that the FDA has determined that the data available at the present time indicate that the risks of KEYTRUDA plus pomalidomide or lenalidomide outweigh any potential benefit for patients with multiple myeloma. All patients enrolled in KEYNOTE-183 and KEYNOTE-185 combination studies and those in the KEYTRUDA/lenalidomide/dexamethasone cohort in KEYNOTE-023 will discontinue investigational treatment with KEYTRUDA. This clinical hold does not currently apply to other studies with KEYTRUDA.

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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 SPEAR T-cells. 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 SPEAR T-cells.

In particular, eligible patients must be screened for the target peptide and HLA type, which may reduce the number of patients who can be recruited for any clinical program. For example, low target peptide expression levels in the NY-ESO SPEAR T-cell and MAGE-A10 SPEAR T-cell programs affected speed of patient recruitment. The ability to administer our SPEAR T-cells 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.

Although the initial results in our clinical trials to date may suggest a promising tolerability profile, these results may not be indicative of results obtained in later and larger clinical trials. Long-term follow-up of patients from earlier trials may also result in detection of additional side effects or identification of other safety issues. There is no guarantee of success in any clinical trial and there is a very high attrition rate for pharmaceutical or biological compounds entering clinical trials. Any side effects or negative safety issues identified at any stage of clinical development will require additional investigation and assessment which can result in additional costs and resource requirements that could delay or potentially terminate our clinical trials.

We may face difficulty in enrolling patients in our clinical trials.

We may find it difficult to enroll patients in our clinical trials. For example, in our Phase 1/2 melanoma trial with our NY-ESO SPEAR T-cell, there was a delay in enrollment as a result of competition from other emerging therapies. Identifying and qualifying patients, including testing of patients for appropriate target peptides and HLA type, to participate in clinical trials of our SPEAR T-cells are critical to our success. The patient population in which any required peptide antigen is presented may be lower than expected which will increase the timescales required to find and recruit patients into the applicable clinical trial. The timing of our clinical trials depends on the speed at which we can recruit patients to participate in testing our SPEAR T-cells. If patients are unwilling to participate in our trials because of negative publicity from adverse events or for other reasons, including competitive clinical trials for similar patient populations, negative results seen in competitive third party clinical trials utilizing similar cell therapy products, the timeline for recruiting patients, conducting trials and obtaining regulatory approval of potential products may be delayed or prevented. These delays could result in increased costs, delays in advancing our product development, delays in testing the effectiveness of our technology or termination of the clinical trials altogether. We may not be able to identify, recruit and enroll a sufficient number of patients, or those with required or desired characteristics to achieve sufficient diversity in a given trial in order to complete our clinical trials in a timely manner. Successful execution of patient treatment and assessment of outcomes is affected by several factors including:

- eligibility criteria for the trial in question, in particular, presenting the correct HLA type and expression levels of the target antigen;
- ability to detect required expression levels of target antigens in any patient population;
- ability to detect required target antigens in any patient population and to set detection levels at an appropriate level to facilitate patient recruitment;
- severity of the disease under investigation and the type of patient being recruited into the clinical trial;
- design of the trial protocol;
- size of the patient population;
- perceived risks and benefits of the SPEAR T-cell under trial;
- novelty of the SPEAR T-cell and acceptance by oncologists;

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- proximity and availability of clinical trial sites for prospective patients;
- availability of competing therapies and clinical trials and ability to obtain patient insurance coverage;
- efforts to facilitate timely enrollment in clinical trials and to provide manufactured product on a timely basis;
- patient referral practices of physicians;
- changes in the underlying standard of care applicable or treatments available for the relevant indication for which a patient is being treated; and
- ability to monitor patients adequately during and after treatment, for example where patients decide not to attend follow-up appointments.

If we have difficulty enrolling a sufficient number of patients to conduct our clinical trials as planned, we may need to delay, limit or terminate ongoing or planned clinical trials, any of which would have an adverse effect on our business.

Our SPEAR T-cells 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 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 our SPEAR T-cells to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Additionally, this period of regulatory exclusivity does not apply to companies pursuing regulatory approval via their own traditional BLA, rather than via the abbreviated 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 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 SPEAR T-cells are approved and marketed.

Risks Related to Government Regulation

The FDA regulatory approval process is lengthy and time-consuming, and we may experience significant delays in the clinical development and regulatory approval of our SPEAR T-cells.

We have not previously submitted a BLA to the FDA, or similar approval submissions to comparable foreign authorities. A BLA must include extensive preclinical and clinical data and supporting information to establish the SPEAR T-cell's safety and effectiveness for each desired indication. The BLA must also include significant information regarding the chemistry, manufacturing and controls for the product. We expect the novel nature of our SPEAR T-cells to create additional challenges in obtaining regulatory approval, if at all. For example, the FDA has limited experience with commercial development of T-cell therapies for cancer. Accordingly, the regulatory approval pathway for our SPEAR T-cells may be uncertain, complex, expensive and lengthy, and approval may not be obtained. For example, in relation to our NY-ESO SPEAR T-cell in synovial sarcoma, the FDA requested certain additional information be made available as part of the Company's application to conduct a pivotal study in synovial sarcoma, including a requirement to assess comparability between the manufacturing process used for the initial synovial sarcoma trials and the commercial-ready manufacturing process intended to be used in pivotal trials. The FDA also recommended that we file a SPA in relation to the design of the pivotal study. Such requirements and requests for additional information can delay the start of any pivotal or other trial and there is no guarantee that the FDA will not continue to require further or additional information ahead of approving any trial whether for our NY-ESO SPEAR T-cells or other SPEAR T-cells.

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We could also encounter delays if physicians encounter unresolved ethical issues associated with enrolling patients in clinical trials of our SPEAR T-cells in lieu of prescribing existing treatments that have established safety and efficacy profiles. Further, a clinical trial may be suspended or terminated by us, the sponsor of an investigator-initiated trial, 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 SPEAR T-cell, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we experience termination of, or delays in the completion of, any clinical trial of our SPEAR T-cells, the commercial prospects for our SPEAR T-cells 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.

Many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may ultimately lead to the denial of regulatory approval of our SPEAR T-cells.

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 SPEAR T-cells 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 SPEAR T-cells on the basis of a single pivotal 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 pivotal trial with other confirmatory evidence may be sufficient in rare instances 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 impossible. 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 SPEAR T-cells. 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 SPEAR T-cells to market or the timeframes under which the relevant regulatory approvals can be obtained.

We have obtained breakthrough therapy status for our NY-ESO SPEAR T-cell for the treatment of certain patients with inoperable or metastatic synovial sarcoma who have received prior chemotherapy. Following exercise of the option over the NY-ESO SPEAR T-cell program by GSK, it is not known whether such breakthrough therapy status will continue or whether GSK will apply for and obtain any accelerated approval for the NY-ESO SPEAR T-cell. In addition, depending on the data that is obtained by us in our current and future clinical trials for our wholly owned SPEAR T-cells, we may seek breakthrough therapy or fast track designation or accelerated approval from the FDA for our SPEAR T-cells and equivalent accelerated approval procedures in other countries. However, given the novel nature of our SPEAR T-cells, it is difficult for us to predict or guarantee 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.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the SPEAR T-cells involved. 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 SPEAR T-cell, the disease or condition that the SPEAR T-cell is designed to address, and the regulations applicable to any particular SPEAR T-cell. Approval policies, regulations or the type and amount of clinical data necessary to gain approval may change during the course of a SPEAR T-cell'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 SPEAR T-cells 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 clinical trials;

- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that our SPEAR T-cells have a beneficial risk: benefit profile for any of their proposed indications;

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- 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 SPEAR T-cells 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 United States or elsewhere;
- our manufacturing processes or facilities or those of the third-party manufacturers with which we may not be adequate to support approval of our SPEAR T-cells; and
- 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.

It is possible that none of our SPEAR T-cells will ever obtain the appropriate regulatory approvals necessary to commercialize the TCR therapeutics. Any delay in obtaining, or failure to obtain, required approvals would materially adversely affect our ability to generate revenue from the particular SPEAR T-cell, which would result in significant harm to our business.

Obtaining and maintaining regulatory approval of our SPEAR T-cells in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of our SPEAR T-cells in other jurisdictions.

Obtaining and maintaining regulatory approval of our SPEAR T-cells in one jurisdiction does not guarantee that we 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 SPEAR T-cell, comparable regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing and promotion of the SPEAR T-cell in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States, 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 United States, a SPEAR T-cell must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for our SPEAR T-cells is also subject to approval.

We may also submit marketing applications in other countries. Regulatory authorities in jurisdictions outside of the United States have requirements for approval of SPEAR T-cells 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 SPEAR T-cells in certain countries. 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 SPEAR T-cells will be harmed.

We plan to seek breakthrough therapy or fast track designations and may pursue accelerated approval for some or all of our current SPEAR T-cells, but we may be unable to obtain such designations or, in the case of NY-ESO, maintain its breakthrough therapy designation or, obtain or maintain the benefits associated with such designations.

We have obtained breakthrough therapy status in the United States and Europe for our NY-ESO SPEAR T-cell for the treatment of certain patients with inoperable or metastatic synovial sarcoma who have received prior chemotherapy. We may seek breakthrough therapy or fast track designations for our other SPEAR T-cells in the United States or equivalent regulations elsewhere in the world.

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 SPEAR T-cell as a breakthrough therapy provides potential benefits that include more frequent meetings with the FDA to discuss the development plan for the SPEAR T-cell 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.

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Breakthrough therapy designation does not change the standards for product approval. There can be no assurance that we will receive breakthrough therapy designation for any SPEAR T-cell or any particular indication. Additionally, other treatments from competing companies may obtain the designations and impact our ability to develop and commercialize our SPEAR T-cells, which may adversely impact our business, financial condition or results of operation.

We may also seek fast track designation. If a drug or biologic candidate is intended for the treatment of a serious or life-threatening condition or disease and the drug demonstrates the potential to address unmet medical needs for the condition, the sponsor may apply for fast track designation. Under the fast track program, the sponsor of a new drug or biologic candidate may request that the FDA designate the candidate for a specific indication as a fast track drug or biologic concurrent with, or after, the submission of the IND for the candidate. The FDA must determine if the drug or biologic candidate qualifies for fast track designation within 60 days of receipt of the sponsor’s request. Even if we do apply for and receive fast track designation, we may not experience a faster development, review or approval process compared to conventional FDA procedures. The FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program.

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 granted accelerated approval, 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 SPEAR T-cell or indication approved under the accelerated approval pathway if, for example:

- the trial or trials required to verify the predicted clinical benefit of our SPEAR T-cell 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 SPEAR T-cell is not shown to be safe or effective under the conditions of use;
- we fail to conduct any required post approval trial of our SPEAR T-cell with due diligence; or
- we disseminate false or misleading promotional materials relating to the relevant SPEAR T-cell.

Even if we receive regulatory approval of our SPEAR T-cells, 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 SPEAR T-cells.

Any regulatory approvals that we receive for our SPEAR T-cells will require surveillance to monitor the safety and efficacy of the SPEAR T-cell. The FDA may also require a risk evaluation and mitigation strategy in order to approve our SPEAR T-cells, 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. In addition, if the FDA or a comparable foreign regulatory authority approves our SPEAR T-cells, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion, import, export and recordkeeping for our SPEAR T-cells 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. 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 SPEAR T-cells 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 SPEAR T-cells we develop for indications or uses for which they are not approved. Later discovery of previously unknown problems with our SPEAR T-cells, 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;

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- 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 SPEAR T-cells. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we 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 SPEAR T-cell, 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 SPEAR T-cells, 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 jurisdiction of the EMA, 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 risk: benefit balance 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.

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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 SPEAR T-cells by the EMA, the EMA or CHMP may ultimately not agree that the requirements for such conditional marketing authorization have been satisfied and hence delay the commercialization of our SPEAR T-cells.

We may not be able to obtain or maintain orphan drug exclusivity for our SPEAR T-cells.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs or biologics for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug or biologic intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals in the United States.

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 application for the same drug for that time period. The applicable period is seven years in the United States and 10 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 or EMA 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.

Orphan drug designation for our NY-ESO SPEAR T-cell for the treatment of soft tissue sarcoma was granted by the FDA in March 2016. Some of our other SPEAR T-cells or the indications which our SPEAR T-cells are used to treat may be eligible for orphan drug designation. In the United States, under the Orphan Drug Act, the FDA may grant orphan designation to a drug intended to treat a rare disease or condition. Such diseases and conditions are those that affect fewer than 200,000 individuals in the United States or, if they affect more than 200,000 individuals in the United States, there is no reasonable expectation that the cost of developing and making a drug product available in the United States for these types of diseases or conditions will be recovered from sales of the product. If the FDA grants orphan drug designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by that agency. 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. If a product that has orphan drug designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan drug marketing exclusivity for a period of seven years. Orphan drug marketing exclusivity generally prevents the FDA from approving another application, including a full BLA, to market the same drug for the same indication for seven years, except in limited circumstances, including if the FDA concludes that the later drug is clinically superior to the approved drug.

Orphan drug designation for our NY-ESO SPEAR T-cell for the treatment of soft tissue sarcoma, a solid tumor cancer has also been granted by the European Union. Orphan drug designation provides certain regulatory and financial incentives for companies to develop and market therapies that treat a life-threatening or chronically debilitating condition affecting no more than five in 10,000 persons in the European Union, and where no satisfactory treatment is available. The designation provides incentives for companies seeking protocol assistance and scientific advice from the EMA during the product development phase and a 10-year period of marketing exclusivity in the European Union following product approval.

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A drug is clinically superior if it is safer, more effective or makes a major contribution to patient care. Orphan drug marketing exclusivity rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition. There can be no assurance that any SPEAR T-cell will be eligible for orphan drug designation in the United States or in other jurisdictions or that it will obtain orphan drug marketing exclusivity upon approval or that we or GSK will not lose orphan drug designation for the NY-ESO SPEAR T-cell. Inability to obtain orphan drug designation for a specific SPEAR T-cell or loss of such designation for the NY-ESO SPEAR T-cell 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 extent of market exclusivity which is obtained may also be affected if the indication for any relevant registration or pivotal trial is narrower than the orphan designation granted. Even after an orphan drug is approved, the FDA can subsequently approve another drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care.

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

The production of our SPEAR T-cells 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 United States or in other countries in which our SPEAR T-cells 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 SPEAR T-cells 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 SPEAR T-cells 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 SPEAR T-cells (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 also use radioactive reagents and materials in our research and development in the United Kingdom. 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 £3.0 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 United Kingdom and the United States, and authorities in the European Union, 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.

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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 United States, 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 federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in cash or kind, in exchange for, or to induce, either the referral of an individual for, or the purchase, order or recommendation of, any good or service for which payment may be made under federal healthcare programs such as the Medicare and Medicaid programs. This statute has been interpreted to apply to arrangements between pharmaceutical manufacturers, on the one hand, and prescribers, purchasers and formulary managers on the other. Cases have been brought under false claims laws alleging that off-label promotion of pharmaceutical products or the provision of kickbacks has resulted in the submission of false claims to governmental health care programs. The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, collectively, the Healthcare Reform Act, amended the intent requirement of the federal Anti-Kickback Statute. A person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it. Under federal government regulations, some arrangements, known as safe harbors, are deemed not to violate the federal Anti-Kickback Statute and analogous state law requirements;

- the federal False Claims Act, or FCA, which prohibits, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid or other third-party payors that are false or fraudulent. Federal Anti-Kickback Statute violations and certain marketing practices, including off-label promotion, also may implicate the FCA. In addition, private individuals have the ability to bring actions on behalf of the government under the FCA and under the false claims laws of several states;

- federal criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- the federal Physician Payment Sunshine Act, which requires certain manufacturers of drugs, devices, biologics and medical supplies to report annually to the Centers for Medicare & Medicaid Services, or CMS, information related to payments and other transfers of value to physicians, other healthcare providers and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members. The CMS publishes the reported data in a searchable form on an annual basis;

- The Health Insurance Portability and Accountability Act of 1996 (HIPAA) imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, which governs the conduct of certain electronic healthcare transactions and protects the security and privacy of protected health information; and

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- state and foreign law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to: items or services reimbursed by any third-party payor, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance issued by the federal government or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to report information related to payments and other transfers of value to

physicians and other healthcare providers or marketing expenditures; and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts. California and a few other states have passed laws that require pharmaceutical companies to comply with the April 2003 Office of Inspector General Compliance Program Guidance for Pharmaceutical Manufacturers and/or the Pharmaceutical Research and Manufacturers of America Code on Interactions with Healthcare Professionals. In addition, several states impose other marketing restrictions or require pharmaceutical companies to make marketing or price disclosures to the state. There are ambiguities as to what is required to comply with these state requirements and if we fail to comply with an applicable state law requirement we could be subject to penalties.

Neither the government nor the courts have provided definitive guidance on the application of fraud and abuse laws to our business. Law enforcement authorities are increasingly focused on enforcing these laws. Although we seek to structure our business arrangements in compliance with all applicable requirements, these laws are broadly written, and it is often difficult to determine precisely how the law will be applied in specific circumstances. Accordingly, it is possible that, once we begin marketing our product(s) some of our practices may be challenged under these laws. While we intend to structure our business arrangements to comply with these laws, it is possible that the government could allege violations of, or convict us of violating, these laws. 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.

Our current cash projections include reliance on the ability to obtain certain tax credits and the operation of certain tax regimes within the United Kingdom. Should these cease to be available, 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. 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%. 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) in the future as we increase our personnel and expand our business because we may no longer qualify as an SME (small or medium-sized enterprise). 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.

We may also benefit in the future 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 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 United Kingdom 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.

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Risks Related to the Commercialization of Our SPEAR T-cells

The market opportunities for our SPEAR T-cells 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. Depending upon the outcome of our current trials, we may conduct future clinical trials using our SPEAR T-cells for first-line therapy, but there can be no guarantee that clinical trials will be approved or that if approved such trials will lead to regulatory approval. If our SPEAR T-cells only receive third-line or second-line approval, the patient population to which we can supply our SPEAR T-cells will be significantly reduced, which may limit our 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 SPEAR T-cell therapies.

Our estimates of the patient population that may be treated by our SPEAR T-cells is based on published information. This information may not be accurate in relation to our SPEAR T-cells and our estimates of potential patient populations could therefore be much higher 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 our SPEAR T-cells. 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. Our current SPEAR T-cells have been developed for patients who are HLA A2 which will reduce the size of the patient population that can be treated unless we develop and receive regulatory approval for SPEAR T-cells approved for additional HLA peptides.

We currently have no marketing and sales organization and have no experience in marketing products. If we are unable to establish marketing and sales capabilities or enter into agreements with third parties to market and sell our SPEAR T-cells, we may not be able to generate product revenue.

As an organization, we have never marketed or supplied commercial pharmaceutical or biologic products or therapies. We do not currently have a sales force and will need to grow and develop the sales function and associated support network if we are to supply SPEAR T-cells on a commercial basis. As our SPEAR T-cells 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 marketing and sales personnel. This process may result in additional delays in bringing our TCR product candidate 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 SPEAR T-cell sales may be lower than if we had commercialized our SPEAR T-cells ourselves. We also face significant competition in our search for third parties to assist us with the sales and marketing efforts of our SPEAR T-cells. Such competition may also result in delay or inability to supply SPEAR T-cells to particular countries or territories in the world which in turn will restrict the revenue that can be obtained from any SPEAR T-cell. 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 SPEAR T-cell in the United States or elsewhere will have a materially adverse effect on our business and results of operations.

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If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our SPEAR T-cells.

We face an inherent risk of product liability as a result of the clinical testing of our SPEAR T-cells and our ongoing manufacture of SPEAR T-cells and will face an even greater risk upon any commercialization. For example, we may be sued if any of our SPEAR T-cells 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 SPEAR T-cell. 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 SPEAR T-cells;
- 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 SPEAR T-cells; 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 SPEAR T-cells. 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 £3.0 million in the aggregate and public liability insurance capped at £3.0 million per occurrence. These levels may not be adequate to cover all liabilities that we may incur. We may also need to increase our insurance coverage as we expand the scope of our clinical trials and commercialize any of our product SPEAR T-cells. In addition, insurance coverage is increasingly expensive. 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 obtain regulatory approval of our SPEAR T-cells, 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 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 SPEAR T-cells are accepted in the market, including:

- the clinical indications for which our SPEAR T-cells are approved;
- physicians, hospitals, cancer treatment centers and patients considering our SPEAR T-cells as a safe and effective treatment;
- the potential and perceived advantages of our SPEAR T-cells over alternative treatments;

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- 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 SPEAR T-cells 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 our SPEAR T-cell 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, 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 our SPEAR T-cells. If our SPEAR T-cells 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 SPEAR T-cells 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 SPEAR T-cells, are more cost effective or render our SPEAR T-cells obsolete.

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

Successful sales of our SPEAR T-cells, if approved, depend on the availability of coverage and adequate reimbursement from third-party payors. In addition, because our SPEAR T-cells represent new approaches to the treatment of cancer, we cannot accurately estimate the potential revenue from our SPEAR T-cells.

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.

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Obtaining coverage and reimbursement approval of a SPEAR T-cell 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 SPEAR T-cell, 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 our SPEAR T-cells unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our SPEAR T-cells.

In the United States, 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 SPEAR T-cells to each payor separately, with no assurance that coverage and adequate reimbursement will be obtained.

We intend to seek approval to market our SPEAR T-cells in both the United States and in selected jurisdictions. If we obtain approval in one or more foreign jurisdictions for our SPEAR T-cells, we will be subject to rules and regulations in those jurisdictions.

In some foreign countries, particularly those in the European Union, 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 SPEAR T-cell. In addition, market acceptance and sales of our SPEAR T-cells will depend significantly on the availability of coverage and adequate reimbursement from third-party payors for our SPEAR T-cells and may be affected by existing and future health care reform measures.

Third-party payors, whether domestic or foreign, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. In both the United States and certain foreign jurisdictions, there have been a number of legislative and regulatory changes to the health care system that could impact our ability to sell our products profitably. In particular, the recently enacted U.S. Healthcare Reform Act and its implementing regulations, among other things, revised the methodology by which rebates owed by manufacturers to the state and federal government for covered outpatient drugs and certain biologics, including our SPEAR T-cells, under the Medicaid Drug Rebate Program are calculated, increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid Drug Rebate Program, extended the Medicaid Drug Rebate program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations, subjected manufacturers to new annual fees and taxes for certain branded prescription drugs, and provided incentives to programs that increase the federal government's comparative effectiveness research.

Other legislative changes have been proposed and adopted in the United States since the Healthcare Reform Act was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs.

This includes aggregate reductions of Medicare payments to providers up to two percent per fiscal year, which went into effect on April 1, 2013 and will remain in effect until 2024, unless additional congressional action is taken. In January 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, or the ATRA, which, among other things, reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. 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 our SPEAR T-cells, if we obtain regulatory approval;
- our ability to set a price that we believe is fair for our SPEAR T-cells;
- our ability to generate revenue and achieve or maintain profitability;
- the level of taxes that we are required to pay; and

- the availability of capital.

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

Risks Related to Our Reliance Upon Third Parties

We rely heavily on GSK for the NY-ESO SPEAR T-cell clinical program, which may also affect other SPEAR T-cells.

Commercialization of the NY-ESO SPEAR T-cell therapy and our own ability to commercialize other SPEAR T-cells depends heavily on the ongoing collaboration with GSK and payments made by GSK to us upon achievement of specified milestones. GSK has the right to nominate three further target programs in addition to the NY-ESO SPEAR T-cell and PRAME SPEAR T-cell programs under the collaboration arrangements. We have no control over whether GSK will elect to progress additional targets under the collaboration arrangements and therefore trigger additional investment from GSK in our SPEAR T-cells. If GSK does not elect to do so, we may require additional capital or investment or need to enter into alternative strategic alliances. In addition, GSK has a right to terminate the GSK Collaboration and License Agreement or any specific license under the GSK Collaboration and License Agreement for any reason on provision of sixty days' notice. Termination may impact not only our requirement for additional investment or capital but also the timeframes within which current clinical programs can be performed and the development of a suitable commercial-scale manufacturing process for any of our SPEAR T-cells.

On September 7, 2017, we announced that GSK exercised its option under the GSKCollaboration and License Agreement signed in 2014 to exclusively license the right to research, develop, and commercialize our NY-ESO SPEAR T-cell program. As a result of the option exercise the NY-ESO SPEAR T-cell program is now being transitioned to GSK. The amount of time and level of resources required to fully transition the program to GSK may impact on our ability to progress other wholly owned programs and divert resources required to further develop our SPEAR T-cells or the manufacturing process for our SPEAR T-cells. The timescales for transition of the NY-ESO SPEAR T-cell program to GSK rely heavily on GSK's ability to put in place the required resources and third party agreements to take over responsibility of the NY-ESO SPEAR T-cell program. The timescales for transition can not therefore be guaranteed and the longer the transition to GSK takes, the more of our resources are diverted to the transition rather than management of clinical programs for our wholly owned assets. Delay in the transition to GSK could result in delays to our other clinical trials and a requirement to manufacture further NY-ESO SPEAR T-cells for patients in the NY-ESO program leading to further competition for patient manufacturing slots. Ability to transition successfully to GSK is also dependent on certain of our third party vendors and delays in the transition could result in an increase in third party costs being required to support our continued management of NY-ESO program. Additional work may also be required in order to successfully transition the NY-ESO SPEAR T-cell program to GSK that is not currently planned or resourced. Should GSK be unable to put in place required third party agreements, we may be unable to transition the NY-ESO SPEAR T-cell program to GSK within currently anticipated timescales, if at all.

The current development plans or any future development plan agreed upon between GSK and us, including those relating to the PRAME SPEAR T-cell and NY-ESO SPEAR T-cell, may be unsuccessful or fail to result in candidate therapies that are feasible for further development or commercialization. In addition, milestone payments may not be paid or may be varied where any development plan is amended or where any development plan is terminated prior to completion for lack of feasibility or lack of identification of any suitable candidates that meet the required criteria for progression to the next stage of development.

There is no guarantee that any payments due on commercialization of products under the GSK Collaboration and License Agreement will be due or payable by GSK at any time or on the timeframes currently expected. In particular, GSK has now exercised its option to the NY-ESO SPEAR T-cell program and commercialization of the NY-ESO SPEAR T-cell is now the responsibility of GSK. The timing for commercialization of the NY-ESO SPEAR T-cell and the route to commercialization will be determined by GSK and we cannot guarantee that GSK will commercialize the NY-ESO SPEAR T-cell within expected timelines or at all. Any substantial delay in the progression of the NY-ESO SPEAR T-cell into pivotal or other clinical trials by GSK will impact the timing of payments received by us in relation to the NY-ESO SPEAR T-cell program.

In addition, the development plans agreed upon with GSK (whether relating to transition of the NY-ESO SPEAR T-cell or to the PRAME SPEAR T-cell) and any future development plans will be subject to change as a result of risks inherent with the development of any pharmaceutical, biological or gene therapy product. Changes may be agreed to expand or change the scope of the collaboration or the responsibilities of the parties under the collaboration. For example, in February 2016 the GSK Collaboration and License Agreement was expanded to accelerate the development of the NY-ESO SPEAR T-cells towards pivotal trials in synovial sarcoma and provide for additional combination trials. Changes to the development plans or collaboration agreement may impact the timing and extent of milestone payments made by GSK to us, the nature of the relationship with GSK or the scope of the collaboration with GSK.

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GSK has the ability to influence or control certain decisions relating to the development of therapies covered by the GSK Collaboration and License Agreement. This ability could result in delays to the clinical programs covered by the collaboration or changes to the scope of those clinical programs, including the disease indications relevant to such clinical programs. Under the GSK Collaboration and License Agreement, we are also prohibited from independently developing or commercializing therapies directed at the targets subject to outstanding options granted to GSK. In addition, GSK may have competing internal or commercial interests including its independent collaboration with Immunocore any of which could impact our collaboration or the ability of GSK to take any clinical programs forward to the next stage following the exercise of their option. Given GSK will be taking over the responsibility for the NY-ESO SPEAR T-cell program, decisions taken by GSK (with limited or no input from us) may impact on the development of our SPEAR T-cells outside of the collaboration program or may impact on the regulatory requirements applicable to such SPEAR T-cells.

GSK and Novartis have publicly announced that Novartis has opt-in rights over GSK's current and future oncology research and development pipeline. As part of that announced transaction, GSK has sold the rights to GSK's marketed oncology portfolio, related R&D activities and the AKT Inhibitors currently in development. GSK has also agreed to grant Novartis preferred partner rights for co-development and commercialization of GSK's current and future oncology pipeline products for a period of 12.5 years from completion of the applicable transactions between GSK and Novartis. The agreement grants Novartis a right of first negotiation over the co-development or commercialization of any GSK "Relevant Development Product" in a major market. A "Relevant Development Product" as defined in the public announcement is a product in development for the treatment, palliation, diagnosis or prevention of all cancers, including immunology, epigenetics and treatment of solid or hematologic tumors (excluding in all cases, vaccines). The right of first negotiation also lasts for 12.5 years from completion of the applicable transactions between GSK and Novartis and according to the public announcement applies where GSK decides to seek a third party partner for co-development or commercialization of, or to whom to divest rights to, a Relevant Development Product in a global or major market or where GSK proposes to seek a marketing authorization for a Relevant Development Product in a major market.

The existence of these opt-in rights could impact GSK's decision whether to exercise any option under our collaboration or the ability of GSK to take any clinical programs forward to the next stage, following the exercise of its option.

The relationship with GSK could also result in disputes arising between us and GSK which could result in costly arbitration or litigation and could impact the ongoing clinical programs or progress of such clinical programs. All intellectual property rights arising from the performance of the collaboration and license agreement will be jointly owned apart from intellectual property rights that we solely create. Both GSK and we have freedom to use jointly owned intellectual property rights.

The GSK collaboration programs relate to specific SPEAR T-cells directed to nominated targets. Should any of these programs not be successful or resulting clinical programs show a lack of efficacy or problems with safety, tolerability or durability of response, GSK may decide not to proceed further with such collaboration programs and our ability to obtain other partners for further development of such candidates or of new SPEAR T-cells could be significantly compromised.

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 SPEAR T-cells. In December 2012, we entered into a series of license and sub-license agreements with Life Technologies Corporation (now part of ThermoFisher). These agreements provide us with a field-based 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 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. Under the supply agreement we are required to purchase our requirements for CD3/CD28 magnetic bead product exclusively from ThermoFisher for a period of five years and there are also minimum purchasing obligations. Despite having negotiated this supply agreement there is no certainty that ThermoFisher will be able to continue to supply the Dynabeads® CD3/CD28 technology at the times or at the levels we require or that facilities used by ThermoFisher for the manufacture and supply of the Dynabeads® CD3/CD28 technology will continue to be available to us which could impact the timing of supply of SPEAR T-cells or ability to manufacture SPEAR T-cells.

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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 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 SPEAR T-cells.

If the supply agreements with ThermoFisher is terminated or ThermoFisher is unable to supply the Dynabeads® CD3/CD28 technology for any reason, an alternative source may be difficult to find or more expensive, which may delay timeframes either for clinical programs or ultimately commercial supply of our SPEAR T-cells. A requirement to identify an alternative source may also require a change in our regulatory application or additional regulatory testing to ensure that any alternative source is comparable and does not present any additional risk which could also result in our program experiencing delays and increased costs.

The sub-license agreement, in addition to having the same relevant exclusivity scope and field-based restrictions and many of the terms being equivalent to those set out in the main license agreement with ThermoFisher, also includes additional requirements that any manufacture of engineered TCR products for sale in the United States must occur in the United States and reserves rights for the United States government to use the technology in accordance with 35 U.S.C. § 200 et seq. and for the University of Michigan and Dana-Farber Cancer Institute to use the technology for non-commercial research purposes.

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

We currently rely on outside contract manufacturing organizations ("CMOs") to manufacture, supply and process our SPEAR T-cells. If one or more of these CMOs become unable or unwilling to continue to manufacture our engineered SPEAR T-cells (including any raw or intermediate material required for the manufacture of our end engineered SPEAR T-cell therapy) in the future, we may be forced to find an alternative third-party manufacturer, which we may not be able to do on commercially reasonable terms, if at all. Failure to identify a suitable alternative manufacturer could impact our business, financial condition or results of operations.

We rely on a limited number of third-party manufacturers for clinical trial product supplies, 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 SPEAR T-cells 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. Transfer of our new process for manufacture of the lentiviral vector used to manufacture the NY-ESO SPEAR T-cells to our third party CMO has taken substantially longer than originally predicted. If such transfer fails to generate the required levels of product we may need to source alternative CMOs. Such failure may also impact our collaboration with GSK, the timelines for transition of the NY-ESO program to GSK and result in GSK not exercising options or not developing any of our additional SPEAR T-cells.

- Our third-party manufacturers might be unable to timely formulate and manufacture our SPEAR T-cells or produce the quantity and quality required to meet our clinical trial and commercial needs, if any.

- 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 SPEAR T-cells and obtain marketing approval for our SPEAR T-cells.

- 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.

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- 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 SPEAR T-cell products 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 SPEAR T-cells. 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 SPEAR T-cells.

- 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.

Certain raw materials or precursor materials used in the manufacture and supply of our SPEAR T-cells may come from sole source or limited source suppliers. For example, there are currently a limited number of third party manufacturers within the United States that can supply us with our lentiviral delivery vector, ThermoFisher is currently the only supplier of the Dynabeads® CD3/CD28 technology and PCT, LLC is currently the only manufacturer of our end SPEAR T-cell therapy. 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 SPEAR T-cells 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 SPEAR T-cells. 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 SPEAR T-cells for clinical trials.

Our contract manufacturers are also subject to the same risks we face in developing our own manufacturing capabilities, as described above. Each of these risks could delay our clinical trials, the approval, if any, of our SPEAR T-cells by the FDA or the commercialization of our SPEAR T-cells or result in higher costs or deprive us of potential product revenue. We have insurance to cover certain costs and expenses related to business interruption, which is capped at £3.0 million in the aggregate.

In addition, we will rely on third parties to perform release tests on our SPEAR T-cells prior to delivery to patients. If these tests are not appropriately performed and test data is not reliable, patients could be put at risk of serious harm. For example if the HLA testing is not accurate then a patient without the correct HLA-type could be provided with incompatible SPEAR T-cells and as a result such patient could suffer severe side effects or fatality.

We also rely on certain third parties to assist us in the future development of SPEAR T-cells including next generation SPEAR T-cells and manufacture and supply of SPEAR T-cells for patient administration. For example, we have a research collaboration with Universal Cells Inc in which we are looking to develop affinity engineered donor T cells that are universally applicable to all patients. As with any research and development program there is no guarantee of the success of such program or that such program will be carried out by us or Universal Cells Inc within the timescales we currently anticipate.

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We have a shared development history with Immunocore, and as a result jointly-own certain intellectual property rights which are required for our ongoing business.

Our TCR technology was originally developed by Avidex, which was subsequently acquired by Medigene in 2006. We were formed as a new, separate company and licensed our TCR technology for T-cell therapy from Medigene in July 2008. Immunocore was subsequently formed as a new separate company and acquired the TCR technology for soluble TCRs from Medigene later in 2008 to develop soluble TCR proteins. As of December 31, 2017, Immunocore owns less than 5% of our ordinary shares. Certain of our shareholders also hold shares in Immunocore. Our scientific founder and advisor, Bent Jakobsen, is also an employee of Immunocore.

Due to several factors including the decrease in Immunocore's share ownership in 2017, the termination of the target collaboration agreement that terminated March 1, 2017 and our lack of common directors, the Company no longer considers Immunocore to be a related party, however, under the terms of that target collaboration agreement, we will continue to share a database of identified targets with Immunocore which resulted from the joint target identification efforts under that agreement. The contents of this target database are highly confidential and if disclosed to a third party, either as a result of a breach of the confidentiality terms between us and Immunocore or through a change of control in Immunocore, our business could be adversely impacted.

In addition, many of the patents relating to our underlying core technology in TCR engineering, are co-owned by us and Immunocore pursuant to a separate assignment and license agreement. Under this agreement, both Immunocore and Adaptimmune utilize the jointly owned patents and know-how, with Adaptimmune focused on the treatment of patients with engineered SPEAR T-cells and Immunocore focused on the treatment of patients with soluble TCRs. Under the agreement, each of Immunocore and Adaptimmune grants the other an exclusive, royalty-free, irrevocable license, with the right to sub-license, to certain jointly owned patents and know-how. However, there is the potential that Immunocore could develop a soluble TCR product targeting the same cancer target that one of our SPEAR T-cells is targeting, and therefore compete directly with us.

We rely on third parties to conduct our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval of or commercialize our SPEAR T-cells.

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 SPEAR T-cells 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, 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 applications. We cannot provide assurances that, upon inspection, such regulatory authorities will determine that any of our clinical trials comply with the cGCP regulations. In addition, our clinical trials must be conducted with biologic product produced under cGMPs and will require a large number of subjects. Our failure or any failure by these third parties to comply with these regulations or to support BLA for approval of any of our SPEAR T-cells for the treatment of a sufficient number of patients may require us to repeat clinical trials, which would delay the regulatory approval process. 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, 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 SPEAR T-cells. As a result, our financial results and the commercial prospects for our SPEAR T-cells would be harmed, our costs could increase and our ability to generate revenue could be delayed.

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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 SPEAR T-cells to market, if at all. Certain activities relating to the NY-ESO SPEAR T-cell program will transfer to GSK and other third parties as part of the transition of the NY-ESO SPEAR T-cell program to GSK. This may result in delays or changes to the NY-ESO clinical program.

In addition to our Company sponsored clinical programs, our NY-ESO TCR therapeutic has also been used in an investigator-initiated clinical program funded by the European Union, referred to as the ATTACK 2 program. The therapy, which was produced under a different manufacturing process than Adaptimmune's NY-ESO TCR therapy and was administered under a different protocol, was being evaluated for the treatment of patients with advanced gastro-esophageal cancer for the first time. To date, two patients have been treated under this protocol, one of whom passed away 46 days after initial treatment. Said patient experienced enterocolitis and bone marrow failure followed by fatal gangrenous gastrointestinal necrosis and hemorrhage. The investigator determined there was a reasonable possibility that these events were caused by study treatment. Enrollment in the trial was temporarily paused pending investigation of the patient fatality but an independent data monitoring committee has since recommended that recruitment can resume. Despite this, the study is expected to terminate and is not currently recruiting.

We rely on third parties to obtain reagents and raw materials.

The manufacture of our SPEAR T-cells requires access to a number of reagents and other raw materials from third parties. Such third parties may refuse to supply such reagents or other raw materials or alternatively refuse to supply on commercially reasonable terms. There may also be capacity issues at such third-party suppliers that impact our ability to increase production of our SPEAR T-cells.

Some of the materials used in the manufacture and processing of our SPEAR T-cells may only be supplied by one or a few vendors, which means that, should those vendors be unable to supply, for whatever reason, our ability to manufacture SPEAR T-cells and progress SPEAR T-cells through clinical trials could be severely impacted and result in additional delays. Such failure to supply could also impact other supply relationships with other third parties and potentially result in additional payments being made or required in relation to such delays. In addition, where any raw material or precursor material (including, for example, lentiviral delivery vector, medium or other essential raw material) is currently supplied by one or a few vendors, replacing such raw material or precursor or finding alternative vendors may not be possible or may significantly impact on the timescales for manufacture and supply of our SPEAR T-cells. Even where alternative materials or precursors or alternative vendors are identified, such alternative materials, precursors or vendors will need to be properly assessed, validated and qualified and additional regulatory approvals may also need to be obtained all of which could result in significant delays to the supply of our SPEAR T-cells or an inability to supply SPEAR T-cells within anticipated timescales, if at all.

As part of the transition of the NY-ESO SPEAR T-cell program to GSK, supply of reagents and raw materials will transfer to GSK. GSK will be responsible for sourcing its own reagents and raw materials. We cannot guarantee that GSK will be able to source the required reagents and raw materials in the time periods currently envisaged which may result in a delay to the transition of the NY-ESO SPEAR T-cell program to GSK.

Risks Related to Our Intellectual Property

Our SPEAR T-cells could be at risk of biosimilar development.

Expedited routes or abbreviated procedures for obtaining regulatory approval for products aiming to target the same cancer peptide as our SPEAR T-cells may be available to third parties, which we cannot control or prevent. For example, third parties could develop affinity-enhanced TCRs binding to the same targets and regulatory authorities may accept that they are interchangeable with our corresponding SPEAR T-cells and, as a result, grant regulatory approval for such competing products. Entry into the market of such competing products may impact the price of our SPEAR T-cells and the extent of commercialization possible in relation to such SPEAR T-cells.

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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 SPEAR 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 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 SPEAR T-cells. The scope and validity of patents in the pharmaceutical field involve complex legal and scientific questions and can be uncertain. Where appropriate, we seek patent protection for certain aspects of our SPEAR T-cells and technology. Filing, prosecuting and defending patents throughout the world would be prohibitively expensive, so our policy is to patent technology in jurisdictions with significant commercial opportunities. However, patent protection may not be available for some of the SPEAR T-cells 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. We may not develop additional proprietary

products that are patentable.

Many companies have encountered significant problems in protecting and enforcing intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property rights, particularly those relating to pharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. 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.

In addition, patents have a limited lifespan. In most countries, including the United States, 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 we encounter delays in obtaining regulatory approvals, the period of time during which we could market a product under patent protection could be reduced. We expect to seek extensions of patent terms where these are available in any countries where we are prosecuting patents. Such possible extensions include those permitted under the Drug Price Competition and Patent Term Restoration Act of 1984 in the United States, which permits a patent term extension of up to five years to cover an FDA-approved product. The actual length of the extension will depend on the amount of patent term lost while the product was in clinical trials. However, the applicable authorities, including the FDA in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, 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.

Any loss of, or failure to obtain, patent protection could have a material adverse impact on 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 SPEAR T-cells. This is particularly the case where third parties are using T-cell therapies falling within the scope of our patents in clinical trials. It may not be possible to enforce our patents against such third parties during the course of those clinical trials.

Further given that our technology relates to the field of genetic engineering, political pressure or ethical decisions may result in a change to the scope of patent claims for which we may be eligible. Different patent offices throughout the world may adopt different procedures and guidelines in relation to what is and is not patentable and as a result different protection could be obtained in different areas of the world which may impact our ability to maximize commercialization of our technology.

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We may also incur increased expenses and cost in relation to the filing and prosecution of patent applications where third parties choose to challenge the scope or oppose the grant of any patent application or, following grant, seek to limit or invalidate any patent. On April 13, 2015, we received notification of a third party observation filed against one of the patent applications (PCT/GB2013/053320) jointly owned with Immunocore and covering one aspect of our underlying processes. The third party observation cites a reference which the third party considers to be novelty destroying in relation to claims 1-14 of our patent application. Following this observation, an examination report was issued by the patent office and we have responded to the cited observations in the examination report in full. Any increased prosecution or defense required in relation to such patents and patent applications, whether relating to this third party observation or any other third party challenge or opposition, entails increased cost and resource commitment to the business and may result in patents and patent applications being abandoned, invalidated or narrowed in scope.

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. In addition, others may independently discover our trade secrets and proprietary information. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights. Failure to obtain or maintain trade secret protection, or failure to adequately protect our intellectual property, could enable competitors to develop generic products or use our proprietary information to develop other products that compete with our SPEAR T-cells or have additional, material adverse effects upon our business, results of operations and financial condition.

In addition, we provide samples to third parties under material transfer agreements, including to research institutions or other organizations that we cannot control. There is a risk that such third parties could disclose details of those samples or carry out further research in relation to provided samples which results in intellectual property rights that block our future freedom to operate, and to which we may not be able to obtain a license on commercially acceptable terms or at all. In addition, provision of samples and our confidential information to such parties could facilitate or assist such parties in development of competing products.

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 United States, involving patents and other intellectual property rights in the pharmaceutical industry. We may, from time to time, be notified of claims that we are infringing upon patents, trademarks, copyrights, or other intellectual property rights owned by third parties, and we cannot provide assurances that other companies will not, in the future, pursue such infringement claims against us or any third-party proprietary technologies we have licensed. If we 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 SPEAR T-cells or reengineer or rebrand our SPEAR T-cells, 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. Our competitive position could suffer as a result. In addition, if we have declined to enter into a valid non-disclosure or assignment agreement for any reason, we may not own an invention or intellectual property rights and may not be adequately protected. Although we have reviewed certain third-party patents and patent filings that we believe may be relevant to our SPEAR T-cells, we have not conducted a full freedom-to-operate search or analysis for such SPEAR T-cells, and we may not be aware of patents or pending or future patent applications that, if issued, would block us from commercializing our SPEAR T-cells. Thus, we cannot guarantee that we can successfully commercialize SPEAR T-cells in a way that will not infringe any third party's intellectual property.

Licenses may be required from third parties in relation to any SPEAR T-cells 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 SPEAR T-cells. 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.

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We have also identified a family of third party patents under which we may require a license in relation to a structural component of our lentiviral vector (cPPT) prior to any commercialization of the NY-ESO SPEAR T-cell. The requirement for such a license and the scope of such license will depend on progression of the NY-ESO SPEAR T-cell through clinical programs. GSK will control the progression of the NY-ESO SPEAR T-cell through clinical programs following anticipated transition of the program to GSK during 2018. We believe such licenses are available and can be negotiated.

We may also require licenses under third-party patents covering certain peptide sequences or the use of those peptides. Such licenses will require payment of sums by us and we cannot guarantee that the terms of such licenses will be available on commercially acceptable terms or at all, which could limit the peptides which can be used by us and the efficacy of the final affinity- enhanced TCRs that we are able to offer.

As we change, develop and modify our manufacturing processes we may identify further third-party patents covering those developments and modifications. We cannot guarantee that we will be able to obtain licenses under these third-party patents or other intellectual property rights and as a result we may not be able to undertake the developments of modifications that we wish, either at all or in the timescales we require. This could ultimately impact our ability to deliver commercial T-cell products at the cost required.

Further or other third-party patents and patent applications may be identified from time to time that require prospective action by us to prevent the grant of broad claims. Such prospective action requires time and expense and also impacts on the resources generally available to us.

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 SPEAR T-cells could be found invalid or unenforceable if challenged in court or at the USPTO.

If we or one of our licensing partners initiate legal proceedings against a third party to enforce a patent protecting one of our SPEAR T-cells, the defendant could counterclaim that the patent protecting our SPEAR T-cell, as applicable, is invalid and/or unenforceable. In patent litigation in the United States, 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 SPEAR T-cells. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we, our patent counsel and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection for our SPEAR T-cells. Such a loss of patent protection could have a material adverse impact our business, financial condition and results of operations.

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Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involve both technological and legal complexity, and is therefore costly, time-consuming and inherently uncertain. In addition, the United States has recently enacted and is currently implementing wide-ranging patent reform legislation. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. For example, in the recent case, Assoc. for Molecular Pathology v. Myriad Genetics, Inc., the U.S. Supreme Court held that certain claims to DNA molecules are not patentable. While we do not believe that any of the patents owned or licensed by us will be found invalid based on this decision, we cannot predict how future decisions by the courts, the U.S. Congress or the USPTO may impact the value of our patents.

Our ability to protect our intellectual property rights in territories outside of the United States may vary and thus affect our ability to obtain revenue from our SPEAR T-cells.

Filing, prosecuting and defending patents on our SPEAR T-cells in all countries throughout the world would be prohibitively expensive, and the extent of intellectual property rights may be less extensive than those which can be obtained in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

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

Risks Related to Employee Matters and Managing Growth

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, James Noble, our Chief Executive Officer, Dr. Helen Tayton-Martin, our Chief Business Officer, Dr. Rafael Amado, our Chief Medical Officer, Dr. Gwendolyn Binder-Scholl, our Chief Technology Officer, and Adrian Rawcliffe, our Chief Financial Officer. We do not hold key-man insurance for our senior managers. In addition, James Noble and Dr. Helen Tayton-Martin, are in a personal relationship. They are our co-founders, two of our most senior executive officers and are a vital part of our business. If the personal relationship ended or they could otherwise not amicably work with each other, one of them may decide to leave us which would materially harm our business.

In addition, we anticipate a requirement to expand the personnel available to us very rapidly in order to achieve our planned business activities and aims. Such expansion is dependent on our ability to recruit experienced and suitably trained employees or consultants, and to retain such employees on a long term basis. Our ability to take our existing pipeline of TCR therapeutics and to meet the demands of the GSK collaboration may be compromised or delayed where we are unable to recruit sufficient personnel on a timely basis.

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To induce employees to remain at our company, in addition to salary and cash incentives, we have provided share options that vest over time, with higher awards of share options being made to senior employees. The value to employees of share options that vest over time may be significantly affected by movements in our share price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. Although we have employment agreements with all of our employees, in the United Kingdom, these employment agreements provide for mutual nine months' notice periods in the case of Mr. Noble and Dr. Tayton-Martin; mutual three months' notice periods in the case of senior managers and mutual one month notice periods for all other employees. In the United States, the employment agreements provide for at-will employment except that, under their employment agreements, Dr. Amado, Dr. Binder-Scholl, Mr. Rawcliffe and William Bertrand, our Chief Operating Officer, must provide 60 days' written notice for termination without cause. This means that any of our employees in the United States, except for Dr. Amado, Dr. Binder-Scholl, Mr. Rawcliffe and Mr. Bertrand, could leave our employment at any time, with or without notice. Our success also depends on our ability to continue to attract, retain and motivate highly skilled junior, mid-level and senior managers as well as junior, mid-level and senior scientific and medical personnel.

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, 2017, we had 371 full-time equivalent employees. As our development and commercialization plans and strategies develop, we must 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 SPEAR T-cells, 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 future financial performance and our ability to commercialize our SPEAR T-cells will depend, in part, on our ability to effectively manage any future growth, and 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 these growth activities.

We also rely on third parties to provide certain of our manufacturing and quality capabilities. See "Risks Related to Our Reliance Upon Third Parties."

If we are not able to effectively expand our organization by hiring new employees and expanding our groups of consultants and contractors, we may not be able to successfully implement the tasks necessary to further develop and commercialize our SPEAR T-cells and, accordingly, may not achieve our research, development, and commercialization goals.

Expansion of our business has necessitated a move in premises both in the United Kingdom and in the United States. While the move in the United States has occurred, work is still ongoing to enable the operation of these premises as a manufacturing facility. The move in the United Kingdom occurred in the second quarter of 2017. The move required transfer of all equipment, cell lines, tissues and materials to the new premises and re-validation and calibration of equipment. Any failure to properly validate or calibrate equipment or any destruction of materials transferred to the new premises may result in additional delays to the work carried out in the United Kingdom.

We have opened a manufacturing facility of our own which may result in increased costs being incurred by the company

During 2017, we opened a manufacturing facility for our SPEAR T-cell products within our Navy Yard facility in Philadelphia, Pennsylvania and have started manufacturing SPEAR T-cells for use in our clinical trials. As a company we have never previously operated our own manufacturing facility or manufactured SPEAR T-cells ourselves. We cannot guarantee that we will be successful in developing SPEAR T-cell manufacturing capability at all or within the currently planned timescales or resource levels or that the regulatory authorities, in particular the FDA, will continue to approve our ability to manufacture SPEAR T-cells at the Navy Yard facility.

Our ability to successfully manufacture our own SPEAR T-cells at the Navy Yard facility 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;

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- our ability to obtain regulatory approval for the facility and for the manufacture of SPEAR T-cells at the facility and to satisfy regulatory authorities on an ongoing basis;
- our ability to manufacture SPEAR T-cells reliably and reproducibly and to timescales sufficient to support required patient administration;
- our ability to manufacture SPEAR T-cells in compliance with the applicable regulatory requirements, including requirements applicable in both the United States and European Union;
- our ability to develop internal quality controls and processes sufficient to enable manufacture and supply of SPEAR T-cells at our Navy Yard facility;
- 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 SPEAR T-cells at our facility.

Any delay or failure in manufacture at our facility could result in delays to the supply of SPEAR T-cells for our clinical programs. Should any of our third party

manufacturers also cease to be able to supply SPEAR T-cells at a time where our own manufacturing facility is unable to produce SPEAR T-cells for use in our clinical programs or is unable to produce SPEAR T-cells at the required level, then we will be unable to support such clinical programs until alternative manufacturing capability is secured.

We are in the process of increasing the number of manufacturing slots available at our Navy Yard facility. The cost of developing, out-fitting and operating a larger manufacturing facility may also be greater than currently anticipated and we may require additional capital for the completion of the upscaling of the manufacturing facility which may result in the need for us to raise additional funds earlier than expected.

We cannot guarantee that we will be successful in manufacturing SPEAR T-cells at all or in a manner that complies with regulatory requirements. For example, there is a risk that any SPEAR T-cells we manufacture are contaminated or are otherwise incorrectly manufactured resulting in injury or death to any patient receiving those SPEAR T-cells. Such failure could result in a halt being placed on manufacture at our Navy Yard facility. We may also face difficulties in properly tracking and administering our SPEAR T-cells to patients, again potentially resulting in injury or death to any patient receiving those SPEAR T-cells.

We may also be unable to support use of our own manufacturing facility together with third party suppliers and become the sole supply for our SPEAR T-cells. Any inability to supply SPEAR T-cells at the required levels and to the required specifications, will result in delays to clinical trials and may result in holds being applied to such clinical trials.

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

Immunotherapy is an intensely competitive area with many of the large pharmaceutical companies having products and therapies already in clinical trials for cancer indications and autoimmune diseases. The larger resources of these companies may enable them to take therapies all the way through the regulatory process, while we will require additional investment or input from collaborators such as GSK to take our SPEAR T-cells through the regulatory process and commercialization. Smaller or early-stage companies and academic sites may also prove to be significant competitors, particularly if such companies align with pharmaceutical partners and compete for patients. Results obtained by such competitors in clinical trials could also impact our ability to obtain regulatory approval or delay such approval in the event of a safety issue or other negative clinical result associated with similar T-cell or SPEAR T-cells. Competing companies may also compete for resources including staff, materials and third party CMOs and CROs. We expect any competition to increase further as SPEAR T-cells and CAR-T technologies progress further.

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Within the TCR T-cell area, TCR T-cells are being developed by competitors that are directed towards a multitude of targets including: HPV-16 E6, KRAS, MAGE-A1, MAGE-A3, MAGE A3/A6, NY-ESO-1, PRAME and WT1. Juno Therapeutics has developed an engineered TCR therapeutic candidate where the end TCR is purported to have enhanced affinity through stem-cell selection. Juno's candidate JTCR016 (WT1-specific TCR), in collaboration with Fred Hutchinson Cancer Research Center and the National Cancer Institute (NCI), is currently undergoing a Phase 1/2 trial in NSCLC and mesothelioma setting as well as a separate Phase 1/2 in AML. Medigene AG has reported development of a PRAME TCR therapeutic candidate, which is due to begin Phase 1/2 clinical investigation in AML, MM and myelodysplastic syndromes. In addition other competitors include, but are not limited to: Adicet Bio, Adaptive Biotechnologies, Baylor College, Bellicum, BioNTech, bluebird bio, Cell Medica Ltd, Fred Hutchinson Cancer Research Center, Immatics, Immunocellular Therapeutics, Immunocore, Juno Therapeutics, Kite Pharma (Gilead), Lion TCR LTD, MD Anderson Cancer Center, MediGene AG, NCI, Parker Institute, Roswell Park Cancer Institute, Takara Bio Inc, Takeda (T-CIRA), T-Knife, Tmunity, Zelluna (with Oslo University Hospital) and Ziopharm Oncology.

From other immunotherapies we expect to see competition from the following technologies and third parties:

- CAR-T in hematological malignancies: Engineered T cell therapeutics have been identified using antibody recognition systems engineered into T cells, so-called CAR-T cells. A number of targets in hematological malignancies have been well characterized including, but not limited to: BCMA, CD4, CD5, CD19, CD22, CD20, CD33, CD38, CD70 and CD123. Two CD-19 directed CAR-T cell products have been approved by the FDA Kymriah™ (tisagenlecleucel) and Yescarta™ (axicabtagene ciloleucel). A number of companies and academic institutions are developing CAR-T cell products including but not limited to Autolus, Baylor College of Medicine, Bellicum Inc, bluebird bio, CARMA Therapeutics, Novartis, Janssen (JNJ with Nanjing Legend), Juno Therapeutics, Kite Pharma (Gilead) and Ziopharm Oncology.

- CAR-T in solid tumors: In addition to hematological malignancies, there are a growing number of pharmaceutical, biotechnology, and academic institutions researching and developing autologous and allogeneic CAR-T therapies in the solid tumor setting. These CAR-T cell therapies are at a variety of stages of preclinical and clinical development, as well as directed towards a broad target spectrum, including but not limited to: EGFR, GD2, HER-2, IL13rα2, Lewis Y, L1-CAM, Mesothelin, MUC16, PSCA, PSMA and ROR1. Competitors include but are not limited to: Aurora Biopharma, Avid Biotics / Xyphos, Baylor College of Medicine, Cell Medica, Bellicum, BioNTech, Carsgen, Cellectis Therapeutics, Fate Therapeutics, Formula Therapeutics, Fred Hutchinson Cancer Research Center, Helix BioPharma, Juno Therapeutics, Memorial Sloan Kettering Cancer Center, Mustang bio, Poseida Therapeutics, Sorrento Therapeutics, Symvivo, Targazyme and Tmunity.

- CARs & TCR-mimics targeting peptide-HLA complexes: Most CAR-T therapies in development are directed towards suitable antigen targets. Another area of development is the creation of CAR-T that selectively bind to the peptide-HLA (pHLA) complex (the natural binding site for endogenous TCR). Furthermore, competitors are also looking at pHLA antibodies or TCR mimic antibodies that can either be engineered in T-cells or developed as standalone antibody therapies in cancer indications (both hematologic malignancies and solid tumors). Targets of such pHLA CAR-T or TCR mimic antibodies include: AFP, CD19, BCMA, NY-ESO-1, p53 and WT1. A number of pharmaceutical, biotechnology, and academic institutions are researching and developing CARs & TCR-mimics targeting the peptide-HLA complex, including but not limited to: Adicet Bio / Regeneron, Altor Bioscience, Cancer Research Technology/CRUK, Eureka Therapeutics, Morphosys Tactiva Therapeutics, Xencor and Ziopharm Oncology.

- Other cell-based approaches: In addition to adoptive cell therapy approaches aforementioned, our competitors are also investigating the potential of GammaDelta T cell, CAR-NK cell, NK cell, NKT cell and CTLs either preclinically or in a clinical setting (both hematologic malignancies and solid tumors). In this space there are a number of potential competitors, including, but not limited to: Atara Bio, Aurora BioPharma, Cell Medica, CytomX, Celgene, Fate Therapeutics, Fortress Biotech, Gadeta, Gamma Delta Therapeutics (with Takeda), Gamida cell, Glycostem Therapeutics, iCell Gene Therapeutics, Immatics, Iovance Biotherapeutics (formerly Lion Bio), Multimmune, NantKwest, Sorrento Therapeutics, TC Biopharm (with bluebird bio) and Ziopharm Oncology.

Although Immunocore is focused on soluble TCRs rather than engineered SPEAR T-cells, we could also face competition from Immunocore if it develops or acquires products directed at the same targets or indications as our TCR therapeutic product candidates. Moreover, many of our employees have come from a shared background within Immunocore and there is an awareness within Immunocore of certain of our confidential information on the technology platform controlled through confidentiality agreements. This knowledge could be used by Immunocore to facilitate its own developments or to target competitive products against our products placing it in a preferable position as compared to third party competitors.

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The results of the United Kingdom's referendum on withdrawal from the European Union ("Brexit") may have a negative effect on global economic conditions, financial markets and our business.

On June 23, 2016, a majority of voters in the United Kingdom elected to withdraw from the European Union in a national referendum. Intention to withdraw from the European Union was provided to the European Council on March 29, 2017. This notification has triggered a negotiation period for the terms of withdrawal from the European Union that may last for at least two years. The decision to withdraw from the European Union has created significant uncertainty about the future relationship between the United Kingdom and the European Union, including with respect to the laws and regulations that will apply as the United Kingdom determines which European Union laws to replace or replicate in the event of a withdrawal. It is not known at this time how Brexit will impact the relationship between the United Kingdom and the European Union. Any negotiated relationship could negatively impact the free movement of goods and individuals between the United Kingdom and the European Union. The decision to withdraw and ongoing Brexit negotiations have also caused significant market volatility and currency exchange rate fluctuations, These developments, or the perception that any of them could occur, may have a material adverse effect on global economic conditions and the stability of global financial markets, and may significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets. Any of these factors could depress economic activity and restrict our access to capital, which could have a material adverse effect on our business, financial condition and results of operations and reduce the price of our securities. In addition, currency exchange rates in the pounds sterling and the euro with respect to each other and the U.S. dollar have already been adversely affected by these developments. Should this foreign exchange volatility continue, it could cause volatility in our quarterly financial results which may affect the market price of our ADSs.

Failure of our information technology systems could significantly disrupt the operation of our business.

Our ability to execute our business plan and to comply with regulators' requirements with respect to data control and data integrity, depends, in part, on the continued and uninterrupted performance of our information technology systems and similar systems used by third-party providers that we rely on. These systems are vulnerable to damage from a variety of sources, including telecommunications or network failures, malicious human acts and natural disasters. Moreover, despite network security and back-up measures, some of our servers are potentially vulnerable to physical or electronic break-ins, computer viruses and similar disruptive problems. Despite the precautionary measures we have taken to prevent unanticipated problems that could affect our information systems, sustained or repeated system failures or problems arising during the upgrade of any of our information systems that interrupt our ability to generate and maintain data, and in particular to operate our proprietary technology platform, could adversely affect our ability to operate our business. In addition, where disruption to such systems occurs at third-party providers, we may have limited ability to find alternative providers in any required timeframes or at all, and such disruption could significantly affect our ability to proceed with clinical or analytical or development programs.

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations and those of our third party suppliers and collaborators could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes or other extreme weather conditions, medical epidemics, labor disputes or other business interruptions. While the company has business interruption insurance policies in place, any interruption could seriously harm our ability to timely proceed with any clinical programs or to supply SPEAR T-cells on a commercial basis or for use in clinical programs.

We are exposed to risks related to currency exchange rates.

We conduct a significant portion of our operations within the United Kingdom 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 United Kingdom; 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.

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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. Based on our estimated gross income, the average value of our assets, including goodwill and the nature of our active business, 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, 2017. There can be no assurance, however, that we will not be considered to be a PFIC for the U.S. taxable year ended December 31, 2017 or any particular year in the future because PFIC status is factual in nature, depends upon factors not wholly within our control 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 all aspects of the application of the PFIC rules to our ordinary shares.

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

The price 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 our SPEAR 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 our SPEAR T-cells, if approved for marketing, or price reductions;

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- manufacture, supply or distribution shortages;
- 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 Nasdaq Global Select Market, or 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; 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.

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. Moreover, certain shareholders have rights under an investors rights agreement dated as of February 23, 2015, subject to certain conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other shareholders. In addition, we have registered an aggregate of 66,999,747 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, 2017, an aggregate of 31,449,602 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 United States and our management must devote substantial time to public company compliance.

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. Further, pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, the SEC has adopted and will adopt additional rules and regulations, such as mandatory “say on pay” voting requirements, that will apply to us when we cease to be an emerging growth company. 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. 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.

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In the future, we may not be exempt from various reporting requirements that apply to us as an emerging growth company. For example, while the Sarbanes-Oxley Act currently requires us, among other things, to assess the effectiveness of our internal control over financial reporting annually and to assess the effectiveness of our disclosure controls and procedures quarterly, once we cease to be an emerging growth company our independent registered public accounting firm will be required to attest to and report on the effectiveness of our internal control over financial reporting which will require us to incur substantial accounting expenses and expand significant management time on compliance related issues.

We are an emerging growth company and we cannot be certain that the reduced disclosure requirements applicable to emerging growth companies will not make our ADSs less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Start-ups Act of 2012, or the JOBS Act, and have elected to take advantage of the following provisions of the JOBS Act: the exemption from the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act; not providing all of the compensation disclosure that may be required of non-emerging growth public companies under the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act; not disclosing certain executive compensation-related items such as the correlation between executive compensation and performance and comparisons of the Chief Executive Officer's compensation to employee compensation; not complying with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements (auditor discussion and analysis and an extended transition period to comply with new or revised accounting standards applicable to public companies). In addition we have elected to take advantage of (1) reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements; and (2) exemptions from the requirements of holding a non-binding advisory vote on executive compensation including golden parachute compensation. As a result of these elections, our future financial statements may not be comparable to companies that comply with these obligations and our investors may not have access to certain information they may deem important.

Our independent registered public accounting firm will not be required to provide an attestation report on the effectiveness of our internal control over financial reporting as long as we qualify as an "emerging growth company," which may increase the risk that weaknesses or deficiencies in our internal control over financial reporting go undetected and may make it more difficult for investors and securities analysts to evaluate our company. We may take advantage of these reporting exemptions until we are no longer an emerging growth company. We will remain an emerging growth company until the earliest of (i) December 31, 2020, (ii) the last day of the fiscal year (a) in which we have total annual gross revenue of at least $1.07 billion or (b) in which we are deemed to be a large accelerated filer, which requires the market value of our ordinary shares that are held by non-affiliates to exceed $700.0 million as of the prior June 30th, and (iii) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period. We cannot predict if investors will find our ADSs less attractive because we may rely on these exemptions. If some investors find our ADSs less attractive, there may be a less active trading market for our ADSs, and the price of our ADSs may be more volatile and may decline.

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.

Section 404(a) of the Sarbanes-Oxley Act, requires that management assess and report annually on the effectiveness of our internal controls over financial reporting and identify any material weaknesses in our internal controls over financial reporting. Although Section 404(b) of the Sarbanes-Oxley Act requires our independent registered public accounting firm to issue an annual report that addresses the effectiveness of our internal controls over financial reporting, we have opted to rely on the exemptions provided in the JOBS Act, and consequently will not be required to comply with SEC rules that implement Section 404(b) of the Sarbanes-Oxley Act until such time as we are no longer an emerging growth company.

The presence of material weaknesses could result in financial statement errors which, in turn, could lead to errors in our financial reports, delays in our financial reporting, could require us to restate our operating results or our auditors may be required to issue a qualified audit report. We might not identify one or more material weaknesses in our internal controls in connection with evaluating our compliance with Section 404(a) of the Sarbanes-Oxley Act. In order to maintain and improve the effectiveness of our disclosure controls and procedures and internal controls over financial reporting, we will need to expend significant resources and provide significant management oversight. Implementing any appropriate changes to our internal controls may require specific compliance training of our directors and employees, entail substantial costs in order to modify our existing accounting systems, take a significant period of time to complete and divert management's attention from other business concerns. These changes may not, however, be effective in maintaining the adequacy of our internal control.

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If either we are unable to conclude that we have effective internal controls over financial reporting or, at the appropriate time, our independent auditors are unwilling or unable to provide us with an unqualified report on the effectiveness of our internal controls over financial reporting as required by Section 404(b) of the Sarbanes-Oxley Act, investors may lose confidence in our operating results, the price of our ADSs could decline and we may be subject to litigation or regulatory enforcement actions. In addition, if we are unable to meet the requirements of Section 404 of the Sarbanes-Oxley Act, we may not be able to remain listed on Nasdaq.

We incur significant increased costs as a result of operating as a company whose ADSs are publicly traded in the United States, and our management is required to devote substantial time to new compliance initiatives.

As a company whose ADSs are publicly traded in the United States since May 6, 2015, we have incurred, and will continue to incur, significant legal, accounting, insurance and other expenses that we did not previously incur as a private company. In addition, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act and related rules implemented by the SEC and Nasdaq have imposed various requirements on public companies including requiring establishment and maintenance of effective disclosure and financial controls. Our management and other personnel need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations have increased, and will continue to increase, our legal and financial compliance costs and will 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. 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.

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 United States, and a substantial portion of our assets and all or a substantial portion of the assets of such persons are located outside the United States. 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 United States and the United Kingdom 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 United Kingdom 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 United Kingdom, 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 United States. In addition, awards for punitive damages in actions brought in the United States or elsewhere may be unenforceable in the United Kingdom. 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 may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our shareholders.

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 United Kingdom (or the Channel Islands or the Isle of Man) and whose securities are not admitted to trading on a regulated market or multilateral trading facility in the United

Kingdom (or the Channel Islands or the Isle of Man) 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.

If at the time of a takeover offer the Takeover Panel considers that we have our place of central management and control in the United Kingdom, we would be subject to a number of rules and restrictions, including but not limited to the following: (1) our ability to enter into deal protection arrangements with a bidder would be extremely limited;(2) we might not, without the approval of our shareholders, be able to perform certain actions that could have the effect of frustrating an offer, such as issuing shares or carrying out acquisitions or disposals; and (3) we would be obliged to provide equality of information to all bona fide competing bidders.

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Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The following table summarizes the facilities we lease as of December 31, 2017, 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

As of December 31, 2017, all of the above sites were utilized by the Company with the exception of our facilities in Abingdon, Oxfordshire, of 46,017 sq ft, which are undergoing external works and are expected to be occupied in 2018.

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, 2017, we were not a party to any material legal proceedings.

Item 4. Mine Safety Disclosures

Not applicable

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PART II

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

The Company's ordinary shares, par value £0.001 per share, are not publicly traded. The Company's American Depositary Shares ("ADSs") each represent six ordinary shares of Adaptimmune Therapeutics plc. An ADS is evidenced by an American Depositary Receipt ("ADR") issued by Citibank, N.A. as depositary, and is listed on the NASDAQ Global Select Market.

The ADS have been listed on The NASDAQ Global Select Market under the symbol "ADAP" since May 6, 2015. Prior to that date, there was no public trading market for our ADSs or our ordinary shares. Our initial public offering was priced at $17.00 per ADS on May 5, 2015.

The following table sets forth for the periods indicated the high and low intra-day sales prices per ADS as reported on the NASDAQ Global Select Market:

	High	Low
2017:		
Fourth Quarter	$ 8.74	$ 6.68
Third Quarter	8.93	4.44
Second Quarter	6.07	4.40
First Quarter	5.51	3.95
2016:		
Fourth Quarter	$ 6.97	$ 3.76
Third Quarter	9.13	6.62
Second Quarter	11.12	8.02
First Quarter	12.29	6.52
2015:		
Fourth Quarter	$ 13.12	$ 7.28
Third Quarter	20.24	10.96

Second Quarter (from May 6, 2015)	21.12	14.81

Holders of Common Stock

As of March 9, 2018, there were approximately 28 holders of record of our ordinary shares, par value £0.001 per share, and four holders of record of our ADSs. The closing sale price per ADS on the NASDAQ Global Select Market on March 9, 2018 was $9.09.

Dividends

Since our inception, we have not declared or paid any dividends on our ordinary shares. We intend to retain any earnings for use in our business and do not currently intend to pay dividends on our ordinary shares.

The payment of dividends by Adaptimmune Therapeutics plc is governed by English law. The declaration and payment of any future dividends will be at the discretion of our board of directors and will depend upon our results of operations, cash requirements, financial condition, contractual restrictions, restrictions imposed by our indebtedness, any future debt agreements or applicable laws and other factors that our board of directors may deem relevant.

Performance Graph

This performance graph shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or incorporated by reference into any of our filings under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

The following graph shows the cumulative total stockholder return of an investment of $100 in cash at market close on May 6, 2015 (the first day of trading of our ADSs) through December 31, 2017 for (1) our ADSs, (2) the NASDAQ Composite Index (U.S.) and (3) the NASDAQ Biotechnology Index.

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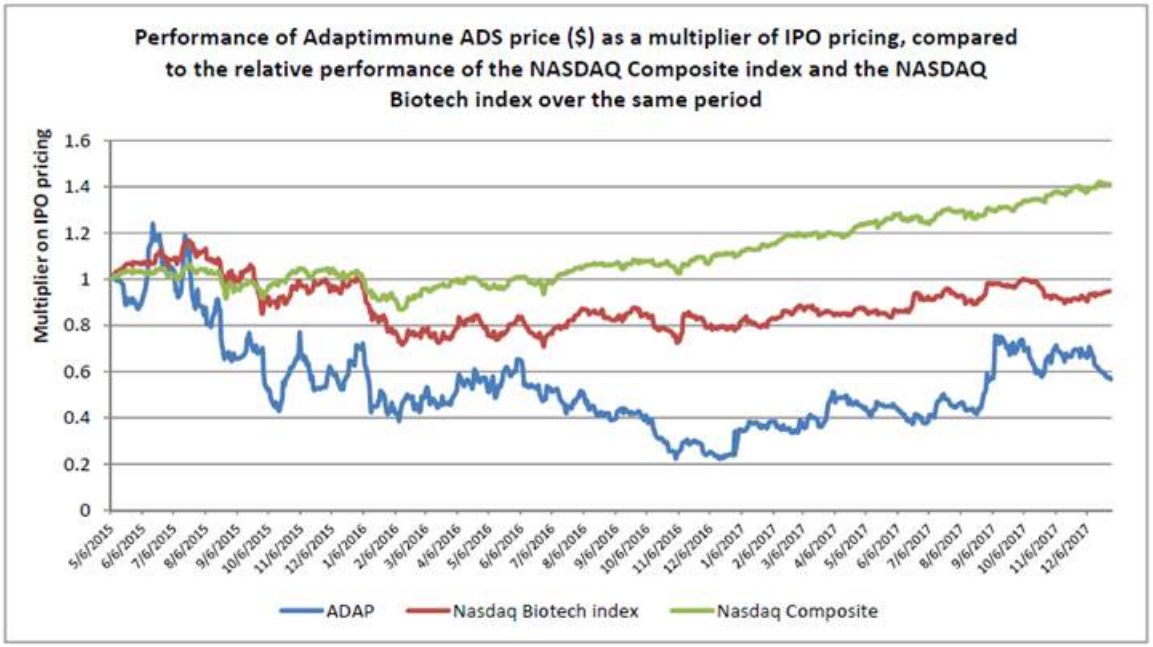

Recent Sales of Unregistered Securities

We did not sell any unregistered securities during the year ended December 31, 2017.

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Item 6. Selected Financial Data

The selected statements of operations data for the years ended December 31, 2017 and 2016, six months ended December 31, 2015 and the years ended June 30, 2015 and 2014 and the selected balance sheet data as of December 31, 2017, 2016 and 2015 and June 30, 2015, 2014 and 2013 are derived from our financial statements appearing elsewhere in this Annual Report.

The following selected financial data (in thousands, except for share and per share amounts) should be read in conjunction with the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the financial statements and related notes appearing elsewhere in this Annual Report. Our historical results are not necessarily indicative of the results that can be expected in the future.

	Period ended				
	December 31, 2017	December 31, 2016	December 31, 2015	June 30, 2015	June 30, 2014
Statements of Operations Data[2]:					
Revenue	**$ 37,833**	**$ 14,198**	**$ 8,979**	**$ 9,871**	**$ 825**
Research and development	(87,388)	(63,789)	(25,472)	(24,137)	(9,575)

General and administrative	(31,106)	(23,208)	(9,917)	(10,375)	(2,771)
Total operating expenses	**(118,494)**	**(86,997)**	**(35,389)**	**(34,512)**	**(12,346)**
Operating loss	**(80,639)**	**(72,799)**	**(26,410)**	**(24,641)**	**(11,521)**
Interest income	2,230	1,110	489	504	—
Other income (expense), net	8,744	1,002	2,866	2,323	(5)
Loss before tax	**(69,687)**	**(70,687)**	**(23,055)**	**(21,814)**	**(11,526)**
Income taxes	(451)	(892)	55	(244)	(75)
Loss for the year	**(70,138)**	**(71,579)**	**(23,000)**	**(22,058)**	**(11,601)**
Deemed dividends	—	—	—	(14,735)	—
Net loss attributable to ordinary shareholders	**(70,138)**	**(71,579)**	**(23,000)**	**(36,793)**	**(11,601)**
Basic and diluted loss per share	**$ (0.13)**	**$ (0.17)**	**$ (0.05)**	**$ (0.17)**	**$ (0.08)**
Weighted average number of shares outstanding[1]	527,637,086	424,713,997	424,711,900	214,704,593	148,335,529

	December 31, 2017	December 31, 2016	December 31, 2015	June 30, 2015	June 30, 2014
Balance Sheet Data[2]:					
Cash and cash equivalents	$ 84,083	$ 158,779	$ 194,263	$ 229,046	$ 51,179
Short-term deposits	—	22,694	54,620	55,292	—
Marketable securities — available-for-sale debt securities	124,218	—	—	—	—
Total assets	281,147	234,515	285,821	300,653	55,735
Total liabilities	78,163	68,373	50,828	41,650	52,778
Total stockholders' equity	202,984	166,142	234,993	259,003	2,957

(1) Adjusted to reflect a 1 for 100 stock split effective February 2015.

(2) On April 1, 2015, the Company completed a corporate reorganization. Prior to the corporate reorganization, our business was conducted by Adaptimmune Limited and its consolidated subsidiary. Subsequent to the corporate reorganization, our business was conducted by Adaptimmune Therapeutics plc and its consolidated subsidiaries, including Adaptimmune Limited. The historical consolidated financial statements of Adaptimmune Limited and consolidated subsidiary prior to the reorganization became those of Adaptimmune Therapeutics plc. For periods prior to the reorganization, the equity of Adaptimmune Therapeutics plc represents the historical equity of Adaptimmune Limited.

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

The following discussion contains management's discussion and analysis of our financial condition and results of operations and should be read together with "Selected Financial Data" and the historical consolidated financial statements and the notes thereto included in "Financial Statements and Supplementary Data". This discussion contains forward-looking statements that reflect our plans, estimates and beliefs and involve numerous risks and uncertainties, including but not limited to those described in the "Risk Factors" section of this Annual Report. Actual results may differ materially from those contained in any forward-looking statements. You should carefully read "Special Note Regarding Forward-Looking Statements" and "Risk Factors."

Overview

We are a clinical-stage biopharmaceutical company focused on providing novel cell therapies to patients, particularly in solid tumors. Our comprehensive and proprietary SPEAR (Specific Peptide Enhanced Affinity Receptor) T-cell platform enables us to identify cancer targets, find and genetically engineer T-cell receptors ("TCRs"), and produce therapeutic candidates for administration to patients. Using our affinity engineered TCRs, we aim to become a fully integrated cell therapy company and to be the first company to have a TCR T-cell that we have developed approved for a solid tumor indication.

We have four SPEAR T-cells in clinical trials, MAGE-A10, MAGE-A4, AFP and NY-ESO. Phase 1/2 clinical trials are ongoing in urothelial, melanoma, head and neck, ovarian, esophageal, gastric, multiple myeloma and hepatocellular cancers and in synovial sarcoma, myxoid round cell liposarcoma ("MRCLS") and non small cell lung cancer ("NSCLC").

Our MAGE-A10 SPEAR T-cells have shown promising tolerability profiles with no evidence of off-target toxicities observed. In particular, as of January 27, 2018, there have been no reports of any severe neurotoxic events similar to CAR-T cell related encephalopathy syndrome ("CRES"). In the MAGE-A10 triple tumor study dose escalation to 1 billion transduced cells, which is the dose previously observed to provide responses with our NY-ESO SPEAR T-cell, has been recommended by the Safety Review Committee ("SRC"). In the MAGE-A10 NSCLC study, the SRC has recommended modification of the protocol to permit escalation of the patient dose to 1 billion transduced cells with fludarabine and cyclophosphamide preconditioning in the next treatment cohort. In the MAGE-A4 trial patient enrollment has started in bladder, melanoma, head & neck, ovarian, NSCLC, esophageal and gastric cancers.

Our NY-ESO SPEAR T-cell has shown promising initial results in clinical trials with a 50% response rate and a median projected overall survival of 120 weeks (~28 months) in Cohort 1 of synovial sarcoma (a solid tumor) and 76% overall response rate at day 100 in multiple myeloma. We have also now seen three partial responses (two confirmed and one to be confirmed) and one stable disease in the first four patients dosed in a second solid tumor indication, MRCLS. Our NY-ESO SPEAR T-cell therapy has breakthrough therapy designation in the United States and has also received orphan drug designation from the U.S. Food and Drug Administration ("FDA"), and European Commission for the treatment of soft tissue sarcoma. The European Medicines Agency ("EMA") has also granted PRIME regulatory access for the Company's NY-ESO SPEAR T-cell therapy for the synovial sarcoma indication.

In September 2017, GlaxoSmithKline ("GSK") exercised its option to obtain an exclusive global license to the NY-ESO SPEAR T-cell program. Upon transition of the NY-ESO program to GSK which is anticipated to occur during 2018, GSK will assume full responsibility for all development, manufacturing and commercialization activities for the NY-ESO SPEAR T-cell including progression of the SPEAR T-cell into further clinical trials.

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Recent events since December 31, 2017

Clinical momentum has continued with all of our SPEAR T-cells:

- We have seen initial responses in a second solid tumor indication, MRCLS for our NY-ESO SPEAR T-cell with three partial responses (two confirmed and one to be confirmed) and one stable disease in the first four patients dosed;
- The first patients with NSCLC have been treated with our NY-ESO SPEAR T-cell;
- In the MAGE-A10 triple tumor study, dose escalation to 1 billion transduced cells has been recommended by the Safety Review Committee ("SRC");
- In the MAGE-A10 NSCLC study, the SRC has recommended the modification of the protocol to permit escalation of the patient dose to 1 billion transduced cells with fludarabine and cyclophosphamide preconditioning in the next treatment cohort; and
- In the MAGE-A4 trial patient enrollment has started in bladder, melanoma, head and neck, ovarian, NSCLC, esophageal and gastric cancers.

In addition, on January 5, 2018, we entered into an agreement with Cell and Gene Therapy Catapult ("CGT") which will enable Adaptimmune to have its own dedicated vector manufacturing space in the United Kingdom. It is intended to ensure vector supply production beyond 2020 for ongoing studies with all three SPEAR T-cell therapies, MAGE-A4, MAGE-A10 and AFP.

The module, in which Adaptimmune will use its own novel vector manufacturing process and be responsible for operation of the manufacturing process, is located in the U.K.-based CGT manufacturing center. The CGT manufacturing center is a Good Manufacturing Practice (GMP) facility designed to enable the development of commercial scale manufacturing systems in cell and gene therapy by offering a full suite of GMP facilities, support and expertise. Adaptimmune has control of the manufacturing process within its module and out-fitting and validation of module is expected to occur during the first half of 2018.

Under the terms of the agreement Adaptimmune is required to contribute to the costs incurred by CGT in the running of the facility. The amount of contribution is estimated on an annual basis but the exact amount will depend on the level of inputs required by Adaptimmune from CGT to enable operation of its module in accordance with GMP requirements.

The overall running of the center is managed by CGT subject to input from certain collaborator forums, which all users of the facility can attend and contribute to. CGT is a non-profit organization funded by Innovate UK. Innovate UK is a U.K. non-departmental public body operating at arm's length from the U.K. government and reporting to the Department of Energy, Business and Industrial Strategy.

The agreement lasts for a maximum term of five calendar years, automatically renewing for successive 12 month periods within the five year term. The agreement can be terminated by mutual agreement, on provision of 12 months' notice, for material breach or insolvency of either party or in the event that CGT is unable to obtain its manufacturing license by September 2018.

Financial operations overview

Revenue

Revenue represents recognized income from the GSK Collaboration and License Agreement which requires the Company to provide multiple deliverables to GSK. The GSK Collaboration and License Agreement related to up to five target programs, the first of which was the NY-ESO SPEAR T-cell program. On September 7, 2017 and by way of an amendment, GSK exercised its option to obtain an exclusive license to research, develop, and commercialize the Company's NY-ESO SPEAR T-cell therapy program. The amendment also specifies the activities required to transition the NY-ESO SPEAR T-cell program to GSK. Transition of the program is targeted for completion during 2018. After the transition, GSK will assume responsibility for the whole NY-ESO SPEAR T-cell program.

The upfront payment of $42.1 million, non-substantive development milestones achieved of $49.3 million and exercise fee of $26.6 million received in September 2017 has been allocated to the following deliverables within the arrangement: (i) an exclusive license to research, develop, and commercialize the Company's NY-ESO SPEAR T-cell therapy program, (ii) the transitional development program for the NY-ESO Spear T-cell performed during the transition period, (iii) additional transitional services, when and if required by GSK and reimbursed when performed and (iv) the development of, and option to obtain an exclusive license to a second target, PRAME. The revenue allocated to the transitional development program for the NY-ESO SPEAR T-cells and the development of, and option to obtain an exclusive license to a second target, PRAME is recognized using the proportional

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performance model in revenue systematically over the period in which the Company is delivering services under the GSK Collaboration and License Agreement, which is determined to be the estimated duration of the development activities to be performed by Adaptimmune under the GSK Collaboration and License Agreement. The exclusive license to research, develop, and commercialize the Company's NY-ESO SPEAR T-cell therapy program will be recognized as revenue upon commencement of the exclusive license, which occurs on completion of defined transition activities and transition of sponsorship of clinical programs to GSK.

In May 2014, the FASB issued ASU 2014-09,*Revenue from Contracts with Customers*, which requires a new approach to revenue recognition effective for the fiscal year beginning January 1, 2018, including interim reporting periods within that reporting period. See Note 2(x) to the consolidated financial statements for further information.

Research and Development Expenses

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 SPEAR T-cells for use in clinical trials;
- costs to develop manufacturing capability at our U.S. facility for manufacture of SPEAR T-cells 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;

- amortization and depreciation of property, plant and equipment and intangible assets used to develop our SPEAR T-cells; and
- share-based compensation expenses;

offset by:

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

Research and development expenditures are expensed as incurred.

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. 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%. 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 the GSK Collaboration and License Agreement 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

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development expenditure credit scheme (the "RDEC Scheme"). Under the RDEC Scheme tax relief is given at 11% of allowable R&D costs, increasing to 12% from January 1, 2018.

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 SPEAR T-cells 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 SPEAR T-cells for clinical trials.

For further detail please see Part I — Item 1A Risk Factors — Risks Related to the Development of our SPEAR T-cells of this Annual Report.

A change in the outcome of any of these variables may significantly change the costs and timing associated with the development of that SPEAR T cell. 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;
- business development expenses, including travel expenses;
- professional fees for auditors, lawyers and other consulting expenses;
- costs of facilities, communication, and office expenses;
- 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 comprises foreign exchange gains (losses). We are exposed to foreign exchange rate risk because we currently operate in the United Kingdom and United States. Our revenue from the GSK Collaboration and License Agreement is denominated in pounds sterling and is generated by our U.K.-based subsidiary, which has a pounds sterling functional currency. As a result, these sales are subject to translation into U.S. dollars when we consolidate our financial statements. 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 with a pound sterling functional currency holds our investment in marketable securities, which are predominately denominated in U.S. dollars. The entire change in the fair value of a foreign currency-denominated security, including the change due to foreign exchange, is included in other comprehensive income.

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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 foreseeable expenses 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.

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. Unsurrendered U.K. tax losses and tax credit carryforwards can be carried forward to be offset against future taxable profits, however this is restricted to an annual £5 million 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. There are accumulated tax loss carry forwards in the United Kingdom amounting to $136.2 million as of December 31, 2017. These tax losses and tax credit carryforwards do not expire.

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 subsidiary in the United States 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 34% for the year ended December 31, 2017. In December 2017, various U.S. tax reforms were enacted in the U.S., which reduces the corporate tax rate for our U.S. subsidiary to 21% for the year ended December 31, 2018. We believe that other aspects of U.S. tax reforms will not have a significant impact on our income taxes. Due to its activity in the United States, and the sourcing of its revenue, the U.S. subsidiary is not currently subject to any state or local income taxes.

The Company has estimated that it will receive a benefit from the Credit for Increasing Research Activities ("Research Tax Credit") under the U.S. Internal Revenue Code and the U.S. Orphan Drug Credit of $0.3 million for the year ended December 31, 2017.

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.

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Results of Operations

We are reporting herein results for the year ended December 31, 2017 and 2016, the six-month period ended December 31, 2015, and the year ended June 30, 2015. The comparative results for the year ended December 31, 2015 and the six-month period ended December 31, 2014, have been recast for comparative purposes and have been prepared on the same basis as the audited consolidated financial statements and reflect, in the opinion of management, all adjustments of a normal, recurring nature that are necessary for a fair presentation of that consolidated financial information.

Comparison of Year Ended December 31, 2017 and 2016

The following table summarizes the results of our operations for the years ended December 31, 2017 and 2016, together with the changes to those items (in thousands):

	Year ended December 31,		Increase/decrease	
	2017	2016		
Revenue	**$ 37,833**	**$ 14,198**	**$ 23,635**	**166 %**
Research and development expenses	(87,388)	(63,789)	(23,599)	37 %
General and administrative expenses	(31,106)	(23,208)	(7,898)	34 %
Total operating expenses	**(118,494)**	**(86,997)**	**(31,497)**	**36 %**
Operating loss	**(80,661)**	**(72,799)**	**(7,862)**	**11 %**
Interest income	2,230	1,110	1,120	101 %
Other income, net	8,744	1,002	7,742	773 %
Loss before income taxes	**(69,687)**	**(70,687)**	**1,000**	**(1)%**
Income taxes	(451)	(892)	441	(49)%
Loss for the period	**$ (70,138)**	**$ (71,579)**	**$ 1,441**	**(2)%**

Revenue

We recognize non-contingent milestones earned under the GSK Collaboration and License Agreement using a proportional performance method over an estimate of the period which we will be delivering services to GSK. When a milestone is achieved, the total non-contingent consideration, including the milestone, is recognized over the period we are delivering services to GSK, resulting in an adjustment to the cumulative revenue amortization in the period the milestone is achieved and higher revenue amortization in future periods. Any changes in the estimate of the period over which we are delivering services to GSK will also result in an adjustment to the cumulative revenue amortization in the period the estimate is revised.

Revenue increased by 166% to $37.8 million for the year ended December 31, 2017 from $14.2 million for the year ended December 31, 2016. On September 7, 2017, GSK exercised its option to the NY-ESO SPEAR T-cell program and further amended the GSK Collaboration and License Agreement. Upon the exercise of the NY-ESO option, the estimate of the period over which we will be delivering services to GSK in relation to the NY-ESO SPEAR T-cell development program has significantly reduced, resulting in an increase in cumulative revenue amortization of $17.5 million in 2017. The increase in revenue in the year ended December 31, 2017 compared to the year ended December 31, 2016 is primarily due to cumulative revenue amortization recognized on exercise of the NY-ESO option and additional revenue amortization on milestone payments achieved in the year.

Future revenues will fluctuate depending on thetiming of achieving future development deliverables, which is difficult to predict. We expect the revenue for year

ended ending December 31, 2018 will be higher than the year ended December 31, 2017 because the revenue allocated to GSK's exclusive license to the NY-ESO T-cell therapy will be recognized upon transfer of sponsorship of the NY-ESO SPEAR T-cell clinical program to GSK which is anticipated to occur in 2018.

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Research and development expenses

Research and development expenses increased by 37% to $87.4 million for the year ended December 31, 2017 from $63.8 million for the year ended December 31, 2016. Our research and development expenses comprise the following (in thousands):

	Year ended December 31,		Increase/decrease	
	2017	2016		
Salaries, materials, equipment, depreciation of property, plant and equipment and other employee-related costs[1]	$ 47,087	$ 40,348	$ 6,739	17%
Subcontracted expenditure	41,505	23,560	17,945	76%
Manufacturing facility expenditure	2,820	—	2,820	N/A
Share-based compensation expense	5,669	4,186	1,483	35%
Payments for in-process research and development	1,033	3,000	(1,967)	(66)%
Reimbursements for research and development tax and expenditure credits and government grants	(10,726)	(7,305)	(3,421)	47%
	$ 87,388	**$ 63,789**	**$ 23,599**	**37%**

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

The increase in our research and development expenses of $23.6 million for the year ended December 31, 2017 compared to the year ended December 31, 2016 was primarily due to the following:

- an increase of $6.7 million in salaries, materials, equipment, depreciation of property, plant and equipment and other employee-related costs, primarily due to the increase in the average number of employees engaged in research and development from 210 to 260;
- an increase of $18.0 million in subcontracted expenditures, including clinical trial expenses, contract research organization (CRO) costs and manufacturing expenses driven by increased recruitment in our clinical trials, initiation of clinical trials for MAGE-A4, MAGE-A10 and AFP, and an increase in manufacturing process development activities;
- operating expenditure of $2.8 million on developing our manufacturing capabilities at our U.S. facility in Philadelphia; and
- an increase of $1.5 million in share-based compensation expense for employee and nonemployee share options;

offset by:

- a decrease of $2.0 million in payments made to Universal Cells for in-process research and development; and
- an increase in reimbursements for research and development tax and expenditure credits and government grants of $3.4 million.

Our subcontracted costs for the year ended December 31, 2017 were $41.5 million, compared to $23.6 million in the same period of 2016, of which $13.4 million related to our NY-ESO SPEAR T-cells, $7.8 million related to process development for our SPEAR T-cell platform and the remaining $20.3 million related to our wholly owned pipeline, including our MAGE-A10, MAGE-A4 and AFP SPEAR T-cells.

Our research and development expenses are highly dependent on the phases and progression of our research projects and therefore fluctuate from period to period. We anticipate that our research and development expenditures will continue to increase as we successfully advance our SPEAR T-cell technology platform. The anticipated increase in research and development is due to an increase in expenditure on clinical trials as enrollment in our clinical trials progress an increase the number of staff employed in our research and development departments in order to invest in our future pipeline of SPEAR T-cells, develop our platform, manage clinical trials and develop our manufacturing capabilities at our U.S. facility. This will significantly increase the related salaries and share-based compensation expenses, as well as require higher expenditures on facilities, materials and equipment.

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General and administrative expenses

General and administrative expenses increased by 34% to $31.1 million for the year ended December 31, 2017 from $23.2 million in the same period in 2016.

The net increase of $7.9 million was primarily due to a $4.9 million increase in personnel costs and share-based compensation expense, due to the addition of key management and other professionals to support our growth, a 1.2 million increase in costs associated with supporting and maintaining our IT infrastructure and a $1.2 million increase in depreciation and amortization.

We expect that our general and administrative expenses will continue to increase as we continue to expand our operations.

Interest income

Interest income was $2.2 million for the year ended December 31, 2017 compared to $1.1 million for the year ended December 31, 2016. Interest income primarily relates to interest on cash, cash equivalents and available-for-sale debt securities. Interest income has increased due to cash generated from our two equity offerings completed in March and April 2017, which has been invested in marketable securities.

Other income, net

Other income, net was $8.7 million for the year ended December 31, 2017 compared to $1.0 million for the year ended December 31, 2016. Other income (expense), net primarily relates to unrealized foreign exchange gains and losses on cash and cash equivalents, intercompany loans and short-term deposits held in U.S. dollars by our U.K. subsidiary. Other income, net has increased primarily due to unrealized foreign exchange gains arising on intercompany loans, which is partially offset by unrealized foreign exchange losses on cash balances, which are lower in the year ended December 31, 2017 because we invested approximately $80 million of cash and cash equivalents into marketable securities in the year ended December 31, 2017. The unrealized foreign exchange gains (losses) arising on marketable securities are recognized within other comprehensive income.

Income taxes

Income taxes decreased by 49% to $0.5 million for the year ended December 31, 2017 from $0.9 million for the year ended December 31, 2016. Income taxes arise in the United States. The decrease in income taxes is due to the Company initiating an assessment in the fourth quarter of 2017 of the benefit from U.S. Research Tax Credits and Orphan Drug Credits. Based on this preliminary assessment, the Company has estimated that it will benefit from U.S. Research Tax Credits and Orphan Drug Credits of $0.5 million for the year ended December 31, 2017, of which $0.3 million can be used to offset taxes in the year ended December 31, 2017 and has been recognized in the fourth quarter of 2017. The Company incurs losses in the United Kingdom.

We expect that income taxes will be lower in the year ended December 31, 2018 than the year ended December 31, 2017 due to a reduction in the U.S. federal income tax rate from 34% to 21% and the Company may be able to claim U.S. Research Tax Credits and Orphan Drug Credits for years ended prior to December 31, 2017, which would further reduce income taxes in 2018.

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Comparison of Year Ended December 31, 2016 and 2015

The following table summarizes the results of our operations for the years ended December 31, 2016 and 2015, together with the changes to those items (in thousands):

	Year ended December 31,			
	2016	2015	Increase/decrease	
Revenue	**$ 14,198**	**$ 14,490**	**$ (292)**	**(2)%**
Research and development expenses	(63,789)	(40,457)	(23,332)	58%
General and administrative expenses	(23,208)	(17,156)	(6,052)	35%
Total operating expenses	**(86,997)**	**(57,613)**	**(29,384)**	**51%**
Operating loss	**(72,799)**	**(43,123)**	**(29,676)**	**69%**
Interest income	1,110	787	323	41%
Other income, net	1,002	2,967	(1,965)	(66)%
Loss before income taxes	**(70,687)**	**(39,369)**	**(31,318)**	**80%**
Income taxes	(892)	(143)	(749)	528%
Loss for the period	**$ (71,579)**	**$ (39,512)**	**$ (32,067)**	**81%**

Revenue

Revenue decreased by two percent from $14.5 million for the year ended December 31, 2015 to $14.2 million for the year ended December 31, 2016. Revenue represents the upfront milestone payment, which is recognized over the period the Company will deliver services to GSK, and non-substantive milestone payments, which are allocated to the relevant deliverable and recognized over the period the Company delivers services to GSK. Revenue will typically increase in periods when development milestones are achieved, due to the recognition of revenue for the proportion of the milestone relating to past performance. The Company achieved development milestones of $17.4 million and $14.4 million in the year ended December 31, 2016 and 2015, respectively. The estimate of the period over which the Company will deliver services under the GSK Collaboration and License Agreement was increased in June and December 2016 which resulted in a decrease in revenue amortization of $5,615,000 in the year ended December 31, 2016 compared to the revenue that would have been recognized based on previous estimates.

Research and development expenses

Research and development expenses increased by 58% to $63.8 million for the year ended December 31, 2016 from $40.5 million for the year ended December 31, 2015.

Our research and development expenses are highly dependent on the phases of our research projects and therefore fluctuate from period to period.

The increase in our research and development expenses of $23.3 million for the year ended December 31, 2016 compared to the same period in 2015 was primarily due to the following:

- a $15.6 million increase in salaries, materials, equipment, depreciation of property, plant and equipment and other employee-related costs. The driver for these is an increase in the average number of employees engaged in research and development from 108 to 210;
- a $10.3 million increase in subcontracted expenditures, including clinical trial expenses, CRO costs, and manufacturing expenses driven by increased recruitment in our clinical trials; and
- a $0.5 million increase in payments for in-process R&D;

partially offset by:

- a $0.9 million decrease in share-based compensation expense due to a decrease in share-based compensation expense for nonemployee share options, which are remeasured at each reporting date, of $2.9 million offset by an increase in share-based compensation expense for employees of $2.0 million; and
- a $2.2 million increase in reimbursements in the form of grants and R&D tax and expenditure credits from the U.K. government.

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Our subcontracted costs for the year ended December 31, 2016 were $23.6 million, of which $17.6 million related to our NY-ESO SPEAR T-cells and the remaining

$6.0 million related to other projects, including our MAGE-A10, MAGE-A4 and AFP SPEAR T-cells.

General and administrative expenses

General and administrative expenses increased by 35% to $23.2 million for the year ended December 31, 2016 from $17.2 million in the same period in 2015.

The increase of $6.0 million was due to the following:

- a $3.8 million increase in personnel costs, primarily due to the addition of key management and other professionals to support our growth;
- a $0.4 million increase in property costs, primarily due to an increase in leased property; and
- a $1.9 million increase in other corporate costs, including costs incurred as a U.S. public company such as consulting, audit, tax legal and investor relations fees and expenses;

partially offset by:

- a $0.1 million decrease in share-based compensation expense.

Other income, net

Other income, net decreased by 66% to $1.0 million for the year ended December 31, 2016 from $3.0 million for the year ended December 31, 2015. Other income, net primarily relates to unrealized foreign exchange gains/losses on cash and cash equivalents, intercompany loans and short-term deposits held in U.S. dollars by the Company's U.K. subsidiary.

Income taxes

Income taxes increased by 528% to $0.9 million for the year ended December 31, 2016 from $0.1 million for the year ended December 31, 2015. Income taxes arise in the United States. and the increase in income taxes is due to an increase in the taxable profits in the United States as the Company expands its operations. The Company incurs losses in the United Kingdom.

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Comparison of Six Months Ended December 31, 2015 and 2014

The following table summarizes the results of our operations for the six months ended December 31, 2015 and 2014, together with the changes to those items (in thousands).

	Six months ended December 31,		Increase/ decrease	
	2015	2014		
Revenue	**$ 8,979**	**$ 4,360**	**$ 4,619**	**106 %**
Research and development	(25,472)	(9,152)	(16,320)	178 %
General and administrative	(9,917)	(3,136)	(6,781)	216 %
Total operating expenses	**(35,389)**	**(12,288)**	**(23,101)**	**188 %**
Operating loss	**(26,410)**	**(7,928)**	**(18,482)**	**233 %**
Interest income	489	206	283	137 %
Other income, net	2,866	2,222	644	29 %
Loss before income taxes	**(23,055)**	**(5,500)**	**(17,555)**	**319 %**
Income taxes	55	(46)	101	(220)%
Loss for the period	**$ (23,000)**	**$ (5,546)**	**$ (17,454)**	**315 %**

Revenue

Revenue increased from $4.4 million for the six months ended December 31, 2014 to $9.0 million for the six months ended December 31, 2015 due to an increase in the services performed in the period and the achievement of development deliverables. This increase was primarily due to the recognition of revenue relating to achievement of development milestones, which is being recognized over the period in which we are delivering services under the GSK Collaboration and License Agreement, partially offset by the impact of a change in the estimate during the six months ended December 31, 2015 of the period over which the Company is delivering services under the GSK Collaboration and License Agreement.

Research and development expenses

Research and development expenses increased by 178% to $25.5 million for the six months ended December 31, 2015 from $9.2 million for the six months ended December 31, 2014.

Our research and development expenses are highly dependent on the phases of our research projects and therefore fluctuate from period to period.

The increase in our research and development expenses of $16.3 million in the six months ended December 31, 2015 compared to the same period in 2014 was primarily due to:

- a $7.5 million increase in salaries, materials, equipment, depreciation of tangible fixed assets and other employee-related costs. The driver for these is an increase in the average number of employees engaged in research and development from 46 to 137;
- a $0.9 million increase in share-based compensation expenses;
- a $1.0 million increase in property expenses;
- a $2.5 million payment to Universal Cells for in-process R&D; and
- a $4.4 million increase in subcontracted expenditures, including clinical trial expenses, CRO costs, and manufacturing expenses driven by increased recruitment in our clinical trials.

As of December 31, 2015, we employed an average of 26 employees responsible for development of our TCR therapeutic candidate targeting NY-ESO. The remainder of our scientific employees are engaged in developing our future pipeline. We have not historically tracked the internal headcount of each research and development project.

Our subcontracted costs for the six months ended December 31, 2015 were $8.6 million, of which $5.3 million related to our TCR therapeutic candidate targeting NY-ESO and the remaining $3.3 million related to other projects, including our MAGE-A10 and AFP TCR therapeutic candidates.

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General and administrative expenses

General and administrative expenses increased by 216% to $9.9 million for the six months ended December 31, 2015 from $3.1 million in the same period in 2014.

The increase of $6.8 million was due to:

- $1.4 million of increased personnel costs, primarily due to the addition of key management and other professionals to support our growth;
- $1.9 million of increased share-based payment expenses; and
- $3.5 million of increased other corporate costs, including costs in relation to our Nasdaq listing, legal entity restructuring, consultants, additional audit costs and investor relations.

Interest income

Interest income increased to $0.5 million for the six months ended December 31, 2015 from $0.2 million for the six months ended December 31, 2014. Interest income has increased due an increase in cash and cash equivalents and short-term deposits.

Other income

Other income increased by 29% to $2.9 million for the six months ended December 31, 2015 from $2.2 million for the six months ended December 31, 2014 due to a foreign exchange gains on foreign currency balances.

Income taxes

Income taxes was a $55,000 benefit for the six months ended December 31, 2015 and a $46,000 expense for the six months ended December 31, 2014.

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Comparison of Years Ended June 30, 2015 and 2014

The following table summarizes the results of our operations for the years ended June 30, 2015 and 2014, together with the changes to those items (in thousands).

	Year ended June 30,		Increase/ decrease	
	2015	2014		
Revenue	$ **9,871**	$ **825**	$ **9,046**	**1096 %**
Research and development	(24,137)	(9,575)	(14,562)	152 %
General and administrative	(10,375)	(2,771)	(7,604)	274 %
Total operating expenses	**(34,512)**	**(12,346)**	**(22,166)**	**180 %**
Operating loss	**(24,641)**	**(11,521)**	**(13,120)**	**114 %**
Interest income	504	—	504	N/A
Other income (expense), net	2,323	(5)	2,328	NM
Loss before income taxes	**(21,814)**	**(11,526)**	**(10,288)**	**89 %**
Income taxes	(244)	(75)	(169)	225 %
Loss for the period	**$ (22,058)**	**$ (11,601)**	**$ (10,457)**	**90 %**

NM = not meaningful

Revenue

Revenue increased from $0.8 million for the year ended June 30, 2014 to $9.9 million for the year ended June 30, 2015 due to a full year of recognition of revenue under the GSK Collaboration and License Agreement, which was entered into on May 30, 2014.

Research and development expenses

Research and development expenses increased by 152% to $24.1 million for the year ended June 30, 2015 from $9.6 million for the year ended June 30, 2014. Our research and development expenses are highly dependent on the phases of our research projects and therefore fluctuate from year to year.

The $14.6 million increase in our research and development expenses in the year ended June 30, 2015 from the same period in 2014 was primarily due to an increase in two key drivers of our expenses:

- the increase in the average number of employees engaged in research and development from an average of 27 to 63. These costs include salaries, facilities, materials, equipment, depreciation of tangible fixed assets, and expenses for share-based compensation; and
- an increase in subcontracted expenditures, including clinical trial expenses, CRO costs, and manufacturing expenses driven by increased recruitment in our clinical trials.

In the year ended June 30, 2015, we employed an average of 13 employees working in our clinical and development teams, primarily responsible for development of our TCR therapeutic candidates targeting NY-ESO and MAGE-A10. The remainder of our scientific employees are engaged in developing our future pipeline. We have not

historically tracked the internal costs of each research and development project.

Our subcontracted costs for the year ended June 30, 2015 were $8.8 million, of which $5.0 million related to our TCR therapeutic candidate targeting NY-ESO and the remaining $3.8 million related to other projects, including our MAGE-A10 TCR therapeutic candidate.

General and administrative expenses

General and administrative expenses increased by 274% to $10.4 million for the year ended June 30, 2015 from $2.8 million in the same period in 2014. The increase of $7.6 million was due to:

- $2.7 million of increased personnel costs, primarily due to the addition of key management and other professionals to support our growth;
- $1.4 million of increased share-based payment expenses; and

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- $3.5 million of increased other corporate costs, including costs in relation to our Nasdaq listing, legal entity restructuring, consultants, additional audit costs and investor relations.

Interest income

Interest income was $0.5 million for the year ended June 30, 2015 compared to no interest income for the year ended June 30, 2014. Interest income consisted of bank interest on cash balances and short-term deposits and has increased due to an increase in cash balances.

Other income (expense), net

Other income (expense), net increased to income of $2.3 million for the year ended June 30, 2015 compared to an expense of $5,000 for the year ended June 30, 2014. Other income (expense) primarily consisted of foreign exchange gains and losses on foreign currency transactions.

Income taxes

Income taxes increased 225% to $244,000 for the year ended June 30, 2015 from $75,000 in the year ended 30, June 2014. Income taxes arises on taxable income arising in the U.S. tax jurisdiction.

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 GSK Collaboration and License Agreement, government grants and research and development tax and expenditure credits. From inception through to December 31, 2017, we have raised:

- $410.8 million, net of issue costs, through the issuance of shares, including $176.0 million raised through our initial public offering in May 2015, $61.4 million raised through a follow-on public offering in March 2017 and $41.8 million raised through a registered direct offering in April 2017;
- $118.1 million upfront fees, milestones and exercise fees under our GSK Collaboration and License Agreement;
- $2.8 million of income in the form of government grants; and
- $13.7 million in the form of U.K. research and development tax credits and receipts from the U.K. RDEC Scheme.

We use a non-GAAP measure, Total Liquidity, which is defined as the total of cash and cash equivalents, short-term deposits 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, 2017, we had cash and cash equivalents of $84.0 million and Total Liquidity of $208.3 million. We believe that our Total Liquidity and income from GSK upon transition of the NY-ESO program will be sufficient to fund our operations, based upon our currently anticipated research and development activities and planned capital spending, through to early 2020.

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Cash Flows

The following table summarizes the results of our cash flows for the years ended December 31, 2017 and 2016, the six months ended December 31, 2015 and the year ended June 30, 2015 (in thousands).

	Year ended December 31, 2017	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015
Net cash used in operating activities	$ (54,315)	$ (48,168)	$ (18,062)	$ (29,666)
Net cash (used in) provided by investing activities	(126,081)	17,755	(9,838)	(58,837)
Net cash provided by financing activities	103,568	17	—	274,861
Cash, cash equivalents and restricted cash	88,296	162,796	$ 198,771	$ 229,046

Operating Activities

Year ended December 31, 2017 compared to December 31, 2016

Net cash used in operating activities increased by $6.1 million to $54.3 million for the year ended December 31, 2017 from $48.2 million for the year ended December 31, 2016. Net cash used in operating activities is significantly impacted by the timing of milestone payments received from GSK under the GSK Collaboration and License Agreement. In the year ended December 31, 2017, we received $38.2 million of milestone payments from GSK compared to $19.8 million in the year ended December 31, 2016. After taking into account the GSK milestone payments and the associated VAT, the increase in cash used in operations was primarily the result of an increase in research and development costs due to the ongoing advancement of our preclinical programs and clinical trials and an increase in general and administrative expenses.

Year ended December 31, 2016 compared to December 31, 2015

Net cash used in operating activities increased by $16.6 million to $48.2 million for the year ended December 31, 2016 from $31.6 million for the year ended December 31, 2015. Net cash used in operating activities is significantly impacted by the timing of milestone payments received from GSK under the GSK Collaboration and License Agreement. In the year ended December 31, 2016, we received $19.8 million of milestone payments from GSK compared to $10.8 million in the year ended December 31, 2015. After taking into account the GSK milestone payments, the increase in cash used in operations of $25.6 million was primarily the result of an increase in research and development costs due to the ongoing advancement of our preclinical programs and clinical trials and an increase in general and administrative expenses.

Six months ended December 31, 2015 compared to December 31, 2014

Net cash used in operating activities increased by $2.0 million to $18.1 million for the six months ended December 31, 2015 from $16.1 million for the six months ended December 31, 2014. Net cash used in operating activities is significantly impacted by the timing of milestone payments received from GSK under the GSK Collaboration and License Agreement. In the six months ended December 31, 2015, we received $10.7 million of milestone payments from GSK compared to $7.2 million in the six months ended December 31, 2014 and in the six months ended December 31, 2014, we made a VAT payment of $8.4 million relating to a GSK milestone payment received in June 2014. After taking into account the GSK milestone payments, the remaining increase in cash used in operations of $13.9 million was primarily the result of an increase in research and development costs due to the ongoing advancement of our preclinical programs and clinical trials and an increase in general and administrative expenses.

Year ended June 30, 2015 compared to June 30, 2014

Operating cash flows operating activities decreased by $66.5 million to net cash used in operating activities of $29.7 million for the year ended June 30, 2015 from net cash provided by operating activities of $36.8 million for the year ended June 30, 2014. In the year ended June 30, 2015, the Company received $10.7 million of milestone payments from GSK and paid $8.4 million of VAT associated with the milestone payments received in the prior period compared to receiving $42.1 million of milestone payments and $8.4 million of associated VAT in the year ended June 30, 2014. After taking into account the GSK milestone payments, the remaining increase in cash used in operations of $18.3 million was primarily driven by an increase in research and development costs due to the ongoing advancement of our preclinical programs and clinical trials and an increase in general and administrative expenses.

Components of cash flows from operating activities

Net cash used in operating activities of $54.3 million for the year ended December 31, 2017 comprised a net loss of $70.1 million offset by noncash items of $8.6 million and a net cash inflow of $7.2 million from changes in operating assets and liabilities. The noncash items consisted primarily of depreciation expense on plant and equipment of $5.0 million, share-based compensation expense of $10.8 million and a realized loss on marketable securities of $0.6 million, partially offset by unrealized foreign exchange gains of $8.6 million.

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Net cash used in operating activities of $48.2 million for the year ended December 31, 2016 comprised a net loss of $71.6 million offset by noncash items of $10.9 million and a net cash inflow of $12.5 million from changes in operating assets and liabilities. The noncash items consisted primarily depreciation expense on plant and equipment of $3.1 million and equity-settled share-based compensation expense of $8.8 million, partially offset by unrealized foreign exchange gains of $1.3 million.

Net cash used in operating activities of $18.1 million for the six months ended December 31, 2015 comprised a net loss of $23.0 million offset by noncash items of $1.9 million and a net cash inflow of $3.0 million from changes in operating assets and liabilities. The noncash items consisted primarily depreciation expense on plant and equipment of $1.2 million and equity-settled share-based compensation expense of $3.6 million, partially offset by unrealized foreign exchange gains of $2.9 million.

Net cash used in operating activities of $29.7 million for the year ended June 30, 2015 comprises net loss of $22.1 million and a net cash outflow of $15.4 million from changes in operating assets and liabilities, partially offset by noncash items of $7.8 million. The noncash items consisted primarily of depreciation expense on plant and equipment of $0.7 million and equity-settled share-based compensation expense of $7.1 million.

Investing Activities

Net cash from investing activities was a cash outflow of $126.1 million, a cash inflow of $17.8 million, a cash outflow of $9.8 million and a cash outflow of $58.8 million for the years ended December 31, 2017 and 2016, six months ended December 31, 2015 and the year ended June 30, 2015, respectively. These amounts included purchases of property and equipment of $24.6 million, $11.5 million, $9.6 million and $5.1 million for the year ended December 31, 2017 and 2016, the six months ended December 31, 2015 and the year ended June 30, 2015, respectively, and acquisition of intangibles of $0.4 million, $1.3 million and $0.2 million for the years ended December 31, 2017 and 2016 and the six months ended December 31, 2015, respectively. The purchases of property, plant and equipment for the year ended December 31, 2017 and 2016 and the six months ended December 31, 2015 related predominantly to the expansion of our laboratory facilities in the United Kingdom and the United States.

The net cash used in investing activities also included:

- investment in short-term deposits with maturities greater than three months but less than 12 months of $18.0 million, $42.8 million, $16.6 million and $53.9 million in the year ended December 31, 2017 and 2016, the six months ended December 31, 2015 and the year ended June 30, 2015, respectively; and
- investment in marketable securities with maturities greater than three months but less than 12 months of $153.3 million in the year ended December 31, 2017;

offset by

- cash inflows from maturity of short-term deposits of $40.6 million, $73.4 million and $16.6 million in the years ended December 31, 2017 and 2016 and the six months ended December 31, 2015; and
- cash inflows from maturity or redemption of marketable securities with maturities greater than three months but less than 12 months of $29.1 million in the year ended December 31, 2017.

Financing Activities

Net cash provided by financing activities was $103.6 million, $17,000, $0 and $274.9 million for the years ended December 31, 2017 and 2016, six months ended December 31, 2015 and year ended June 30, 2015, respectively.

Net cash provided by financing activities for the year ended December 31, 2017 consisted of $61.4 million net of issuance costs of $4.5 million raised through a follow-on public offering in March 2017, $41.8 million net of issuance costs of $0.2 million raised through a registered direct offering in April 2017 and proceeds from exercise of share options of $401,000.

Net cash provided by financing activities for the year ended December 31, 2016 consisted of proceeds from exercise of share options of $17,000.

Net cash provided by financing activities for the year ended June 30, 2015 consisted of proceeds from issuing Series A preferred shares of $98.9 million, net of issuance costs of $4.9 million, and proceeds from issuing 67,500,000 ordinary shares of $176.0 million, after the deduction of fees of $13.4 million. The preferred shares were automatically converted to ordinary shares on a 1:1 basis immediately prior to the admission to trading of our ADSs on NASDAQ.

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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, short-term deposits 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, 2017	December 31, 2016
Cash and cash equivalents	$ 84,043	$ 158,779
Short-term deposits	—	22,694
Marketable securities	124,218	—
Total Liquidity	**$ 208,261**	**$ 181,473**

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 liquidity, financial flexibility, capital structure and leverage. During the year ended December 31, 2017, we began investing in marketable securities. The definition of Total Liquidity has been amended to include marketable securities, which are highly-liquid and available to use in our current operations.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined in the rules and regulations of the SEC other than operating leases as described in Note 9 of the consolidated financial statements included in Item 15 of this Annual Report.

Contractual Obligations

The following table summarizes our contractual commitments and obligations as of December 31, 2017 (in thousands):

	Payments due by period				
	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Operating lease obligations[1][2]	$ 33,428	$ 2,886	$ 7,576	$ 7,750	$ 15,216
Purchase obligations[3]	77,670	33,973	41,214	1,475	1,008
Total contractual cash obligations	**$ 111,098**	**$ 36,859**	**$ 48,790**	**$ 9,225**	**$ 16,224**

(1) Operating lease obligations primarily consists of minimum lease payments under non-cancellable leases for laboratory and office property in Oxfordshire, U.K. and Philadelphia, U.S.

(2) Purchase obligations include signed orders for capital equipment, clinical materials, clinical trial expenses and contract manufacturing, which have been committed but not yet received, committed funding under the MD Anderson strategic alliance and costs relating to the expansion of our laboratory and office space in Oxfordshire, U.K. and Philadelphia, U.S. The timing of the payments for clinical materials, clinical trial expenses and contract manufacturing may vary depending on the rate of progress of development and clinical trial enrollment rates.

Operating lease obligations

In May 2017, we entered into an agreement for the lease of a building at Milton Park, Oxfordshire, U.K. The lease term expires on October 23, 2041, with termination options exercisable by us on the fifth anniversary of the lease commencement date and at approximately five yearly intervals thereafter. The related lease commitments are included in the table above.

Purchase obligations

On September 26, 2016, we announced that we had 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 SPEAR T-cell therapies targeting NY-ESO and MAGE-A10 and we will

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collaborate on future clinical stage first and second generation SPEAR T-cell therapies such as MAGE-A4 across a number of cancers, including bladder, lung, ovarian, head and neck, melanoma, synovial sarcoma, esophageal and gastric cancers. Under the terms of the agreement, we have committed at least $19.6 million to fund studies. We made an upfront payment of $3.4 million to MD Anderson in the year ended December 31, 2017 and are obligated to make payments to MD Anderson as certain milestones are

achieved. 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. These milestones are included within 'Purchase obligations' above.

On June 16, 2016, we 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 our affinity enhanced T-cell therapies. The supply agreement runs until December 31, 2025. Under the supply agreement, we are required to purchase our requirements for CD3/CD28 magnetic bead product exclusively from ThermoFisher for a period of five years and there are also minimum purchasing obligations (which have been included in the purchase obligations above). ThermoFisher has the right to terminate the supply agreement for material breach or insolvency.

Other obligations

On November 25, 2015, we entered into a Research Collaboration and License Agreement relating to gene editing and HLA-engineering technology with Universal Cells. We paid an upfront license fee of $2.5 million to Universal Cells. A milestone payment of $3.0 million was made in February 2016 and further milestone payments of $0.9 million in 2017. We are obligated to make further payments of up to $43.5 million if certain development and product milestones are achieved. Universal Cells would also receive a profit-share payment for the first product, and royalties on sales of other products utilizing its technology. Future payments are not reflected in the table above because the timing of the payments is uncertain.

In 2012, we entered into a series of license and sub-license agreements with Life Technologies Corporation, part of ThermoFisher that provide us with a field-based exclusive license under certain intellectual property rights owned or controlled by ThermoFisher. We paid upfront license fees of $1.0 million 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. Future payments are not reflected in the table above because the timing and amount of the payments are uncertain.

Critical Accounting Policies and Significant Judgments and Estimates

We have prepared our consolidated financial statements 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 significant accounting policies are described in more detail in Note 2 to our consolidated financial statements, we believe the following accounting policies to be critical to the judgments and estimates used in the preparation of our financial statements.

Revenue Recognition

Revenue represents recognized income from the GSK Collaboration and License Agreement which requires the Company to provide multiple deliverables to GSK. The GSK Collaboration and License Agreement related to up to five target programs, the first of which was the NY-ESO SPEAR T-cell program. On September 7, 2017 and by way of the Amendment, GSK exercised its option to obtain an exclusive license to research, develop, and commercialize the Company's NY-ESO SPEAR T-cell therapy program. The Amendment also specifies the activities required to transition the NY-ESO SPEAR T-cell program to GSK. Transition of the program is targeted for completion during 2018. After the transition, GSK will assume responsibility for the whole NY-ESO SPEAR T-cell program.

Revenue is recognized when earned and realized or realizable, which is generally when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller's price to the buyer is fixed or determinable, and collectability is reasonably assured. Where applicable, all revenues are stated net of value added and similar taxes.

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The Company recognizes revenue for arrangements with multiple deliverables by identifying the separable deliverables within the arrangement, whereby a deliverable is considered separable if it has value to the customer on a standalone basis. Contingent deliverables, such as the right to nominate further development targets, which represent a substantive option (i.e. the customer is not required or compelled to purchase the optional products or services) and not priced at a significant and incremental discount are not considered to be a deliverable at inception of the arrangement.

The non-contingent arrangement consideration is allocated between the separate deliverables using the relative selling price. The relative selling price is determined using vendor-specific objective evidence ("VSOE"), if available, third party evidence if VSOE is not available, or a best estimate of the standalone selling price if neither VSOE nor third party evidence is available. The best estimate of the selling price is estimated after considering all reasonably available information, including market data and conditions, entity-specific factors such as the cost structure of the deliverable, internal profit and pricing objectives and the stage of development, if appropriate. Revenue allocated to each deliverable is recognized as it is delivered. Where delivery occurs over time, revenue is systematically recognized over the period which the Company will be providing services.

Amounts received prior to satisfying the revenue recognition criteria are recorded as deferred revenue in the Company's consolidated balance sheet. Amounts expected to be recognized as revenue within the 12 months following the balance sheet date are classified as deferred revenue in current liabilities. Amounts not expected to be recognized as revenue within the 12 months following the balance sheet date are classified as deferred revenue, non-current.

Milestone payments which are non-refundable, non-creditable and contingent on achieving clinical milestones are recognized as revenues either on achievement of such milestones if the milestones are considered substantive or over the period the Company has continuing performance obligations, if the milestones are not considered substantive. When determining if a milestone is substantive, the Company considers the following factors:

- The degree of certainty in achieving the milestone;
- The frequency of milestone payments;
- The Company's efforts, which result in achievement of the milestone;
- The amount of the milestone payment relative to the other deliverables and payment terms; and
- Whether the milestone payment is related to future performance or deliverables.

When a performance obligation is being delivered over time, the revenue is recognized over the performance period. The revenue relating to the upfront fee and non-substantive development milestones payments received from GSK are being recognized systematically using the proportional performance method over the period in which

the Company is delivering services under the GSK Collaboration and License Agreement, which is determined to be the period until GSK's option to obtain licenses expires. The period until GSK's option to obtain licenses expires will vary depending on the progress of the development and we regularly review and monitor the performance of the GSK Collaboration and License Agreement to determine this period. If circumstances arise that change the estimate, this may result in increases or decreases in estimated revenues for the period, which are reflected in the period in which the circumstances that give rise to the change in estimate become known to management.

We regularly review and monitor the performance of the GSK Collaboration and License Agreement to determine the period over which we will be delivering services to GSK and when a change in facts or circumstances occurs, the estimated is adjusted and the revenue is 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 is recognized as an adjustment to revenue in the period in which the change in estimate occurs. In June and December 2016, the estimate of the period over which the Company will deliver services under the GSK Collaboration and License Agreement was increased. These changes in estimate resulted in a decrease in revenue amortization of $5.6 million in the year ended December 31, 2016, compared to the revenue that would have been recognized based on previous estimates. Upon the exercise of the NY-ESO Option, the estimate of the period over which we will be delivering services to GSK in relation to the NY-ESO Spear T-cell development program has significantly reduced, resulting in an increase in revenue amortization of $17.5 million in September 2017.

In prior periods, changes in estimate of the period over which the Company will deliver services under the GSK Collaboration and License Agreement have not resulted in a significant impact on revenue recognized, however a small change in estimate can have a significant impact on the revenue recognized. For example, a further three month increase or decrease in the period over which the Company will deliver services under the GSK Collaboration and License Agreement would have reduced or increased revenue amortization by approximately $4.0 million for the year ended December 31, 2017.

The exercise of the NY-ESO option and the amendment has been accounted for as a modification of an existing arrangement. As of September 7, 2017, we have accounted for the modified arrangement as a multiple-element arrangement consisting of the following deliverables (i) an exclusive license to research, develop, and commercialize the Company's NY-ESO SPEAR T-cell therapy program, (ii) the transitional development program for the NY-ESO Spear T-cell during the transition period, (iii) additional

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transitional services, when and if required by GSK and reimbursed when performed and (iv)the development of, and option to obtain an exclusive license to a second target, PRAME. As provided under the GSK Collaboration and License Agreement, GSK continues to have the right to nominate three additional target peptides, excluding any targets on which work is already under way. This is not considered to be a deliverable at September 7, 2017, because it represents a substantive option not priced at a significant and incremental discount. After the transition, GSK will assume responsibility for all NY-ESO-related activities.

Upon modification, the non-contingent arrangement consideration was allocated between the separate deliverables using the Company's best estimate of the relative selling price. In determining the best estimate, the Company considered internal pricing objectives it used in negotiating the GSK Collaboration and License Agreement and the recent amendment, 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.

The revenue allocated to the exclusive license to research, develop, and commercialize the Company's NY-ESO SPEAR T-cell therapy program will be recognized as revenue upon commencement of the exclusive license, which occurs on completion of defined transition activities and transition of sponsorship of clinical programs to GSK. The revenue allocated to the transitional development program for the NY-ESO Spear T-cells and the development of, and option to obtain an exclusive license to a second target, PRAME is recognized using the proportional performance model in revenue systematically over the period in which the Company is delivering services under the GSK Collaboration and License Agreement, which is determined to be the estimated duration of the development activities to be performed by Adaptimmune under the GSK Collaboration and License Agreement.

Clinical Trial Expenses

Expenses related to clinical trials are recognized as services are received. Nonrefundable advance payments for services are deferred and recognized in the 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.

As part of the process of preparing our financial statements, we are required to estimate our accrued expenses. This process involves reviewing open contracts and purchase orders, communicating with our personnel to identify services that have been performed on our behalf, and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of the actual cost. The majority of our service providers invoice us monthly in arrears for services performed. We make estimates of our accrued expenses as of each balance sheet date in our financial statements based on facts and circumstances known to us at that time. We may confirm the accuracy of our estimates with the applicable service providers and make adjustments if necessary. Examples of estimated accrued research and development expenses include fees paid to: CROs in connection with clinical trials; operators of investigative sites in connection with clinical trials; vendors in connection with preclinical development activities; and vendors related to product manufacturing, development and distribution of clinical supplies.

We base our expenses related to clinical trials on our estimates of the services received and efforts expended pursuant to contracts with multiple CROs that conduct and manage clinical trials on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract, and may result in uneven payment flows. Payments under some of these contracts depend on factors such as the successful enrollment of subjects and the completion of clinical trial milestones. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the accrual or prepaid amount accordingly.

There may be instances in which payments made to our vendors will exceed the level of services provided and result in a prepayment of the clinical expense. For example, the strategic alliance with MD Anderson involves milestone payments made in advance of the service being provided. In recognizing the expense, we estimate the cost by patient enrolled and recognize this over the period between initial dosing and estimated cessation of patient monitoring activities. The duration of the clinical trial is estimated based on internal historical data and projections. There is limited data available and our estimate of the duration of the clinical may vary as we obtain further data.

Although we do not expect our estimates of the amounts, status and timing of services performed to be materially different from the actual amounts, status and timing of services performed, if they do vary, we may report amounts that are too high or too low in any particular period. To date, there has been no material difference between our estimates and the amount actually incurred.

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U.K. R&D Tax and Expenditure Credits

Research and development expenditure is presented net of reimbursements from the U.K. Small and Medium-sized Entity R&D Tax Credit Scheme and the U.K.

Research and Development Expenditure Credit Scheme. Reimbursable tax and expenditure credits are recognized when it is probable that the Company has complied with any attached conditions and will receive the reimbursement. Management is required to develop estimates at each reporting date on the amount of the reimbursable tax and expenditure credits, which includes an estimate of qualifying expenditure. The tax and expenditure credits are claimed from Her Majesty's Revenue and Customs ("HMRC") as part of the annual U.K. tax return. Although, we do not expect our estimates to be materially different from amounts claimed and subsequently reimbursed by HMRC, if our estimates of the qualifying expenditure differ from the amount claimed, we may report amounts that are too high or too low in any particular period. To date, there has been no material differences between our estimates and the amount actually reimbursed.

U.S. Research Tax Credits and Orphan Drug Credit

During the fourth quarter of 2017, the Company initiated a study to identify research and development expenditures incurred in the three years ended December 31, 2017, which are eligible expenses for the Research Tax Credit and the U.S. Orphan Drug Credit. The Company estimated that it will benefit from Research Tax Credits and Orphan Drug Credits of $0.5 million for the year ended December 31, 2017, of which $0.3 million can be used to offset taxes in the year ended December 31, 2017 and has been recognized in the fourth quarter of 2017. Although, we do not expect our estimates to be materially different from amounts claimed, if our estimates of the qualifying expenditure differ from the amount claimed, we may report amounts that are too high or too low in any particular period.

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, 2017, we have deferred tax assets of $30.0 million, offset by deferred tax liabilities of $2.2 million and a valuation allowance of $27.8 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.

The U.S. subsidiary 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 short 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 predominately

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in 2020 and 2021. 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 the U.S. subsidiary. Less weight has been given to forecasts of taxable income beyond the next few years. The deferred tax asset arising in the United States is only considered more-likely-than-not of being realized to the extent that there are available reversing temporary taxable differences. 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 the U.S. subsidiary.

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 is measured at the grant-date fair value of the award and recognized as an expense over the requisite service period, for those awards that are ultimately expected to vest. 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 awarded share options to nonemployees for consultancy services. These share options are measured at the fair value of the goods/services received or the fair value of the equity instrument issued, whichever is more reliably measured, at the then-current fair values at each reporting date until the share options have vested and recognized as an expense over the requisite service period.

Valuation of Share Options

The Black-Scholes option pricing model requires the input of assumptions, including share price volatility, the expected term of a share option, the risk free rate and the underlying share valuation. The assumption of the expected term of share options involves management judgment. We estimate that the expected life of our share options, which is the time from the grant date to the expected exercise date, is five years. 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.

The share-based compensation expense related to non-employee option grants will fluctuate in future periods due to changes in the assumptions to the fair value calculation, which include the share price, interest rates, volatility and expected term. A 5% increase in the share price as of December 31, 2017 would have increased the share-based compensation expense for non-employee option grants in the year ended December 31, 2017 by approximately $33,000.

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, 2017, we held $124.2 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 revenue from the GSK Collaboration and License Agreement is denominated in pounds sterling and is generated by our U.K.-based subsidiary, which has a pounds sterling functional currency. As a result, these sales are subject to translation into U.S. Dollars when we consolidate our financial statements. 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 foreseeable 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, 2017, the last business day of the reporting period, was £1.00 to $1.35.

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 $0.2 million and $1.5 million as of December 31, 2017 and 2016, respectively. Trade receivables arise in relation to the GSK Collaboration and License Agreement. We have been transacting with GSK since 2014, during which time no impairment losses have been recognized. There are no amounts which are past due as of December 31, 2017.

Item 8. Financial Statements and Supplementary Data

The information required by this item may be found beginning on page F-1 of this Annual Report with the exception of the unaudited consolidated quarterly operations data, which is presented below. We have prepared the consolidated quarterly operations data on a consistent basis with the audited consolidated financial statements included elsewhere in this Annual Report. In the opinion of management, the quarterly consolidated operations data reflects all necessary adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation of these data. Historical results are not necessarily indicative of the results to be expected in future periods, and the results for a quarterly period are not necessarily indicative of the operating results for a full year. This information should be read in conjunction with the consolidated financial statements included elsewhere in this Annual Report.

Summarized unaudited quarterly data for 2017 and 2016 are as follows (in thousands, except per share data):

	Three months ended			
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017
Revenue	$ 2,857	$ 3,521	$ 27,185	$ 4,270
Operating loss	(22,221)	(23,780)	(4,960)	(29,700)
Net loss attributable to ordinary shareholders	(21,782)	(20,215)	(878)	(27,263)
Net loss per ordinary share, basic and diluted	$ (0.05)	$ (0.04)	$ (0.00)	$ (0.05)
Weighted average shares outstanding, basic and diluted	428,961,818	556,776,430	561,239,864	562,119,334

	Three months ended			
	March 31, 2016	June 30, 2016	September 30, 2016	December 31, 2016
Revenue	$ 2,918	$ 328	$ 2,416	$ 8,536
Operating loss	(16,825)	(22,700)	(18,618)	(14,656)
Net loss attributable to ordinary shareholders	(15,576)	(22,095)	(18,494)	(15,414)
Net loss per ordinary share, basic and diluted	$ (0.04)	$ (0.05)	$ (0.04)	$ (0.04)
Weighted average shares outstanding, basic and diluted	424,711,900	424,711,900	424,711,900	424,720,404

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

None

Item 9A. Controls and Procedures

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 to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our Chief Executive and Chief Financial Officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Securities Exchange Act Rule 13a-15(f). 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. Based on our evaluation under the framework, our management concluded that our internal control over financial reporting was effective as of December 31, 2017.

Attestation Report of the Registered Public Accounting Firm.

This report does not include an attestation report of our registered public accounting firm as we are an emerging growth company.

Changes in Internal Control Over Financial Reporting.

There has been no 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 2017 that has materially affected, or is reasonably likely to materially affect, internal control over financial reporting.

In January 2018, the Company has adopted new guidance on revenue recognition, which has been codified within Accounting Standard Codification Topic 606, *Revenue from Contracts with Customers* ("ASC 606"). As a consequence of the new guidance,the Company is implementing several new internal controls, including controls to monitor the probability of achievement of contingent milestone payments and the pattern of performance of the performance obligation.

Item 9B. Other Information

None

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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, 2017.

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, 2017.

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, 2017.

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, 2017.

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, 2017.

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PART IV

Item 15. Exhibits, 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
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)
10.1**†	Collaboration Agreement, dated January 5, 2018, between Adaptimmune Limited and Cell Therapy Catapult Limited
10.2**	First Amendment to Employment Agreement, dated January 12, 2018 and effective October 30, 2017, between Adaptimmune LLC and Gwendolyn Binder-Scholl.
10.3**	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.
10.4**	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.
10.5**	Rules of the Adaptimmune Therapeutics plc 2015 Share Option Scheme, dated March 16, 2015, as amended April 15, 2015, January 13, 2016 and December 18, 2017.
10.6**	Rules of the Adaptimmune Therapeutics plc 2016 Employee Share Option Scheme, dated January 14, 2016, as amended December 18, 2017.
14.1*	Code of Business Conduct and Ethics of Adaptimmune Therapeutics plc (incorporated by reference to Exhibit 14.1 to our Form 8-K filed with the SEC on July 20, 2017).
21.1*	List of Subsidiaries (incorporated by reference to Exhibit 21.1 to our Registration Statement on Form F-1 (file no: 333-203267)).
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.
101.INS**	XBRL Instance Document.

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Exhibit Number	Description of Exhibit
101.SCH**	XBRL Taxonomy Extension Schema Document.
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB**	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document.

* Previously filed.
** Filed herewith.
† Confidential treatment requested by the Company as to portions of the exhibit. Confidential materials omitted and filed separately with the Securities and Exchange Commission.

Item 16. Form 10-K Summary

None.

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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, in Oxfordshire, England, on March 15, 2018.

ADAPTIMMUNE THERAPEUTICS PLC

By: /s/ James Noble
Name: James Noble
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 James Noble and Adrian Rawcliffe, 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 15, 2018, in the capacities indicated.

Signature	Title	Date
/s/ James Noble James Noble	Chief Executive Officer and Director *(Principal Executive Officer)*	March 15, 2018
/s/ Adrian Rawcliffe Adrian Rawcliffe	Chief Financial Officer (*Principal Accounting and Financial Officer*)	March 15, 2018
/s/ David M. Mott David M. Mott	Chairman of the Board of Directors	March 15, 2018
/s/ Lawrence M. Alleva Lawrence M. Alleva	Director	March 15, 2018
/s/ Ali Behbahani, MD Ali Behbahani, MD	Director	March 15, 2018
/s/ Barbara Duncan Barbara Duncan	Director	March 15, 2018
/s/ Giles Kerr Giles Kerr	Director	March 15, 2018
/s/ Elliott Sigal, MD, PhD Elliott Sigal, MD, PhD	Director	March 15, 2018
/s/ Peter Thompson, MD Peter Thompson, MD	Director	March 15, 2018
/s/ Tal Zaks, MD, PhD Tal Zaks, MD, PhD	Director	March 15, 2018

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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, 2017 and December 31, 2016, the related consolidated statements of operations, comprehensive loss, changes in equity, and cash flows for the years ended December 31, 2017 and December 31, 2016, the six month period ended December 31, 2015 and the year ended June 30, 2015 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 as of December 31, 2017 and December 31, 2016, and the results of its operations and its cash flows for the years ended December 31, 2017 and December 31, 2016, the six month period ended December 31, 2015 and the year ended June 30, 2015, 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.

/s/ KPMG LLP

We have served as the Company's auditor since 2010.

Reading, England, United Kingdom
March 15, 2018

ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)

	December 31, 2017	December 31, 2016
Assets		
Current assets		
Cash and cash equivalents	$ 84,043	$ 158,779
Short-term deposits	—	22,694
Marketable securities - available-for-sale debt securities	124,218	—
Accounts receivable, net of allowance for doubtful accounts of $- and $-	206	1,480
Other current assets and prepaid expenses (including current portion of clinical materials)	21,716	15,798
Total current assets	**230,183**	**198,751**
Restricted cash	4,253	4,017
Clinical materials	4,695	2,580
Property, plant and equipment, net	40,679	27,899
Intangibles, net	1,337	1,268
Total assets	**281,147**	**234,515**
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable (including amounts due to related parties of $- and $326)	8,378	11,350
Accrued expenses and other accrued liabilities (including amounts due to related parties of $- and $39)	27,201	17,528
Deferred revenue	38,735	11,392
Total current liabilities	**74,314**	**40,270**
Deferred revenue, non-current	—	24,962
Other liabilities, non-current	3,849	3,141
Total liabilities	**78,163**	**68,373**
Contingencies and commitments — Note 9		

Stockholders' equity		
Common stock - Ordinary shares par value £0.001, 701,103,126 authorized and 562,119,334 issued and outstanding (2016: 574,711,900 authorized and 424,775,092 issued and outstanding)	854	683
Additional paid in capital	455,401	341,200
Accumulated other comprehensive loss	(21,641)	(14,249)
Accumulated deficit	(231,630)	(161,492)
Total stockholders' equity	**202,984**	**166,142**
Total liabilities and stockholders' equity	**$ 281,147**	**$ 234,515**

See accompanying notes to consolidated financial statements.

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ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except share and per share data)

	Year ended December 31, 2017	Year ended December 31, 2016	Six months ended December 31 2015	Year ended June 30, 2015
Revenue	**$ 37,833**	**$ 14,198**	**$ 8,979**	**$ 9,871**
Operating expenses				
Research and development	(87,388)	(63,789)	(25,472)	(24,137)
General and administrative	(31,106)	(23,208)	(9,917)	(10,375)
Total operating expenses (including purchases from related parties, net of reimbursements of $786, $2,067, $1,609 and $2,443)	**(118,494)**	**(86,997)**	**(35,389)**	**(34,512)**
Operating loss	**(80,661)**	**(72,799)**	**(26,410)**	**(24,641)**
Interest income	2,230	1,110	489	504
Other income, net	8,744	1,002	2,866	2,323
Loss before income taxes	**(69,687)**	**(70,687)**	**(23,055)**	**(21,814)**
Income taxes	(451)	(892)	55	(244)
Net loss	**(70,138)**	**(71,579)**	**(23,000)**	**(22,058)**
Deemed dividend on convertible preferred shares	—	—	—	(14,735)
Net loss attributable to ordinary shareholders	**$ (70,138)**	**$ (71,579)**	**$ (23,000)**	**$ (36,793)**
Net loss per ordinary share (Note 2)				
Basic and diluted	**$ (0.13)**	**$ (0.17)**	**$ (0.05)**	**$ (0.17)**
Weighted average shares outstanding:				
Basic and diluted	527,637,086	424,713,997	424,711,900	214,704,593

See accompanying notes to consolidated financial statements.

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ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(in thousands)

	Year ended December 31, 2017	Year ended December 31, 2016	Six months ended December 31 2015	Year ended June 30, 2015
Net loss	**$ (70,138)**	**$ (71,579)**	**$ (23,000)**	**$ (22,058)**
Other comprehensive loss, net of tax				
Foreign currency translation adjustments, net of tax of $-, $-, $- and $-	(3,618)	(6,110)	(4,578)	(3,835)
Unrealized gains (losses) on available-for-sale debt securities				
Unrealized holding losses on available-for-sale debt securities, net of tax of $-, $-, $- and $-	(4,420)	—	—	—
Reclassification adjustment for losses on available-for-sale debt securities included in net income, net of tax of $-, $-, $- and $-	646	—	—	—
Total comprehensive loss for the period	**$ (77,530)**	**$ (77,689)**	**$ (27,578)**	**$ (25,893)**

See accompanying notes to consolidated financial statements.

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ADAPTIMMUNE THERAPEUTICS PLC

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(in thousands, except share data)

	Common stock	Common stock	Preferred shares	Additional paid in capital	Accumulated other comprehensive income (loss)	Accumulated deficit	Total stockholders' equity
Balance at July 1, 2014	181,370,100	$ 291	$ —	$ 32,512	$ 274	$ (30,120)	$ 2,957
Issuance of preferred shares	—	—	98,872	—	—	—	98,872
Beneficial conversion feature	—	—	(102,126)	102,126	—	—	—
Issuance of common stock upon initial public offering, net of issuance costs	67,500,000	104	—	175,885	—	—	175,989
Issuance of common stock upon conversion of preferred shares	175,841,800	287	(11,481)	11,194	—	—	—
Deemed dividends on preferred shares	—	—	14,735	—	—	(14,735)	—
Other comprehensive loss, net of tax	—	—	—	—	(3,835)	—	(3,835)
Net loss	—	—	—	—	—	(22,058)	(22,058)
Share-based compensation expense	—	—	—	7,078	—	—	7,078
Balance as of June 30, 2015	**424,711,900**	**682**	**—**	**328,795**	**(3,561)**	**(66,913)**	**259,003**
Other comprehensive loss, net of tax	—	—	—	—	(4,578)	—	(4,578)
Net loss	—	—	—	—		(23,000)	(23,000)
Share-based compensation expense	—	—	—	3,568		—	3,568
Balance as of December 31, 2015	**424,711,900**	**682**	**—**	**332,363**	**(8,139)**	**(89,913)**	**234,993**
Issuance of shares upon exercise of stock options	63,192	1	—	16	—	—	17
Other comprehensive loss, net of tax	—	—	—	—	(6,110)	—	(6,110)
Net loss	—	—	—	—	—	(71,579)	(71,579)
Share-based compensation expense	—	—	—	8,821	—	—	8,821
Balance as of December 31, 2016	**424,775,092**	**$ 683**	**$ —**	**$ 341,200**	**$ (14,249)**	**$ (161,492)**	**$ 166,142**

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ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY (CONTINUED)
(in thousands, except share data)

				Accumulated other comprehensive loss			
	Common stock	Common stock	Additional paid in capital	Accumulated foreign currency translation adjustments	Accumulated unrealized gains (losses) on available-for-sale debt securities	Accumulated deficit	Total stockholders' equity
Balance as of 1 January 2017	424,775,092	$ 683	$ 341,200	$ (14,249)	$ —	$ (161,492)	$ 166,142
Net loss						(70,138)	(70,138)
Issuance of common stock	136,201,338	170	102,997	—	—	—	103,167
Issuance of shares upon exercise of stock options	1,142,904	1	400	—	—	—	401
Other comprehensive loss before reclassifications							
Foreign currency translation adjustments	—	—	—	(3,618)	—	—	(3,618)
Unrealized holding losses on available-for-sale debt securities, net of tax of $-, $-, $- and $-	—	—	—	—	(4,420)	—	(4,420)
Reclassification from accumulated other comprehensive income of losses on available-for-sale debt securities included in net income, net of tax of $-, $-, $- and $-	—	—	—	—	646	—	646
Share-based compensation expense	—	—	10,804	—	—	—	10,804
Balance as of December 31, 2017	**562,119,334**	**$ 854**	**$ 455,401**	**$ (17,867)**	**$ (3,774)**	**$ (231,630)**	**$ 202,984**

See accompanying notes to consolidated financial statements.

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ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year ended December 31, 2017	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015

Cash flows from operating activities				
Net loss	$ (70,138)	$ (71,579)	$ (23,000)	$ (22,058)
Adjustments to reconcile net loss to net cash used in operating activities:				
Depreciation	5,032	3,126	1,176	705
Amortization	391	160	69	30
Share-based compensation expense	10,804	8,821	3,568	7,078
Realized loss on available-for-sale debt securities	646			
Unrealized foreign exchange gains	(8,599)	(1,314)	(2,867)	13
Other	341	122	—	—
Changes in operating assets and liabilities:				
Increase in receivables and other operating assets	(7,346)	(6,533)	(4,243)	(7,812)
Decrease (increase) in non-current operating assets	2,115	2,221	(4,736)	—
Increase (decrease) in payables and deferred revenue	12,439	16,808	11,971	(7,622)
Net cash used in operating activities	**(54,315)**	**(48,168)**	**(18,062)**	**(29,666)**
Cash flows from investing activities				
Acquisition of property, plant and equipment	(24,643)	(11,506)	(9,628)	(5,080)
Acquisition of intangibles	(369)	(1,279)	(210)	—
Proceeds from disposal of property, plant and equipment	550	—	—	122
Maturity of short-term deposits	40,625	73,377	16,645	—
Investment in short-term deposits	(18,000)	(42,837)	(16,645)	(53,879)
Maturity or redemption of marketable securities	29,090	—	—	—
Investment in marketable securities	(153,334)	—	—	—
Net cash (used in) provided by investing activities	**(126,081)**	**17,755**	**(9,838)**	**(58,837)**
Cash flows from financing activities				
Proceeds from issuance of common stock, net of issuance costs $4,774	103,167	—	—	—
Proceeds from issuance of preferred shares, net of issuance costs of $4,949	—	—	—	98,872
Proceeds from issuance of common stock upon initial public offering, net of issuance costs of $13,387	—	—	—	175,989
Proceeds from exercise of stock options	401	17	—	—
Net cash provided by financing activities	**103,568**	**17**	**—**	**274,861**
Effect of currency exchange rate changes on cash, cash equivalents and restricted cash	2,328	(5,579)	(2,375)	(8,491)
Net decrease in cash and cash equivalents	(74,500)	(35,975)	(30,275)	177,867
Cash, cash equivalents and restricted cash at start of period	162,796	198,771	229,046	51,179
Cash, cash equivalents and restricted cash at end of period	**$ 88,296**	**$ 162,796**	**$ 198,771**	**$ 229,046**

See accompanying notes to consolidated financial statements.

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ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED STATEMENTS OF CASH FLOWS (CONTINUED)
(in thousands)

	Year ended December 31, 2017	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015
Supplemental cash flow information				
Interest received	$ 1,784	$ 1,191	$ 326	$ —
Income taxes paid	1,565	34	95	280
Deemed dividends	—	—	—	14,735
Investment in restricted cash	—	—	4,666	—
Allowance for tenant improvements	—	2,607	—	—

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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 focused on providing novel cell therapies to patients, particularly in solid tumors. The Company's comprehensive and proprietary SPEAR (Specific Peptide Enhanced Affinity Receptor) T-cell platform enables it to identify cancer targets, find and genetically engineer T-cell receptors ("TCRs"), and produce therapeutic candidates for administration to patients. Using its affinity engineered TCRs, the Company aims to become a fully integrated cell therapy company and to have the first TCR T-cell approved for a solid tumor indication.

The Company is subject to a number of risks similar to other biopharmaceutical companies in the early stage 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 SPEAR T-cells, competitors

developing new technological innovations, the need to successfully commercialize and gain market acceptance of the Company's SPEAR T-cells, the need to develop a suitable commercial manufacturing process and protection of proprietary technology. If the Company does not successfully commercialize any of its SPEAR T-cells, it will be unable to generate product revenue or achieve profitability. The Company had an accumulated deficit of $231.6 million as of December 31, 2017.

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.

The Company undertook a reorganization that was completed in April 2015 and is described in Note 10. As appropriate for a reorganization of entities under common control, the historical consolidated financial statements of Adaptimmune Limited and subsidiary prior to the reorganization became those of Adaptimmune Therapeutics plc.

On February 23, 2015 the Company undertook a one-for-100 share exchange. All share and per share information presented gives effect to the reorganization by dividing the loss for the period by the weighted average number of shares outstanding of Adaptimmune Therapeutics plc as if the one-for-100 share exchange had been in effect throughout the period. The nominal value of the share capital has been increased to reflect the nominal share capital after the one-for-100 share exchange.

(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 the valuation of share options, valuation allowances relating to deferred tax assets, revenue recognition, estimating clinical trial expenses and estimating R&D tax and expenditure credits. 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

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. This evaluation is based on relevant conditions and events that are known and reasonably knowable at the date that the financial statements are issued, including:

a. The Company's current financial condition, including its liquidity sources;

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b. The Company's conditional and unconditional obligations due or anticipated within one year;

c. The funds necessary to maintain the Company's operations considering its current financial condition, obligations, and other expected cash flows; and

d. Other conditions and events, when considered in conjunction with the above that may adversely affect the Company's ability to meet its obligations.

(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 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 income (loss).

Other income, net includes foreign exchange gains of $8,744,000, $1,002,000, $12,596,000 and $11,200,000 for the years ended December 31, 2017 and 2016, the six months ended December 31, 2015 and the year ended June 30, 2015, respectively.

(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, short-term deposits, 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, *Fair value measurements.*

(f) Accumulated other comprehensive income (loss)

The following amounts were reclassified out of other comprehensive income during the year ended December 31, 2017 (in thousands):

Component of Accumulated Other Comprehensive Income	Amount reclassified	Affected line item in the Statement of Operations

Unrealized gains (losses) on available-for-sale securities			
Reclassification adjustment for losses on available-for-sale debt securities	$	646	Other income, net

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(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 of cash providing security for letters of credit in respect of lease agreements.

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, 2017	December 31, 2016
Cash and cash equivalents	$ 84,043	$ 158,779
Restricted cash	4,253	4,017
Total cash, cash equivalents, and restricted cash shown in the statement of cash flows	**$ 88,296**	**$ 162,796**

(h) Short-term deposits

Short-term deposits consist of bank deposits with a maturity at acquisition date of between three and twelve months.

(i) Available-for-sale debt securities

As of December 31, 2017, the Company has the following investments in available-for-sale debt securities, which are categorized as cash equivalents or marketable securities — available-for-sale debt securities on the balance sheet depending on their maturity at acquisition (in thousands):

	Maturity	Amortized cost	Gross Unrealized Gains	Gross Unrealized Losses	Foreign currency translation adjustment	Aggregate Estimated Fair Value
Cash equivalents:						
Corporate debt securities	Less than 3 months	$ 1,610	$	$ (22)	$ 22	$ 1,610
		$ 1,610	**$ —**	**$ (22)**	**$ 22**	**$ 1,610**
Marketable securities:						
Corporate debt securities	3 months to 1 year	$ 124,406	$ —	$ (3,723)	$ 3,535	$ 124,218
		$ 124,406	**$ —**	**$ (3,723)**	**$ 3,535**	**$ 124,218**

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 2017, the Company has classified all of its available-for-sale debt securities, including those with maturities beyond one year, 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 comprehensive loss. Realized gains and losses, interest income and amortization of premiums and discounts at acquisition are included in other income (expense), net. In the year ended December 31, 2017, proceeds from the maturity or redemption of available-for-sale debt securities were $29,090,000. There were realized losses of $646,000 recognized on the maturity of available-for-sale debt securities during the year ended December 31, 2017, primarily arising due to foreign exchange movements, and, as a result, the Company reclassified this amount out of accumulated other comprehensive loss for the same period.

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

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impairment is assessed to determine if it is other than temporary. Impairments judged to be other than temporary are included in other income (expense), net when they are identified. As of December 31, 2017, the aggregate fair value of securities held by the Company in an unrealized loss position was $125,828,000, which consisted of 54 securities. No securities have been in an unrealized loss position for more than one year. As of December 31, 2017, these securities are not considered to be other than temporarily impaired because the impairments are not severe, have been for a short duration and are due to normal market and exchange rate fluctuations. Furthermore, the Company does not intend to sell the debt securities in an unrealized loss position and it is unlikely that the Company will be required to sell these securities 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.

(j) Accounts receivable

Accounts receivable are amounts due from customers. As of December 31, 2017 and 2016, the Company had one customer, which was GlaxoSmithKline, or GSK.

Management analyses current and past due accounts and determines if an allowance for uncollectible accounts is required based on collection experience and other relevant information. As of December 31, 2017 and 2016, the allowance for doubtful accounts is $nil. The process of estimating the uncollectible accounts involves assumptions and judgments and the ultimate amounts of uncollectible accounts receivable could be in excess of the amounts provided.

(k) 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.

(l) 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.

(m) Intangibles

Intangibles includes intellectual property ("IP") rights for licensed technology used in research and development with an alternative future use, which are recorded at cost and amortized over the estimated useful life of the related product.

The weighted-average amortization period for IP rights for licensed technology as of December 31, 2017 is seven years.

Intangibles also include acquired computer software licenses, 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.

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(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, 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 when earned and realized or realizable, which is generally when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller's price to the buyer is fixed or determinable, and collectability is reasonably assured. Where applicable, all revenues are stated net of value added and similar taxes.

The Company's revenue arises from a collaboration and license agreement with GSK entered into in May 2014 and amended in February 2016 and September 2017 (the "GSK Collaboration and License Agreement"), which requires the Company to provide multiple deliverables to GSK. The Company recognizes revenue for arrangements with multiple deliverables by identifying the separable deliverables within the arrangement, whereby a deliverable is considered separable if it has value to the customer on a standalone basis. Contingent deliverables, such as the right to nominate further development targets, which represent a substantive option (i.e. the customer is not required or compelled to purchase the optional products or services) and not priced at a significant and incremental discount are not considered to be a deliverable at inception of the arrangement.

When the contract is amended, the amendment is assessed to determine if it should be accounted for as a separate contract or a modification to the existing arrangement. If the amendment is a modification, the modified arrangement is assessed to identify the deliverables at the time of the modification and the non-contingent arrangement consideration is allocated between the separate deliverables using the Company's best estimate of the relative selling price at the time of the modification. The amendments to the GSK Collaboration and License Agreement in February 2016 and September 2017 were both accounted for as modifications to an existing arrangement.

The non-contingent arrangement consideration is allocated between the separate deliverables using the relative selling price. The relative selling price is determined using vendor-specific objective evidence ("VSOE"), if available, third party evidence if VSOE is not available, or a best estimate of the standalone selling price if neither VSOE nor third party evidence is available. The best estimate of the selling price is estimated after considering all reasonably available information, including market data and conditions, entity-specific factors such as the cost structure of the deliverable, internal profit and pricing objectives and the stage of development, if appropriate. Revenue allocated to each deliverable is recognized as it is delivered. Where delivery occurs over time, revenue is systematically recognized over the period which the Company will be providing services.

Amounts received prior to satisfying the revenue recognition criteria are recorded as deferred revenue in the Company's consolidated balance sheet. Amounts expected to be recognized as revenue within the 12 months following the balance sheet date are classified as deferred revenue in current liabilities. Amounts not expected to be recognized as revenue within the 12 months following the balance sheet date are classified as deferred revenue, non-current.

Milestone payments which are non-refundable, non-creditable and contingent on achieving clinical milestones are recognized as revenues either on achievement of such milestones if the milestones are considered substantive or over the period the Company has continuing performance obligations, if the milestones are not considered substantive. When determining if a milestone is substantive, the Company considers the following factors:

- The degree of certainty in achieving the milestone,
- The frequency of milestone payments,
- The Company's efforts, which result in achievement of the milestone,
- The amount of the milestone payment relative to the other deliverables and payment terms, and
- Whether the milestone payment is related to future performance or deliverables.

(p) Research and development expenditures

Research and development expenditures are expensed as incurred.

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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 expensed acquired in-process R&D of $1,003,000, $3,000,000, $2,500,000 and $- in the years ended December 31, 2017 and 2016, the six months ended December 31, 2015 and the year ended June 30, 2015, 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 reimbursements from grants and 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. Grant income was $150,000, $414,000, $905,000 and $613,000 in the years ended December 31, 2017 and 2016, the six months ended December 31, 2015 and the year ended June 30, 2015, respectively. Reimbursable R&D tax and expenditure credits were $10,576,000, $6,891,000, $1,506,000 and $1,497,000 in the years ended December 31, 2017 and 2016, the six months ended December 31, 2015 and the year ended June 30, 2015, respectively.

(q) Operating leases

Costs in respect of operating leases are charged to the consolidated statement of operations on a straight line basis over the lease term. Rent holidays are recognized on a straight-line basis over the lease term (including any rent holiday period). Lease incentives, including leasehold improvement incentives or allowances, are recorded as deferred rent and amortized as reductions to lease expense over the lease term. Leasehold improvements made by a lessee that are funded by landlord incentives or allowances are recorded as leasehold improvement assets and amortized over the shorter of the useful life of the asset and the non-cancellable lease term.

In May 2017, the Company entered into an agreement for the lease of a building at Milton Park, Oxfordshire, U.K. The term of the lease expires on October 23, 2041, with termination options exercisable by the Company on the fifth anniversary of the lease commencement date and at approximately five yearly intervals thereafter.

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, U.K. In October 2016, the Company entered into the lease for that facility following the completion of construction.

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, U.S. The lease commenced upon completion of construction in October 2016.

(r) Share-based compensation

The Company awards certain employees and nonemployees 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.

The Company has awarded share options to nonemployees for consultancy services. These share options are measured at the fair value of the goods/services received or the fair value of the equity instrument issued, whichever is more reliably measured, and then remeasured at the then-current fair values at each reporting date until the share options have vested and recognized as an expense over the requisite service period.

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(s) 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, 2017 and 2016, six months ended December 31, 2015 and the year ended June 30, 2015 were $1,264,000, $976,000, $122,000 and $240,000, 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.

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. 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. The Company evaluates the realizability of its deferred tax assets by assessing its valuation allowance and by adjusting the amount of such allowance, if necessary. The factors used to assess the likelihood of realization include the Company's forecast of future taxable 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 unrecognized tax benefits within the consolidated statement of operations as income tax expense.

In interim periods, the income tax expense (benefit) related to income (loss) from continuing operations before income tax expense (benefit) excluding significant unusual or infrequently occurring items is computed at an estimated annual effective tax rate and the income tax expense (benefit) related to all other items is individually computed and recognized when the items occur.

(u) Preferred shares

In September 2014, Adaptimmune Limited issued 1,758,418 Series A Preferred Shares for net consideration of $98,872,000 after the deduction of fees of $4,949,000. On February 23, 2015, 1,758,418 Series A Preferred Shares were exchanged for newly issued Series A Preferred Shares of Adaptimmune Therapeutics Limited on a one-for-100 basis. The Series A Preferred Shares were convertible into ordinary shares at the option of the holder at an initial rate of 1:1 reducing to 2:1 on the third anniversary of the issuance, or on the occurrence of an initial public offering at a rate of 1:1 reducing from 1:1 on the first anniversary of the issuance to 2:1 on the third anniversary of the issuance.

The Series A Preferred Shares contained a beneficial conversion feature, which is recognized within additional paid-in capital and accreted over the minimum period in which the investor can recognize that return. The beneficial conversion feature was accreted through a deemed dividend of $14,735,000 in the year ended June 30, 2015. The Series A Preferred Shares were converted into ordinary shares at a rate of 1:1 immediately prior to the Company's initial public offering on NASDAQ in May 2015. Upon conversion the Company reclassified the carrying amount of the Series A Preferred Shares to common stock and additional paid-in capital.

(v) 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.

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The following table reconciles the numerator and denominator in the basic and diluted loss per share computation (in thousands):

	Year ended December 31, 2017	Year ended December 31, 2016	Six months ended December 31 2015	Year ended June 30, 2015
Numerator for basic and diluted loss per share				
Net loss	$ (70,138)	$ (71,579)	$ (23,000)	$ (22,058)
Deemed dividend on convertible preferred shares	—	—	—	(14,735)
Net loss attributable to shareholders used for basis and diluted EPS calculation	**$ (70,138)**	**$ (71,579)**	**$ (23,000)**	**$ (36,793)**
Denominator for basic and diluted loss per share				
Weighted average number of shares used to calculate basic and diluted loss per share	527,637,086	424,713,997	424,711,900	214,704,593

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, 2017	Year ended December 31, 2016	Six months ended December 31 2015	Year ended June 30, 2015
Weighted average number of share options[(1)]	70,374,832	45,882,791	31,203,477	31,473,477
Weighted average number of Preferred Shares	—	—	—	122,848,381

(1) From January 1, 2018 through to February 28, 2018, the Company granted 9,994,656 options over ordinary shares with an exercise price determined by reference to the market value of an ADS at the date of grant, and 6,555,900 options over ordinary shares with an exercise price equal to the nominal value of the ordinary shares (£0.001 per share).

(w) Related parties

The Company has historically entered into several agreements with Immunocore Limited ("Immunocore"). During the year ended December 31, 2017, Immunocore has invoiced the Company in respect of: (i) services provided under a target collaboration agreement (which terminated on March 1, 2017); (ii) costs relating to prosecution of jointly owned patents; and (iii) property rents (effective until June 1, 2017).

During the year ended December 31, 2017, all of the Company's U.K-based research and development and corporate staff moved into the Company's new building at Milton Park, Oxfordshire, which comprises laboratory and office space. Consequently, the Company's lease from Immunocore of premises formerly used for research and development terminated on June 1, 2017 and the Company received $550,000 in relation to leasehold improvements, as provided for under the lease. The lease of the Company's former corporate office premises was assigned to Immunocore effective from July 1, 2017 in a transaction on arms-length terms.

As of the closing of the Company's registered direct offering of its American Depositary Shares on April 10, 2017, Immunocore held less than 5% of the Company's shares. Due to several factors including the decrease in share ownership, the termination of the target collaboration agreement and our lack of common directors, the

Company no longer considers Immunocore to be a related party with effect from January 1, 2018.

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(x) New accounting pronouncements

Adopted in the period

Intra-Entity Transfers of Assets Other Than Inventory

The Company adopted Accounting Standards Update ("ASU") ASU 2016-16 -*Income Taxes: Intra-Entity Transfers of Assets Other Than Inventory* issued by the Financial Accounting Standards Board ("FASB") in October 2016, which requires that entities recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. The guidance has been adopted on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption prospectively to all arrangements entered into or materially modified after January 1, 2017. The adoption of this guidance did not have any impact on the financial position, results of operations or cash flows.

To be adopted in future periods

Revenue from Contracts with Customers

In May 2014, the FASB issued ASU 2014-09 -*Revenue from Contracts with Customers* ("ASU 2014-09") which requires a new approach to revenue recognition and, in March, April, May and December 2016, the FASB issued additional clarification related to this guidance. This guidance has been codified within Accounting Standard Codification Topic 606, *Revenue from Contracts with Customers* ("ASC 606"). The core principle of the guidance is that an entity should recognize revenue 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 Company intends to adopt the guidance using the modified retrospective approach, with the cumulative effect of initially applying the guidance recognized at the date of initial application, with effect from January 1, 2018. The Company's assessment of the impact of the guidance is complete and the adoption of ASC 606 will have a material impact on the Company's financial statements due to the following:

- Under the GSK Collaboration and License Agreement, the Company will receive non-substantive milestone payments in the future upon achievement of specified development milestones. Non-substantive milestones are currently included within the transaction price upon achievement of the milestone and recognized over the period during which we are delivering services to GSK. ASC 606 requires an entity to estimate the amount of consideration to which the entity will be entitled in exchange for transferring the promised goods or services to a customer. This includes an estimate of variable consideration to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. This results in certain milestone payments being recognized earlier under ASC 606 than under existing guidance, if it is considered probable that the milestone will be achieved.

- Upfront payments and non-refundable milestone payments are currently recognized in revenue using the proportional performance model ratably over the period that services are rendered, unless another attribution method is determined to more closely approximate the delivery of the goods or services to the customer. ASC 606 requires an entity to recognize revenue using a measure of progress that depicts the transfer of control of the goods or services to the customer. We consider that an input measure, such as costs incurred, relative to the total expected inputs will be the appropriate measure to depict the transfer of control of the services under the GSK Collaboration and License Agreement, which impacts the timing of our revenue from the GSK Collaboration and License Agreement.

Due to these factors, the cumulative effect of adopting the guidance on our financial statements at January 1, 2018 is estimated to be a credit to opening accumulated losses and corresponding decrease in deferred revenue of approximately $9 million.

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ASC 606 requires an entity to provide financial statement users with sufficient information to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. To help achieve this objective, ASC 606 requires certain quantitative and qualitative disclosures, which will be more extensive than our current revenue disclosures.

Accounting for Leases

In February 2016, the FASB issued ASU 2016-02 -*Leases*. The guidance requires that lessees recognize a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term at the commencement date. The guidance also makes targeted improvements to align lessor accounting with the lessee accounting model and guidance on revenue from contracts with customers. The guidance is effective for the fiscal year beginning January 1, 2019, including interim periods within that fiscal year. Early application is permitted. The guidance must be adopted on a modified retrospective transition approach for leases existing, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The Company is currently evaluating the impact of the guidance on the consolidated financial statements.

Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB issued ASC 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 guidance is effective for the fiscal year beginning January 1, 2020, including interim periods within that fiscal year. Early application is permitted for the fiscal year beginning January 1, 2019, including interim periods within that fiscal year. 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. The Company is currently evaluating the impact of the guidance on the consolidated financial statements.

Recognition and Measurement of Financial Assets and Financial Liabilities

In January 2016, the FASB issued ASU 2016-01 -*Financial Instruments - Overall: Recognition and Measurement of Financial Assets and Financial Liabilities*, which amended the guidance on the recognition and measurement of financial assets and financial liabilities. The new guidance requires that equity investments (except those accounted for under the equity method of accounting, or those that result in consolidation of the investee) are measured at fair value with changes in fair value recognized in net income. The guidance also requires the use of an exit price when measuring the fair value of financial instruments for disclosure purposes, eliminates the requirement to disclose the methods and significant assumptions used to estimate the fair value that is required to be disclosed for financial instruments measured at amortized cost and requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset. The guidance is effective for the fiscal year beginning January 1, 2018, including interim periods within that fiscal year. The Company does not believe the adoption of the guidance will have a material impact on the consolidated financial statements.

Note 3 — Revenue

Revenue represents recognized income from the GSK Collaboration and License Agreement which requires the Company to provide multiple deliverables to GSK. The GSK Collaboration and License Agreement related to up to five target programs, the first of which was the NY-ESO SPEAR T-cell program. On September 7, 2017, and by way of an amendment agreement (the "Amendment"), GSK exercised its option to obtain an exclusive license to research, develop, and commercialize the Company's NY-ESO SPEAR T-cell therapy program. The Amendment also specified the activities required to transition the NY-ESO SPEAR T-cell program to GSK. Transition of the program is targeted for completion during 2018.

The exercise of the NY-ESO option and the Amendment has been accounted for as a modification of an existing arrangement. As of September 7, 2017, we have accounted for the modified arrangement as a multiple-element arrangement consisting of the following deliverables under the GSK Collaboration and License Agreement (i) an exclusive license to research, develop, and commercialize the Company's NY-ESO SPEAR T-cell therapy program, (ii) the transitional development program for the NY-ESO Spear T-cell performed during the transition period, (iii) additional transitional services, when and if required by GSK and reimbursed when performed and (iv) the development of, and option to obtain an exclusive license to a second target, PRAME. As provided under the GSK Collaboration and License Agreement, GSK continues to have the right to nominate three additional target peptides, excluding any targets on which work is already under way. No further targets can be nominated until after full payment of the option exercise fee for the NY-ESO program. Management does not consider this to be a deliverable at September 7, 2017, because it represents a substantive option not priced at a significant and incremental discount. After the transition, GSK will assume responsibility for all NY-ESO-related activities.

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Upon modification, the non-contingent arrangement consideration was allocated between the separate deliverables using the Company's best estimate of the relative selling price. In determining the best estimate, the Company considered internal pricing objectives it used in negotiating the GSK Collaboration and License Agreement and the Amendment, 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.

Under the GSK Collaboration and License Agreement, the Company received an upfront payment of $42.1 million in June 2014 and has achieved non-substantive development milestones of $49.3 million, of which $10.3 million were achieved in the year ended December 31, 2017. Upon exercise of the NY-ESO option, the Company is entitled to receive an option exercise fee of £30 million (approximately $38 million), of which $26.6 million was received in September 2017 and the remainder is payable upon transition of the program to GSK, which is expected to occur during 2018. The Company is entitled to further non-substantive milestone payments based on the achievement of development milestones by the Company relating to the NY-ESO SPEAR T-cell program. In addition to the development milestone payments due in relation to the NY-ESO SPEAR T-cell program, the Company is also entitled to non-substantive milestone payments based on achievement of development milestones under the PRAME SPEAR T-cell program, the second target program nominated by GSK under the GSK Collaboration and License Agreement.

The Company will also be entitled to further development and commercialization milestone payments based on achievement of specified milestones by GSK. The Company is entitled to royalties from GSK on all GSK sales of TCR therapeutic products licensed under the GSK Collaboration and License Agreement, varying between a mid-single-digit percentage and a low-double-digit percentage of net sales. Sales milestones also apply once any TCR therapeutic covered by the GSK Collaboration and License Agreement is on the market.

The revenue allocated to the exclusive license to research, develop, and commercialize the Company's NY-ESO SPEAR T-cell therapy program will be recognized as revenue upon commencement of the exclusive license, which occurs on completion of defined transition activities and transition of sponsorship of clinical programs to GSK. The revenue allocated to the transitional development program for the NY-ESO Spear T-cells and the development of, and option to obtain an exclusive license to a second target, PRAME is recognized using the proportional performance model in revenue systematically over the period in which the Company is delivering services under the GSK Collaboration and License Agreement, which is determined to be the estimated duration of the development activities to be performed by Adaptimmune under the GSK Collaboration and License Agreement.

Management regularly reviews and monitors the performance of the GSK Collaboration and License Agreement to determine the period over which the Company will be delivering services to GSK: and when a change in facts or circumstances occurs, the estimated is adjusted and the revenue is 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 is recognized as an adjustment to revenue in the period in which the change in estimate occurs. Upon the exercise of the NY-ESO option, the estimate of the period over which the Company will be delivering services to GSK in relation to the NY-ESO Spear T-Cell development program has significantly reduced, resulting in an increase in revenue amortization of $17.5 million in September 2017. Management estimates that all deferred revenue, totaling $38.7 million, will now be amortized within 12 months.

The GSK Collaboration and License Agreement is effective until all payment obligations expire. The GSK Collaboration and License Agreement can also be terminated on a collaboration program-by-collaboration program basis by GSK for lack of feasibility or inability to meet certain agreed requirements. Both parties have rights to terminate the GSK Collaboration and License Agreement for material breach upon 60 days' written notice or immediately upon insolvency of the other party. GSK has additional rights to terminate either the GSK Collaboration and License Agreement or any specific license or collaboration program on provision of 60 days' notice to us. The Company also has rights to terminate any license where GSK ceases development or withdraws any licensed TCR therapeutic in specified circumstances.

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Note 4 — Financial instruments

The Company's financial instruments consist primarily of cash and cash equivalents, short-term deposits, marketable securities, restricted cash, accounts receivable, accounts payable and accrued expenses.

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, 2017 are as follows (in thousands):

	December 31, 2017	Fair Value Measurements Using		
		Level 1	Level 2	Level 3
Assets:				
Marketable securities:				
Corporate debt securities	$ 124,218	$ 124,218	$ —	$ 0

The Company estimates the fair value of available-for-sale debt securities 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 $84,043,000, marketable securities of $124,218,000 and restricted cash of $4,253,000 as of December 31, 2017. 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 has one customer as a result of the GSK Collaboration and License Agreement. Trade receivables were $0.2 million and $1.5 million as of December 31, 2017 and December 31, 2016. Trade receivables arise in relation to the GSK Collaboration and License Agreement. The Company has been transacting with GSK since June 2014, during which time no impairment losses have been recognized. There are no amounts which are past due as of December 31, 2017.

Foreign exchange risk

The Company is exposed to foreign exchange rate risk because it currently operates in the United Kingdom and the United States. The Company's revenue from the GSK Collaboration and License Agreement is denominated in pounds sterling and is generated by our U.K.-based subsidiary, which has a pounds sterling functional currency. As a result, these sales are subject to translation into U.S. Dollars when the financial statements are consolidated. 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, 2017, the last business day of the reporting period, was £1.00 to $1.35.

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.

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Note 5 — Other current assets

Other current assets consisted of the following (in thousands):

	December 31, 2017	December 31, 2016
Corporate tax receivable	$ 11,454	$ 6,247
Prepayments	6,120	7,383
Clinical materials	3,760	1,192
Other current assets	382	976
	$ 21,716	**$ 15,798**

Note 6 - Property, plant and equipment, net

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

	December 31, 2017	December 31, 2016
Computer equipment	$ 2,706	$ 1,904
Laboratory equipment	18,745	11,423
Office equipment	858	265
Leasehold improvements	27,441	4,498
Assets under construction	393	14,332
	50,143	32,422
Less accumulated depreciation	(9,464)	(4,523)
	$ 40,679	**$ 27,899**

Depreciation expense was $5,032,000, $3,126,000, $1,176,000 and $705,000 for the years ended December 31, 2017 and 2016, six months ended December 31, 2015 and the year ended June 30, 2015, respectively.

The Company has disposed of leasehold improvements resulting in a loss on disposal of $194,000 and $122,000 in the years ended December 31, 2017 and 2016, respectively, which is included within general and administrative expenses in the statement of operations.

Note 7 — Intangible assets, net

Intangible assets, net consisted of the following (in thousands):

	December 31, 2017	December 31, 2016
Acquired software licenses	$ 1,789	$ 1,310
Licensed IP rights - completed technology used in R&D	200	183
	1,989	1,493
Less accumulated amortization	(652)	(225)
	$ 1,337	**$ 1,268**

Amortization expense was $391,000, $160,000, $69,000 and $30,000 for the years ended December 31, 2017 and 2016, six months ended December 31, 2015 and the year ended June 30, 2015, respectively. The estimated aggregate amortization expense in respect of these assets for each of the five years ended 2022 is $585,000, $542,000, $467,000, $24,000 and $24,000, respectively.

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Note 8 — Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consisted of the following (in thousands):

	December 31, 2017	December 31, 2016
Accrued clinical & development expenditure	$ 10,065	$ 4,938
Accrued employee expenses	6,592	4,539
VAT	5,741	2,014
Other accrued expenditure	3,944	1,003
Accrued capital expenditure	502	3,954
Other	357	1,080
	$ 27,201	**$ 17,528**

Note 9 — Contingencies and commitments

Leases

Future minimum lease payments under operating leases as of December 31, 2017 are presented below (in thousands):

	December 31, 2017
2018	$ 2,886
2019	3,767
2020	3,809
2021	3,853
2022	3,897
Thereafter	15,215
	$ 33,427

The Company leases property under operating leases expiring through 2027. Lease expenses amounted to $3,617,000, $2,255,000, $841,000 and $610,000 for the years ended December 31, 2017 and 2016, six months ended December 31, 2015 and year ended June 30, 2015, respectively, which is included within research and development and general and administrative expenses in the Company's unaudited consolidated statements of operations.

In May 2017, the Company entered into an agreement for the lease of a building at Milton Park, Oxfordshire, U.K. 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 on the fifth anniversary of the lease commencement date and at approximately five yearly intervals thereafter. The related lease commitments are included in the table above.

Capital commitments

As of December 31, 2017, the Company had commitments for capital expenditure totaling $945,000, which the Company expects to incur within one year.

Commitments for clinical materials, clinical trials and contract manufacturing

As of December 31, 2017, the Company had non-cancellable commitments for purchase of clinical materials, executing and administering clinical trials, and for contract manufacturing of $76,725,000, of which the Company expects to pay $33,028,000 within one year, $41,214,000 in one to three years, $1,475,000 in three to five years, and $1,008,000 after five years. The amount and timing of these payments vary depending on the rate of progress of development and clinical trial enrollment rates. The Company's subcontracted costs for clinical trials and contract manufacturing were $41,505,000, $23,565,000, $8,585,000 and $8,818,000 for the years ended December 31, 2017 and 2016, six months ended December 31, 2015 and year ended June 30, 2015, respectively.

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Bellicum Pharmaceuticals Inc., Co-Development and Co-Commercialization Agreement

On December 16, 2016, the Company entered into a Co-Development and Co-Commercialization Agreement with Bellicum Pharmaceuticals, Inc. ("Bellicum") in order to facilitate a staged collaboration to evaluate, develop and commercialize next generation T-cell therapies.

Under the agreement, the Company will evaluate Bellicum's GoTCR technology (inducible MyD88/CD40 co-stimulation, or iMC) with the Company's SPEAR T-cells for the potential to create enhanced T-cell therapeutics. Depending on results of the initial preclinical proof-of-concept phase, the agreement may progress to a two-target

co-development and co-commercialization phase. To the extent necessary, and in furtherance of the parties' proof-of-concept and co-development efforts, the parties granted each other a royalty-free, non-transferable, non-exclusive license covering their respective technologies for purposes of facilitating such proof-of-concept and co-development efforts. In addition, as to covered therapies developed under the agreement, the parties granted each other a reciprocal exclusive license for the commercialization of such therapies. During the proof of concept phase, each party bears its own costs and there are no payments made between the Company and Bellicum. Any research and development costs incurred by the Company with third parties have been accounted for in accordance with the Company's accounting policy for research and development expenses.

With respect to any joint commercialization of a covered therapy, the parties agreed to negotiate in good faith the commercially reasonable terms of a co-commercialization agreement. The parties also agreed that any such agreement shall provide for, among other things, equal sharing of the costs of any such joint commercialization and the calculation of profit shares as set forth in the agreement.

The agreement will expire on a country-by-country basis once the parties cease commercialization of the T-cell therapies covered by theagreement, unless earlier terminated by either party for material breach, non-performance or cessation of development, bankruptcy/insolvency, or failure to progress to co-development phase.

Merck Combination Agreement

On October 27, 2016, the Company entered into a clinical trial collaboration agreement with Merck & Co., Inc. ("Merck") (known as MSD outside the United States and Canada), for the assessment of the NY-ESO SPEAR T-cell therapy in combination with Merck's PD-1 inhibitor, KEYTRUDA® (pembrolizumab), in patients with multiple myeloma. Under the terms of the agreement, each of Merck and the Company will manufacture and supply its relevant compound for use in the combination study. Each of the Company and Merck are responsible for their own costs incurred in the performance of obligations under the agreement. Any research and development costs incurred by the Company with third parties have been accounted for in accordance with the Company's accounting policy for research and development expenses. The agreement will last until the earlier of delivery of the final study report or study completion. Either party may terminate the agreement for material breach, patient safety, regulatory action preventing supply of compound or withdrawal of regulatory approval for one of the combination study compounds. Merck may also terminate the agreement where it believes its compound is being used in an unsafe manner. As a result of GSK's exercise of its option over the NY-ESO SPEAR T-cell program, the clinical trial and performance obligations covered by the agreement with Merck will transition to GSK at the same time as other clinical trials using the NY-ESO SPEAR T-cell.

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 SPEAR T-cell therapies targeting NY-ESO, MAGE-A10 and MAGE-A4 and will collaborate on future clinical stage first and second generation SPEAR T-cell therapies across a number of cancers.

Under the terms of the agreement, the Company has 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 is obligated to make further payments to MD Anderson as certain milestones are achieved. These costs will be 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.

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Universal Cells Research, Collaboration and License Agreement

On November 25, 2015, the Company entered into a Research, Collaboration and License Agreement relating to gene editing andHuman Leukocyte Antigen ("HLA") engineering technology with Universal Cells, Inc. ("Universal Cells"). The Company paid an upfront license and start-up fee of $2.5 million to Universal Cells in November 2015, a milestone payment of $3.0 million in February 2016 and further milestone payments of $0.9 million in 2017. Further milestone payments of up to $43.5 million are payable if certain development and product milestones are achieved. Universal Cells would also receive a profit-share payment for the first product, and royalties on sales of other products utilizing its technology. The upfront license and start-up fee and milestone payments were expensed to research and development when incurred.

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 exclusive license under certain intellectual property rights owned or controlled by ThermoFisher. The Company paid upfront license fees of $1.0 million 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.

On June 16, 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 exclusively from ThermoFisher for a period of 5 years and there are also minimum purchasing obligations, which are included within 'Purchase commitments for clinical materials, clinical trials and contract manufacturing' set forth above. ThermoFisher has the right to terminate the supply agreement for material breach or insolvency.

Note 10 — Stockholders' equity

Ordinary shares

Each holder of ordinary shares is entitled to one vote, on a show of hands and one vote per share on a poll, at general meetings of the Company. On the winding up of the Company, the assets of the Company available for distribution to holders remaining after payment of all other debts and liabilities of the Company shall be paid to the shareholders in proportion to the number of shares held by each of them. The payment of dividends by Adaptimmune Therapeutics plc is governed by English law

Effective from June 21, 2017, the Directors have the authority to allot new ordinary shares or to grant rights to subscribe for or to convert any security into ordinary shares in the Company up to a maximum aggregate nominal amount of £140,000. This authority runs for five years and will expire on June 20, 2022. Effective from June 21, 2017, the Directors also have the authority to allot ordinary shares for cash or to grant rights to subscribe for or to convert any security into ordinary shares in the Company without first offering them to existing shareholders in proportion to their existing holdings up to an aggregate maximum nominal amount of £140,000. This power will expire at the end of the Annual General Meeting of the Company to be held in 2019.

Underwritten public offering

On March 27, 2017, the Company completed an underwritten public offering of the Company's American Depositary Shares ("ADSs"). The Company sold 15,700,223 ADSs (representing 94,201,338 ordinary shares) at a price to the public of $4.20 per ADS. The net proceeds were $61,397,000 after deducting offering expenses of $4,544,000.

Registered direct offering

On April 10, 2017, the Company completed a registered direct offering of the Company's ADSs following its entry into a definitive agreement with Matrix Capital Management Company, LP. The Company sold 7,000,000 ADSs (representing to 42,000,000 ordinary shares) at a price of $6.00 per ADS. The net proceeds were $41,770,000 after deducting offering expenses of $230,000.

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Initial public offering ("IPO")

On May 11, 2015, the Company closed its IPO on NASDAQ, issuing 11,250,000 American Depositary Shares representing 67,500,000 ordinary shares with nominal value of $104,000 (£67,500) for proceeds of $175,989,000, net of issuance costs of $13,387,000.

Corporate reorganization

On April 1, 2015, the Company completed a corporate reorganization. Pursuant to the first stage of this reorganization, on February 23, 2015, all shareholders of Adaptimmune Limited exchanged each of the Series A Preferred Shares and ordinary shares held by them for newly issued Series A Preferred Shares and ordinary shares of Adaptimmune Therapeutics Limited on a one-for-100 basis, resulting in Adaptimmune Limited becoming a wholly-owned subsidiary of Adaptimmune Therapeutics Limited. On April 1, 2015, pursuant to the final step in the corporate reorganization, Adaptimmune Therapeutics Limited re-registered as a public limited company with the name Adaptimmune Therapeutics plc.

On March 20, 2015, Adaptimmune Limited share options over ordinary shares granted to directors and employees under share option plans that were in existence immediately prior to the reorganization were exchanged for share options over ordinary shares of Adaptimmune Therapeutics plc on a one-for-100 basis with no change in any of the terms or conditions.

Adaptimmune Therapeutics plc's Board, management and corporate governance arrangements, and consolidated assets and liabilities immediately following the reorganization were the same as Adaptimmune Limited immediately before the reorganization.

Convertible preferred shares

In September 2014, Adaptimmune Limited issued 1,758,418 Series A Preferred Shares for net consideration of $98,872,000 after the deduction of fees of $4,949,000. In February 2015, the Series A Preferred Shares were exchanged for Series A Preferred Shares of Adaptimmune Therapeutics Limited on a one-for-100 basis. The Series A Preferred Shares were convertible into ordinary shares at the option of the holder at an initial rate of 1:1 reducing to 2:1 on the third anniversary of the issuance, or on the occurrence of an initial public offering at a rate of 1:1 reducing from 1:1 on the first anniversary of the issuance to 2:1 on the third anniversary of the issuance.

The Series A Preferred Shares were converted into ordinary shares at a rate of 1:1 immediately prior to the Company's initial public offering on NASDAQ in May 2015.

Note 11 — 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 and (adopted March 16, 2015) (ii) the Adaptimmune Therapeutics plc Company Share Option Plan (adopted 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 £30,000 per participant for the shares under the option, which is a CSOP compliance requirement.

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Generally, the vesting dates for the options granted under these plans up to December 31, 2017 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 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. 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.

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Generally, the vesting dates for the Replacement Options under the Adaptimmune Limited schemes are:

Options granted in 2009:	100% on the third anniversary of the grant date
Options granted in 2011, 2012, 2013 and April 2014:	25% on the first anniversary of the grant date and 75% in annual installments over the following three years
Options granted in December 2014:	25% on the first anniversary of the grant date and 75% in monthly installments over the following three years

The contractual life of options granted under these schemes is ten years.

In August 2016, the Company accelerated the vesting of 361,222 share options held by two non-executive directors, such that those options became vested and exercisable on December 30, 2016 when the non-executive directors stepped down from the Board, and the options expire on December 31, 2018.

The following table shows the total share-based compensation expense included in the consolidated statement of operations (thousands):

	Year ended December 31, 2017	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015
Research and development	$ 5,268	$ 4,185	$ 1,587	$ 5,426
General and administrative	5,536	4,636	1,981	1,652
	$ 10,804	**$ 8,821**	**$ 3,568**	**$ 7,078**

As of December 31, 2017 and December 31, 2016, there were 3,224,600 and 3,074,600 share options granted to nonemployees outstanding, respectively. These share options are measured at the current fair values at each reporting date until the share options have vested and recognized in the consolidated statement of operations over the requisite service period. The total share-based payment expense included in the consolidated statement of operations includes a charge of $314,000 in the year ended December 31, 2017, a benefit of $488,000 and $33,000 in the year ended December 31, 2016 and six months ended December 31, 2015, respectively, and a charge of $2,001,000 in the year ended June 30, 2015 relating to share options granted to nonemployees.

As of December 31, 2017, there was $10,086,000 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 2.9 years.

There were 29,924,787, 19,404,373 and 21,779,577 options granted in the years ended December 31, 2017 and 2016 and June 30, 2015, respectively. No share options were granted in the six months ended December 31, 2015. The weighted average fair value of stock options granted in the years ended December 31, 2017 and 2016 and June 30, 2015 were $0.35, $0.74 and $0.64, respectively.

The following table summarizes all stock option activity for the year ended December 31, 2017:

	Options	Weighted average exercise price per option	Average remaining contractual term (years)	Aggregate intrinsic value (thousands)
Outstanding at January 1, 2017	49,237,290	£ 0.58		
Changes during the period:				
Granted	29,924,787	£ 0.62		
Exercised	(1,142,904)	£ 0.19		
Forfeited	(3,075,506)	£ 1.04		
Outstanding at December 31, 2017	**74,943,667**	**£ 0.58**	**7.9**	**$ 84,989**
Exercisable at December 31, 2017	31,449,602	£ 0.51	6.8	$ 35,665

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The following table summarizes information about stock options outstanding as of December 31, 2017:

	Outstanding				Exercisable	
Exercise price	Total share options	Weighted-average remaining contractual life	Weighted-average exercise price	Total share options	Weighted-average exercise price
£ 0 – 0.25	9,224,274	5.6	£ 0.12	8,508,100	£ 0.12
0.26 – 0.50	9,694,008	7.0	0.36	7,477,900	0.36
0.51 – 0.75	38,859,727	8.7	0.58	6,615,358	0.51
0.76 – 1.00	13,986,392	7.9	0.90	7,405,720	0.91
1.01 – 1.50	2,313,651	8.9	1.05	576,909	1.06
1.51 – 2.00	865,615	4.9	1.82	865,615	1.82
Total	**74,943,667**	**7.9**	**£ 0.58**	**31,449,602**	**£ 0.51**

There were 1,142,904 and 63,192 share options exercised in the years ended December 31, 2017 and 2016, respectively. No share options were exercised in the six months ended December 31, 2015 and year ended June 30, 2015. In the years ended December 31, 2017 and 2016 the total intrinsic value of stock options exercised was $1,522,000 and $40,000, respectively and the cash received from exercise of stock options was $401,000 and $17,000, 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 $73,000 and $8,000 for the year ended December 31, 2017 and 2016, respectively and nil for the six months ended December 31, 2015 and the year ended June 30, 2015. The Company satisfies the exercise of stock options through newly issued shares.

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, 2017	Year ended December 31, 2016	Year ended June 30, 2015
Expected term (years)	5 years	5 years	5 years
Expected volatility	66-71%	68-73%	60%
Risk free rate	0.40-0.76%	0.17-1.07%	1.04-1.54%
Expected dividend yield	0%	0%	0%

The expected term of the option is based on management judgment. Due to the Company's lack of sufficient history as a publicly traded company, management's estimate of expected volatility for grants prior to May 2017 are based on the average volatilities of seven public companies with similar attributes to the Company. For grants subsequent to May 2017, there is over two years of historical data upon which to determine the volatility of the Company's share price, which management consider is sufficient to estimate the volatility based on the Company's historical share price. The risk free rate is based on the Bank of England's estimates of gilt yield curve as of the respective grant dates.

Note 12 — Income taxes

Loss before income taxes is as follows (in thousands):

	Year ended December 31, 2017	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015
U.S.	$ (3,121)	$ (3,373)	$ (1,771)	$ (1,108)
U.K.	(66,566)	(67,314)	(21,284)	(20,706)
Loss before income taxes	**$ (69,687)**	**$ (70,687)**	**$ (23,055)**	**$ (21,814)**

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The components of income tax expense (benefit) are as follows (in thousands):

	Year ended December 31, 2017	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015
United States:				
Federal	$ 459	$ 752	$ 33	$ 121
State and local	(8)	140	(88)	123
U.K.	—	—	—	—
Total current tax expense (benefit)	**451**	**892**	**(55)**	**244**
United States:				
Federal	—	—	—	—
State and local	—	—	—	—
U.K.	—	—	—	—
Total deferred tax expense (benefit)	—	—	—	—
Total income tax expense (benefit)	**$ 451**	**$ 892**	**$ (55)**	**$ 244**

As of December 31, 2017 and 2016 the tax effects of temporary differences and carryforwards that give rise to deferred tax assets and liabilities were as follows (in thousands):

	December 31, 2017	December 31, 2016
Deferred tax liabilties		
Property, plant and equipment:	$ (2,159)	$ (1,880)
Accruals	(3)	(326)
Total	**(2,162)**	**(2,206)**
Deferred tax assets		
Share-based compensation expense	5,603	4,632

Available-for-sale debt securities	33	—
Other accruals	602	574
Net operating loss and expenditure credit carryforwards	23,357	14,613
Total	**29,595**	**19,819**
Valuation allowance	(27,433)	(17,613)
	2,162	**2,206**
Net deferred tax asset (liability)	**$ —**	**$ —**

The valuation allowances are primarily related to deferred tax assets for operating loss carry-forwards and temporary differences relating to share-based compensation expense. 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 valuation allowance increased by $9,819,000 in the year ended December 31, 2017, which includes the impact of foreign currency translation adjustments of $1,722,000.

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Reconciliation of the U.K. statutory income tax rate to the Company's effective tax rate is as follows (in percentages):

	Year ended December 31, 2017	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015
U.K. tax rate	19.3%	20.0%	20.0%	20.8%
Permanent differences relating to reimbursable tax credits	2.6%	1.6%	1.6%	2.3%
Permanent differences relating to foreign exchange	—	—	(8.7)%	3.4%
Surrender of R&D expenditures for R&D tax credit refund	(8.4)%	(5.9)%	(4.5)%	(5.5)%
Change in valuation allowances	(13.5)%	(14.7)%	(10.8)%	(20.7)%
Other	(0.6)%	(2.3)%	2.6%	(1.4)%
Effective income tax rate	**(0.6)%**	**(1.3)%**	**0.2%**	**(1.1)%**

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 weighted-average U.K. corporate tax rate for the years ended December 31, 2017 and 2016, six months ended December 31, 2015 and year ended June 30, 2015 was 19.25%, 20%, 20% and 20.75%, respectively. The Company's subsidiary in the United States has generated taxable profits due to a service agreement between the Company's subsidiaries in the United States and the United Kingdom. The U.S. federal corporate tax rate was 34% for the years ended December 31, 2017 and 2016, six months ended December 31, 2015 and year ended June 30, 2015.

The United Kingdom's 2016 Finance Bill, which was enacted on September 15, 2016, contained reductions in corporation tax to 19% from April 1, 2017 and 17% from April 1, 2020. The Company used a 17% tax rate as of December 31, 2017 in respect of the measurement of deferred taxes arising in the United Kingdom, which reflects the currently enacted tax rate and the anticipated timing of the unwinding of the deferred tax balances. In respect of the measurement of deferred taxes arising in the U.S, the Company has adopted a 21% tax rate as of December 31, 2017. This rate has decreased from 34% as of December 31, 2016 due to U.S. tax reforms which were enacted in December 2017. This reduced the net deferred tax asset and corresponding valuation allowance by $1.8 million. We believe that other aspects of U.S. tax reforms will not have a significant impact on our income taxes. The effect of the change in tax rates on the consolidated statement of operations is $nil, after consideration of the change in valuation allowance.

As of December 31, 2017, we do not have unremitted earnings in our U.S. subsidiary.

As of December 31, 2017, we had U.K. net operating loss of approximately $135.6 million, expenditure credit carryforwards of $0.6 million and U.S. tax credit carryforwards of $0.2 million. Unsurrendered U.K. tax losses and tax credit carryforwards can be carried forward indefinitely to be offset against future taxable profits, however this is restricted to an annual £5 million 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.S. tax credit carryforwards can be carried forward for 20 years.

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 2011 and prior in the United Kingdom. However, U.K. net operating losses from the tax years 2011 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 Her Majesty's Revenue and Customs through the period ended December 31, 2016. The Company is subject to examinations by tax authorities in the United States for all tax years 2013 through 2016. Our U.S. federal income tax return for the year ended June 30, 2014 was audited by the U.S. Internal Revenue Service and resulted in no changes. 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 the uncertainties described above. As of December 31, 2017 and December 31, 2016, the Company had no unrecognized tax benefits.

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Note 13 — Geographic information

Operations by geographic area

Revenue represents recognized income from the GSK Collaboration and License Agreement. All revenue was derived in the United Kingdom.

Long-lived assets (excluding intangibles and financial instruments) were located as follows (in thousands):

	December 31, 2017	December 31, 2016
U.K.	$ 22,786	$ 15,719
U.S.	17,893	12,180

Total long-lived assets[1]	**$ 40,679**	**$ 27,899**

(1) Clinical materials of $4,695,000 and 2,580,000, included within non-current assets as of December 31, 2017 and 2016, respectively, are not included within the table above because they can easily be transferred between geographic locations.

Major customers:

During the year ended December 31, 2017 and 2016, six months ended December 31, 2015 and the year ended June 30, 2015 100% of revenues were generated from one customer, which was GSK.

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EXECUTION COPY
CONFIDENTIAL

DATED 5 January 2018

(1) ADAPTIMMUNE LIMITED

- and -

(2) CELL THERAPY CATAPULT LIMITED

COLLABORATION AGREEMENT

THIS COLLABORATION AGREEMENT (the "**Agreement**) is dated the 5th day of January, 2018 (the "**Effective Date**")

BETWEEN

(1) **Adaptimmune Limited,** a company incorporated in England with company number **09338148** and whose registered office is at 60 Jubilee Drive, Milton Park, Abingdon, Oxfordshire, OX14 4RX ("**ADAPTIMMUNE**"); and

(2) **Cell Therapy Catapult Limited, trading as Cell and Gene Therapy Catapult,** a company incorporated and registered in England & Wales with company number 07964711 whose registered office is at 12th Floor Tower Wing, Guys Hospital, Great Maze Pond, London, SE1 9RT, United Kingdom (the "**Catapult"**).

BACKGROUND

(A) Catapult's purpose in commissioning the cell and gene therapy manufacturing centre is to further its broader aims within the UK to develop novel technologies, processes, supply chains, facilities, skills, and working practices for simultaneous and cost effective large scale manufacture and distribution of multiple ATMP products.

(B) ADAPTIMMUNE is developing certain T-cell therapy products. As part of this activity ADAPTIMMUNE wishes to use the Centre in order to further develop and scale up manufacturing processes and capability for cell and gene therapy products.

(C) ADAPTIMMUNE and Catapult would each like to collaborate with the other as further set forth in this Agreement (**Project"** or "**Collaboration"**, as further described in the work streams set out at Schedule 1. Other parties who collaborate with the Catapult, and occupy space in the Centre will be referred to as "**Collaborators**".

(D) This document aims to record the contributions of each party with respect to this Agreement, and the terms under which ADAPTIMMUNE and Catapult will work together within the Centre.

OPERATIVE PROVISIONS

1. **DEFINITIONS AND INTERPRETATION**

1.1 In this Agreement, the following words shall have the following meanings:

"Accompanied Access Areas"	the areas of the Centre marked yellow on the Plan which are accessible by any Collaborator, but on condition such access is in the company of Catapult personnel
"Activity Related Inputs "	the inputs provided by Catapult as set out in Clause 9.4 and more specifically set out in Schedule 3
"Activity Related Input Contributions"	the non-refundable financial contribution made by ADAPTIMMUNE with respect to the provision of the Activity Related Inputs, as specifically set out in Schedule 3
"Actual Occupation Date"	means the earlier of (a) the date ADAPTIMMUNE physically occupies the Module; OR (b) the date by which Catapult has completed its obligations contained in this Agreement and the Establishment Input Statement that are required to

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enable Adaptimmune to use the Module for the Project [***]

"ADAPTIMMUNE Manufacturing Process"	means the process to be developed and operated by ADAPTIMMUNE under the Agreement in order to enable the production of ADAPTIMMUNE Product on a large scale as more particularly defined prior to signature of this contract in the Pre-Screen Questionnaire. It may be amended from time to time in accordance with Clause 7.2 and the QTA
"ADAPTIMMUNE Personnel"	the employees, consultants or contractors of ADAPTIMMUNE located at the Module or visiting the Module from time to time
"ADAPTIMMUNE Product"	The ADAPTIMMUNE owned and developed product, or products, to be produced through the use of ADAPTIMMUNE Manufacturing Process
"ADAPTIMMUNE Responsibilities"	the obligations on ADAPTIMMUNE set out in Clause 10 (each one severally being a "**ADAPTIMMUNE Responsibility**")
"Additional Inputs"	means inputs ADAPTIMMUNE requires Catapult to contribute to the Project, other than Activity Related Inputs and Integral Inputs, which will be arranged through the completion of an Additional Input Agreement in the form set out at Schedule 16 ("**Additional Input Agreement**")
"Affiliate"	in relation to a Party, means any person that Controls, is Controlled by, or is under common Control with that Party
"Applicable Law"	any: (a) statute, statutory instrument, by-law, order, regulation, directive, treaty, decree, decision of the European Council or law; (b) legally binding rule, policy, guidance or recommendation issued by any governmental, statutory or regulatory body with jurisdiction over this Agreement or the activities conducted hereunder; which relates to the performance of this Agreement and/or the Inputs by the relevant party and/or the activities which are comprised in the

	Project
"Background Intellectual Property"	in relation to ADAPTIMMUNE as described in clause 11.2; in relation to Catapult, means the Intellectual Property owned by or licensed to Catapult at the Effective Date or during the term of this Agreement, together with Intellectual Property that is developed by or licensed to Catapult after the Effective Date and outside of the conduct of activities for the Project; and in either case that Catapult uses in the performance of the Agreement, and that is not Foreground Intellectual Property. Catapult represents and warrants that to the best of Catapult's knowledge and belief, as of the Effective Date, Catapult Background Intellectual Property, consists of the heads of Intellectual Property and as set forth in the attached Schedule 4, which Catapult will update from time to time as additional Catapult Background Intellectual Property is brought into the Project
"Business Rates"	portion of the business rates (meaning local government tax) chargeable against the Centre and paid for by ADAPTIMMUNE in accordance with Clause 8.4.2 and the amount set out at Schedule 3
"Catapult Board"	means the directors of Cell Therapy Catapult Limited as registered at Companies House from time to time
"Centre"	the Cell and Gene Therapy Catapult Manufacturing Centre located at Cell and Gene Therapy Catapult Manufacturing Centre, Gunnels Wood Road, Stevenage, Herts,SG1 2FX and edged blue on the Plans
"CNC corridor"	means the controlled non-classified corridor forming part of the Common Access Areas
"Code of Conduct"	the code of conduct set out at Schedule 5
"Collaborator Forums"	means the Quality Forum, the Health and Safety Forum, and the Operational Forum, each as more particularly referenced, and described in Clause 9.7 and Schedule 15
"Commissioning"	has the meaning given in Clause 6.1

"Common Parts"	any part of the Centre shown edged green on the Plan which does not form part of the Module, the Restricted Access Areas, or the Accompanied Access Areas, or that is designated by Catapult from time to time for common use by Catapult, ADAPTIMMUNE, and the other occupiers of other modules in the Centre from time to time
"Compensations"	has the meaning given to it in Clause 18.1
"Conducting Media"	any media for the transmission of Supplies
"Confidential Information"	means any information in any form or medium disclosed by one party or such party's Affiliates ("the Disclosing Party") to the other party or its Affiliates ("the Receiving Party") or to which a party gains access as a result of ADAPTIMMUNE's occupancy of the Module and Centre or Catapult or third party use of the Shared Restricted Access Area at any time concerning the business affairs, finances, technology, plans, strategy, products or services (or future products or services) of the Disclosing Party or any of its Affiliates or any other entity with which the disclosing party is in business negotiations or has contracted or to which it owes a duty of confidence and all copies of the same; and any copy of any of the foregoing
"Control"	means (a) the direct or indirect ownership of fifty percent (50%) or more of the total voting power of securities or other evidences of ownership interest in a party or (b) the power to direct or cause the direction of the management and policies of such party, directly or indirectly, whether through ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing, as the case may be
"Disclosing Party"	has the meaning given in the definition of Confidential Information
"Effective Date"	means the date as defined in the preamble of this Agreement
"Establishment Inputs"	the inputs provided by Catapult as provided for at Clause 9.4
"Establishment Input Contributions"	the non-refundable financial contributions payable in accordance with cause 8.1.5, and set out at Schedule 3 to be made by ADAPTIMMUNE with

	respect to the provision of the Establishment Inputs by Catapult
"Expected Licencing Date"	means 1 April 2018, the contemplated date by which the Centre will have achieved full licenced status
"Expected Occupation Date"	1 March 2018, the contemplated date by which ADAPTIMMUNE will occupy the Module, or such other date as mutually agreed by the parties in writing
"Facility Contribution"	the non-refundable financial contribution to be made by ADAPTIMMUNE with respect to the provision of the Module and other capital aspects, as more particularly described at Clause 8.4.1, and at Schedule 3
"Financial Contributions"	means the Activity Input Contributions, Integral Input Contributions, Establishment Input Contributions, the Facility Contributions, the Additional Input Contributions and/or any other contributions as agreed in writing between the Parties and provided by Catapult from time to time
"Foreground Intellectual Property"	all Improvements to Catapult Background Intellectual Property created in the performance of this Agreement or through ADAPTIMMUNE'S use of the license under clause 12.1. For clarity Foreground Intellectual Property will not include any changes made to the ADAPTIMMUNE Process or ADAPTIMMUNE Product or to any ADAPTIMMUNE standard operating processes (SOPs)
"GMP"	good manufacturing practice, being the standard required under Applicable Law
"GMP Requirements"	The guidance for the interpretation of the principles and guidelines of good manufacturing practices for medicinal products for human and veterinary use laid down in the Commission 2003/94/EC, or as replaced by Directive 2017/1572 and/or Regulation 2017/1569 as appropriate and set out in Volume 4 of Eudralex (the rules governing medicinal products in the European Union), and the MHRA Rules and Guidance for Pharmaceutical Manufacturers and Distributors (The Orange Guide)

"Health and Safety Forum"	means the forum in which ADAPTIMMUNE, other Collaborators, and Catapult will convene to discuss health and safety matters as more particularly described in Schedule 15
"HVAC"	heating, ventilation and air-conditioning

"Improvements"	means, with respect to any Intellectual Property or material: (a) all improvements, modifications and /or adaptions of such Intellectual Property or materials; and (b) all Intellectual Property in such improvements, modifications and/or adaptions of such Intellectual Property or material
"Inputs"	the Activity Related Inputs, Integral Inputs, Establishment Inputs and/or any other inputs ("Additional Inputs") as agreed in writing between the Parties and provided by Catapult to ADAPTIMMUNE from time to time
"Input Commitments"	time the input delivery principles set out at Schedule 15
"Insured Risks"	the risks covered by the policies of insurance under Clauses 19.1 and 19.2, in each case to the extent that cover is generally available on normal commercial terms in the UK insurance market at the time the insurance is taken out and any other risks against which Catapult reasonably insures from time to time, subject in all cases to any excesses, limitations and exclusions imposed by the insurers
"Integral Inputs"	the inputs provided by Catapult set out at Clause 9.1
"Integral Input Contribution"	The contribution made by ADAPTIMMUNE with respect to the Integral Inputs, as more particularly described in Clause 8.1.4, and at Schedule 3
"Intellectual Property"	any and all issued patents and patent applications, inventions, utility models, registered and unregistered trademarks and service marks, registered designs, unregistered design rights, domain names, trade or business names, copyright, database rights, rights in respect of confidential information, rights under data exclusivity laws, rights under licences, rights under orphan drug laws, property rights in biological or chemical materials, topography rights, Know-how, extension of the terms of any such rights (including supplementary protection certificates), applications for and the right to apply any of the foregoing registered property and rights, and

	similar or analogous rights anywhere in the world
"IT Infrastructure"	the information technology facilities in the Centre for use by ADAPTIMMUNE and, where applicable, by other Collaborators as more particularly described in Schedule 10
"Know-how"	unpatented technical information (including without limitation information relating to inventions, discoveries, concepts, methodologies, models, research, development, and testing procedures; the results of experiments, tests, and trials; manufacturing processes, techniques, and specifications; and quality control data, analyses, reports, and submissions) that is not in the public domain
"Lease"	a lease dated 1 October 2015 made between the (1) Stevenage Bioscience Catalyst and (2) Cell Therapy Catapult Limited
"Liability"	liability arising out of this Agreement, whether in contract, tort, misrepresentation, restitution, under statute or otherwise, including any liability under an indemnity contained in this Agreement
"Licence Period"	means the Term
"MAL"	means material airlock
"Manufacturing Office"	the manufacturing office space forming part of the Module, allocated for ADAPTIMMUNE's use in accordance with Clause 3, and more particularly described in Schedule 12
"Manufacturing Space"	The manufacturing space forming part of the Module, allocated for ADAPTIMMUNE's use in accordance with Clause 3, more particularly described in Schedule 12
"Module"	the specific Manufacturing Space**,** Manufacturing Office, and Non-Manufacturing Office each allocated by Catapult under this Agreement for ADAPTIMMUNE's occupation and use at the Centre for carrying out the Project shown edged in red on the Plan, and which shall include all fixtures and fittings and plant and machinery set out in the Schedule of Condition and Inventory of Module Fixtures and Fittings at Schedule 7

"Necessary Consents"	all planning permissions and all other consents, licences, permissions, certificates, authorisations and approvals whether of a public or private nature which shall be required by any regulatory authority for performance of Project

"Non-Manufacturing Office"	Means the office space allocated for ADAPTIMMUNE's use in Clause 3, forming part of the Module, the specifications for which are set out in Schedule 12
"On-boarding"	Part of the Establishment Inputs and a process completed by Catapult together with ADAPTIMMUNE involving the risk assessment and regulatory oversight required to bring ADAPTIMMUNE's manufacturing processes and products into the Centre as referred to in Clause 9.3.1.2, and more particularly set out at Schedule 6
"Operational Forum"	means the forum in which ADAPTIMMUNE, other Collaborators, and Catapult will convene to discuss operations matters connected with the Centre as more particularly described in Schedule 15
"PAL"	means personnel airlock
"Parties"	ADAPTIMMUNE and Catapult; "**Party**" shall mean either of them, and "**Parties**" shall mean both ADAPTIMMUNE and Catapult
"Plans"	the plans of the Module allocated to ADAPTIMMUNE under this Agreement, and of the Centre generally, attached to this Agreement at Schedule 2B
"PrAL"	means product airlock
"Process Transfer"	means an Establishment Input, and the practical transfer of ADAPTIMMUNE'S equipment and processes into the Centre under the control and responsibility of ADAPTIMMUNE as referred to in Clause 9.3.1 (a) and more particularly set out at Schedule 6
"Product Overview Document (POD)"	means a quality document completed as part of the On-boarding process defining the ADAPTIMMUNE Process and Product
"Project"	has the meaning given in Schedule 1

"Quality Forum"	means the forum in which ADAPTIMMUNE, other Collaborators, and Catapult will convene to discuss quality matters connected with the Centre as more particularly described in Schedule 15
"Quality Management System"	a collection of business processes and governance structures focused on consistently meeting Regulatory Authority and GMP requirements. The Quality Management System is expressed as an organisational structure, policies, procedures, processes and resources needed to maintain compliance to Eudralex Vol 4, Chapter 1 that are set out in the Quality Technical Agreement
"Quality Technical Agreement (QTA)"	The agreement governing the quality aspects of the Centre that are comprised in the Quality Management System
"Quarter"	a period of three months commencing on 1 January, 1 April, 1 July, or 1 October; and "**Quarterly**" shall be construed accordingly
"Receiving Party"	has the meaning given in the definition of Confidential Information
"Registered Rights"	patents, registrable design rights, trademarks, and all other registered Intellectual Property
"Regulatory Authority"	the competent authority for each country or for any relevant grouping of countries legally responsible for authorising the manufacture, clinical trials or the sale or supply of human pharmaceutical products in that country or group of countries
"Restricted Access Area(s)"	the parts of the Centre accessible only by Catapult personnel marked Pink on the Plan
"Shared Restricted Access Area"	means the areas shared between the Manufacturing Space and an adjacent manufacturing space belonging to another collaborator marked in turquoise on the Plans
"Supplies"	water, gas, air, foul and surface water, drainage, electricity, oil, telephone, heating, telecommunications, internet, data communications and similar supplies or utilities
"Technology Transfer"	the transfer of ADAPTIMMUNE's existing production and/or manufacturing processes into the Module by Adaptimmune

"Term"	the period specified in Clause 17.1
"Termination Date"	the date on which this Agreement expires or terminates for any reason
"Third Party"	any person other than a Party or its Affiliates

"UPS"	uninterrupted power supply
"Validation"	The action of proving, in accordance with the principles of Good Manufacturing Practice (Eudralex Volume 4, Annex 15), that any GMP process functions in accordance with predefined requirements, is robust and reproducible
"Warehouse and Procurement Management Provisions"	the standards and obligations relating to the management of the warehouse set out at Schedule 8
"Year"	means the financial year ending 31 March

1.2 In this Agreement, unless otherwise specified:

1.2.1 references to Clauses and Schedules are to the clauses of, and schedules to, this Agreement;

1.2.2 headings are for convenience only and do not affect the interpretation of this Agreement;

1.2.3 references to a person includes a body corporate or unincorporated body, and references to a company includes any company, corporation or other body corporate, wherever and however incorporated or established;

1.2.4 unless the context otherwise requires, words in the singular shall include the plural and vice versa;

1.2.5 references to approvals or notices being "in writing" or "written" shall include email;

1.2.6 any reference to a statute or statutory provision is a reference to it as amended, extended, re-enacted and/or replaced from time to time; and

1.2.7 'including' means 'including but not limited to' and 'include' and 'includes' shall be construed accordingly.

2. **CONDUCT OF THE PROJECT**

The Parties will undertake the Project in accordance with the provisions of this Agreement.

3. **OCCUPATION OF THE MODULE**

Catapult permits ADAPTIMMUNE to occupy the Module on the terms set out in Schedule 2.

4. **MODULE SPECIFICATION**

4.1 Catapult will ensure the Manufacturing Space will be in accordance with the specifications at Schedule 12 Part A and will at all times comply with Applicable Laws (including GMP Requirements).

4.2 Catapult will ensure the Manufacturing Office and Non-Manufacturing Office will be in accordance with the specifications at Schedule 12 Part B.

4.3 Catapult will also ensure that use of the Shared Restricted Access Areas will at all times comply with Applicable Laws including EU-GMP Requirements, in relation to any Collaborator other than ADAPTIMMUNE.

5. **CENTRE SPECIFICATIONS**

The Centre will be a UK-licensed EU-GMP-compliant facility developed in close relationship with the Medicines and Healthcare Products Regulatory Agency comprising the facilities and services set out at **Schedule 12, Part C.** Catapult will also ensure that it has in place all consents and licenses required for operation of the Facility.

6. **COMMISSIONING AND QUALIFICATION OF THE CENTRE**

6.1 In advance of ADAPTIMMUNE being granted access to the Manufacturing Space, and subject to Clause 7, Catapult will test equipment, facilities and/or plant which is installed, or is complete in order to verify it functions according to its design objectives or specifications ("**Commissioning**").

6.2 Commissioning will not cover the formal qualification of manufacturing systems or manufacturing process equipment but will include the static and dynamic commissioning of the following:

6.2.1 the Building Management System;

6.2.2 the Environmental Monitoring System;

6.2.3 the electrical supply (single and three phase);

6.2.4 the boilers;

6.2.5 the chiller;

6.2.6 HVAC;

6.2.7 lighting — including emergency lighting;

6.2.8 back-up generator;

6.2.9 UPS systems;

6.2.10 Facility access systems including intruder alarms

6.2.11 door interlocks;

6.2.12 pharmaceutical grade gas supplies (air, oxygen, carbon dioxide and nitrogen)

6.2.13 CCTV

6.2.14 fire alarm

6.2.15 LN2 / Low level, temperature and oxygen monitors;

6.2.16 drainage; and

6.2.17 appropriate IT Infrastructure (including cable network, switches, and server rooms).

6.3 Catapult will qualify the building, systems and equipment that form part of the Centre, and this will extend to installation qualification, operational qualification, and performance qualification of all GMP direct impacting systems and integral equipment ("Qualification"). The basis for this Qualification and results obtained as related to shared areas (including Shared Restricted Access Area) and the Adaptimmune Module will be shared with quality representatives for Adaptimmune on request

6.4 Formal qualification will be undertaken (which includes installation qualification and operational qualification) concurrent with leveraging the output of facility Commissioning. Performance qualification will only occur subsequent to the completion of Commissioning, installation qualification and

operational qualification. Performance qualification will only be applied to those services, systems and items of equipment that have been identified as having direct impact on product quality according to a formal system level impact assessment agreed with ADAPTIMMUNE. These include, but are not necessarily limited to:

6.4.1 Manufacturing Space and all additional air locks HVAC

6.4.2 Warehouse HVAC

6.4.3 Quality Control area HVAC

6.4.4 Grade C corridor and technical area HVAC

6.4.5 Carbon dioxide system

6.4.6 Nitrogen gas system

6.4.7 Liquid nitrogen system

6.4.8 Oxygen system

6.4.9 Cold room

6.4.10 Facility Cleaning

THE REMAINDER OF THIS PAGE AND THE FOLLOWING PAGE HAVE BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO A REQUEST FOR CONFIDENTIAL TREATMENT

[***]

7. PROCESS AND PRODUCT

7.1 VALIDATION

7.1.1 Process validation and transfer of the Process into Module is entirely the responsibility of ADAPTIMMUNE.

7.2 PROCESS AND PRODUCT AMENDMENT

7.2.1 The Parties acknowledge that the initial ADAPTIMMUNE Product(s) and ADAPTIMMUNE Manufacturing Process(es) were disclosed by ADAPTIMMUNE to Catapult in the Pre-Screen Questionnaire submitted to Catapult. Catapult confirms that it approved the information provided by ADAPTIMMUNE at the Pre-Screen Questionnaire stage and the definition of the ADAPTIMMUNE Product and Manufacturing Process described in the Product Overview Document (POD). It further confirms that such approval will remain valid during the Term on the condition that no amendments are made at a later stage.

7.2.2 The ADAPTIMMUNE Product and Process will be again vetted and approved in advance of occupation as part of the On-boarding Process. In the event the On-boarding Process reveals any variations and/or additions to the information contained in the POD ("**Product or Process Modifications**") these will be managed as changes in accordance with the QTA Clause 7.2.4.

7.2.3 Product or Process Modifications will be considered and notified in accordance with the procedure and the requirements set out in the QTA :

7.2.4 Catapult will permit a new ADAPTIMMUNE Product(s), and/or ADAPTIMMUNE Process(es) or ADAPTIMMUNE modification to such ADAPTIMMUNE Product or ADAPTIMMUNE Process if:

7.2.4.1 The new or modified ADAPTIMMUNE Product(s), and/or ADAPTIMMUNE Process(es) meet the requirements of the QTA;

7.2.4.2 The proposed product is not a restricted product listed at Clause 7.3;

7.2.4.3 It does not impact on Catapult's inputs or the operation of the Centre and as a result materially affect Catapult's ability to comply with GMP or GMP Requirements;

7.2.4.4 It does not inherently compromise the safety of the Centre, or that of any other Collaborator;

7.2.4.5 It does not place an additional, unreasonable demand on the resources of Catapult personnel and their ability to operate the Centre;

7.2.4.6 It does not interfere with the Catapult's, or any other Collaborator's compliance with their respective legal duties; and/or

7.2.4.7 It can be accommodated in the Centre, taking into account the overall capacity of the Centre.

7.2.5 In the event that ADAPTIMMUNE does not agree with the outcome of Catapult's application of the principles under Clause 7.2.4, the Parties will comply with the Expert Determination Procedure set out in Schedule 13.

7.3 **RESTRICTED PRODUCTS**

ADAPTIMMUNE will not be permitted, and Catapult undertakes that it will not allow any other Collaborator to produce or utilise in their process the following products in the Centre (unless prior agreement is sought from all collaborators by Catapult):

- B Lactam Antibiotics
- Other highly sensitising antibiotics
- Pathogenic Organisms (Containment Level 3 or 4)
- GMO 3 and above
- Radiopharmaceuticals
- Ectoparasiticides
- Sources of ionising radiation (but excluding low energy laboratory scale X-irradiators which have been assessed and approved by Catapult)

8. **FINANCIAL CONTRIBUTIONS**

8.1 A risk and capital contribution will be charged throughout the Term calculated at the rate of 10% of each Contribution, except for the Facility Contribution and Business Rates. The risk and capital contribution will remain fixed at the rate of 10% throughout the Term.

8.2 VAT, if applicable, will be added to all Contributions.

8.3 Any changes to the Contributions (other than the Facility Contributions which are fixed for the Term) will be made once per year based on the new annual budget which will be discussed at the Operational Forum.

8.4 ADAPTIMMUNE will make the following Contributions to the costs of the Collaboration:

8.4.1 subject to Clauses 8.2 and 8.3, from the Actual Occupation Date, for each Module occupied by ADAPTIMMUNE, the Facility Contribution, payable quarterly in advance;

8.4.2 subject to **C**lauses 8.1 to 8.3, from the Actual Occupation Date, for each Module occupied by ADAPTIMMUNE, one-fifth of the total costs chargeable against Centre in the form of Business Rates, payable quarterly in advance;

8.4.3 the Activity Related Input Contributions as they are incurred, due individually from ADAPTIMMUNE and within 30 days of receipt of invoice;

8.4.4 subject to Clauses 8.1 to 8.3, from the Actual Occupation Date, the Integral Input Contributions payable quarterly in advance and calculated in accordance with the following provisions of Clauses 8.4.4 (a) and (b):

(a) Catapult will estimate the aggregate Integral Input Contributions incurred for 5 Modules in concurrent occupation for any 1 year (the "**Estimated Aggregate Integral Input Contributions**"). ADAPTIMMUNE will be responsible for a fixed amount, as set out at Schedule 3, such amount to be based on a 20% share of this Estimated Aggregate Integral Input Contributions. When 5 Modules are in concurrent occupation ("**Full Occupation**"), the contributions model in 8.4.4(b) will apply.

(b) From the date Full Occupation is achieved, ADAPTIMMUNE will continue to pay a 20% share of the Estimated Aggregate Integral Input Contributions incurred. However, from and including the first anniversary date (the "**First Anniversary Date**") that Full Occupation is achieved, a reconciliation will take place at the end of each Year and a refund to, or further contribution byADAPTIMMUNE will be due with respect to its share of the Integral Input Contributions based on the difference between the Estimated Aggregate Integral Input Contributions, and the pro rata actual aggregate Integral Input Contributions incurred for that Year. Reconciliation will be based on audited accounts]

8.4.5 the Establishment Input Contributions will be payable directly to Catapult as they are incurred on ADAPTIMMUNE'S behalf and following receipt of invoice by ADAPTIMMUNE.

8.4.6 Save as otherwise provided all contributions payable by ADAPTIMMUNE to Catapult pursuant to this Agreement will be payable within 30 days of receipt of an accurate, complete and valid VAT invoice by ADAPTIMMUNE for such contributions.

8.5 Catapult will use reasonable endeavours to ensure the Actual Occupation Date is not later than the Expected Occupation Date. In the event the Actual Occupation Date is not achieved by the Expected Occupation Date, Facility Contributions, Business Rates and Integral Input Contributions will only accrue on a pro rata basis from the Actual Occupation Date.

8.6 By being part of the Centre, ADAPTIMMUNE has access to the wider Catapult supporting infrastructure which includes, but is not limited to, reimbursement support, clinical trial support, process development capability, and regulatory and market access consultancy expertise. The contributions due for such Additional Inputs is to be agreed through separate negotiation and contractual agreement.

8.7 Catapult undertakes to keep full and proper books of account and records relating to the Integral Input Contributions and the Establishment Input Contributions. In addition ADAPTIMMUNE will be provided with the opportunity to comment on such planned expenditure and consensus sought through participation in the Collaborator Forums (although for clarity, Catapult reserves its discretion in exercising its professional judgment in relation to making any final decisions with

respect to the Integral Input Contributions, Activity Related Input Contributions and Establishment Input Contributions incurred, while being consistent with the objectives set out in the terms of reference for the Collaborator Forums, particularly with respect to maintaining a suitable level of services required for robust operation of a licensed facility suitable for late stage clinical and commercial manufacture of ATMPs in the most economical way).

8.8 At the beginning of each Year during the Term Catapult will provide to all Collaborators a budget setting out all anticipated contributions for the Year with respect to Integral and Activity Related Inputs to be provided in that Year. In addition to this, from the date Full Occupation is achieved, a quarterly statement will be provided to all Collaborators in the Centre comparing actuals to the budgeted amounts.

8.9 Catapult will procure an audit for each Year during the Term to be carried out by an independent auditor acceptable to all Collaborators. The Audit report will be made available to all Collaborators in the Centre.

8.10 A. If the annual aggregate estimate of the Facility Contributions, the Integral Input Contributions and Business Rates at the start of any Year represents an increase of 30% or more in comparison to the aggregate of such Contributions for the previous Year (with such rise not caused by the increased cost of such Inputs requested by ADAPTIMMUNE or explicitly agreed to by ADAPTIMMUNE (including as part of any Collaborator Forum, where impact on aggregate cost was clearly indicated) or solely as a result of increases imposed by any third party supplier to Catapult) , ADAPTIMMUNE may elect to terminate this Agreement at any time from the date it is notified of such estimated aggregate (the "Notification Date") for a period of 6 calendar months without consequence, by providing not less than 1 year's written notice to Catapult, in which case the provisions of Clause 18.1 shall not apply. The

right will not exist 6 calendar months after the Notification Date if the right to terminate has not been exercised by the end of the 6th calendar month from the Notification Date.

B. During the 1 year notice period ADAPTIMMUNE will pay the same amount it paid for the previous Year with respect to the aggregate of all Integral Input Contributions, Facility Contributions and Business Rates (adjusted by a maximum of 15% for the notice period only with respect to any increases that may be imposed by third party suppliers of such Inputs).

C. In the first two Years after Effective Date, Catapult will not increase the aggregate Contributions payable by ADAPTIMMUNE by more than a maximum of 15% per Year (as compared to previous Year) unless such increase directly results from requests made by ADAPTIMMUNE or such increase is explicitly agreed to by ADAPTIMMUNE, or is solely as a result of any increases imposed by third party supplier to Catapult. An increase of more than 15% per Year must be clearly notified to ADAPTIMMUNE as soon as reasonably possible and on becoming aware that such increase is likely.

8.11 For any days that ADAPTIMMUNE does not have access to the Module for operation of the ADAPTIMMUNE Process under GMP conditions operating at Grade C, other than days resulting from or comprising of: i. a 14 day annual shutdown, ii up to a 7 day shutdown for semi-annual maintenance, iii up 6 days in total for quarterly scheduled for maintenance, such days having been communicated to ADAPTIMMUNE and discussed within the Operational Forum, iv programmed upgrades, and v. unscheduled downtime up to a maximum of 10 days annually until Aril 2019 (a maximum of 8 days annually thereafter) to the extent such downtime cannot be avoided or carried out during days scheduled for maintenance, the total of such downtime (i.e. any of (i-v) above) not to exceed a maximum of 60 days in 2018 and 45 days in any Year after 2018, compensation will be paid with respect to such days in the form of reduced Integral Contributions and Facility Contributions due from ADAPTIMMUNE. To the extent reasonably possible, Catapult will notify ADAPTIMMUNE of any scheduled downtime which affects ADAPTIMMUNE's use of the Module and provide ADAPTIMMUNE an opportunity to agree such downtime or to suggest alternative downtime for consideration by Catapult.

The Contributions will be re-calculated using the following formula: (365-Shortfall in available days)/365*(100% of the Contributions without reduction).

9. **CATAPULT INPUTS, FACILITIES AND SUPPORT**

The operation of the Centre is dependent on a range of critical inputs split between:

(i) **Integral Inputs** will include those inputs specified in Section 9.1 below or other inputs the Catapult, using its reasonable judgment considers to be required for operation of Centre (and which are not specific to any Collaborator or ADAPTIMMUNE) and which may be varied from time to time to cater for the common, but not necessarily universal requirements of the collaborators of the Centre; Integral Inputs may be varied from time to time by Catapult, after prior discussion and consideration of concerns raised by ADAPTIMMUNE and Collaborators in the Operational Forum, in order to cater for the common, but not necessarily universal requirements of ADAPTIMMUNE and Other Collaborators in the Centre. Any changes made to the Integral Inputs made by Catapult will not impact the ability of the Centre to operate in accordance with EU-GMP requirements without the prior written consent of ADAPTIMMUNE, such consent not to be unreasonably withheld.

(ii) **Activity Related Inputs** which are Inputs specified in Section 9.3 below that are dependent on ADAPTIMMUNE's Processes and activity and are specific to ADAPTIMMUNE's use of the Module.

It is a condition of occupation that the Integral Inputs and Activity Related Inputs will be procured through Catapult unless the parties agree otherwise. All such inputs shall be provided in accordance with the Quality Technical Agreement.

(iii) **Additional Inputs** will be arranged through the completion of an Additional Input Agreement in the form set out at Schedule 16 ("Additional Input Agreement"). Once signed by both Parties, the Additional Input Agreement will amend this agreement and an Additional Input will be deemed appended to Clause 9.6 and any associated contributions from ADAPTIMMUNE in consideration of the Additional Inputs will be deemed as having been inserted at Schedule 3.

9.1 **Catapult will provide the following Integral Inputs:**

9.1.1 The Quality Management System and supporting quality assurance function assuring all GMP inputs provided by Catapult are maintained in compliance with GMP Requirements and the Quality Technical Agreement;

9.1.2 management and governance of the Quality Management System GMP compliance process;

9.1.3 EU-GMP regulatory compliance of the Centre from start up, including handling of associated MHRA compliant compliance governance activity such as routine audit inspections, subject to the following provisions:

(a) From the Actual Occupation Date, if any activity required to ensure EU-GMP regulatory compliance of the Centre, including the handling of associated MHRA compliance governance activity such as inspections ("**MHRA Compliance Activity**") impacts any ADAPTIMMUNE Product and/or any ADAPTIMMUNE Manufacturing Process, then the interactions with the MHRA related to such activity will be led by

ADAPTIMMUNE with assistance being provided by Catapult. ADAPTIMMUNE will be entitled to nominate representatives to coordinate and accompany all inspections involved in such MHRA Compliance Activity on ADAPTIMMUNE'S behalf; and

(b) If any MHRA Compliance Activity required as a result of ADAPTIMMUNE activity in the Module or Centre impacts on any Catapult personnel, other Collaborator personnel, Catapult activity within the Centre, other Collaborator(s), or any part of the Centre other than the Module, then the interactions with the MHRA related to such activity will be led by Catapult, and assisted by ADAPTIMMUNE. During inspections, Catapult will be entitled to nominate representatives to coordinate and accompany all MHRA activity in this paragraph on Catapult's behalf.

(c) To the extent any MHRA Compliance Activity impacts on ADAPTIMMUNE use of the Module or performance of the ADAPTIMMUNE process, Catapult will notify ADAPTIMMUNE of such MHRA Compliance Activity and keep ADAPTIMMUNE informed of the progress and communication relevant to such MHRA Compliance Activity.

9.1.4 insurance as described in Clause 19;

9.1.5 safety systems and equipment such as emergency light testing, fire extinguishers, health and safety equipment outside the Manufacturing Space, and associated safety audits;

9.1.6 a managed reception, and the provision of a mechanism for ADAPTIMMUNE to access the Module at any time;

9.1.7 all utilities necessary for the operations of the Centre (but not the Manufacturing Space) as set out in Schedule 14;

9.1.8 support for IT Infrastructure;

9.1.9 receipt of incoming patient material and starting material into the Centre within office hours;

9.1.10 a system for booking in and managing ADAPTIMMUNE owned inventory for raw materials, consumables, product contact materials and excipients within the warehouse;

9.1.11 short term final product and Drug Substance storage for a maximum of 14 days;

9.1.12 out of hours call out system for all facilities alarms (bar the Manufacturing Space alarms);

9.1.13 except to the extent this is an ADAPTIMMUNE Responsibility, handle removal from the Centre by appropriately licensed contractors of all liquid and solid waste provided that Catapult may apply additional charges to reimburse Catapult for costs incurred for such waste removal where the volume, quantity, generation frequency, or danger classification of such waste generated by ADAPTIMMUNE differs from what was reasonably

anticipated by Catapult based on the Pre-Screen Questionnaire, and which additional charges shall be payable by ADAPTIMMUNE in accordance with Clause 8;

9.1.14 clean all Common Parts;

9.1.15 (with respect to the Common Access Areas only) perform environmental monitoring in common areas in the form of viable and non-viable particulate monitoring required to demonstrate maintenance of the appropriate environmental classifications;

9.1.16 allocated storage capacity at the following temperatures: controlled room temperature, 2-8°C, -20°C, -80°C and gas phase of liquid nitrogen, The amount of storage capacity allocated to Adaptimmune will be determined and agreed during the On-boarding process;

9.1.17 cleaning and disinfecting the Centre (other than the Manufacturing Space) as appropriate;

9.1.18 Project and relationship management;

9.1.19 a kitchen area and vending machines for snacks, hot and cold drinks within the Centre;

9.1.20 a dedicated secure Manufacturing Office and a Non-Manufacturing Office per Module;

9.1.21 Warehouse and Procurement Management Provision (as set out in Schedule 8);

9.1.22 Toilet provision and services in relation to toilets available for Adaptimmune use;

9.1.23 Security input as required for general security of Centre;

9.1.24 ongoing maintenance services, including ongoing Validation (where appropriate) and general repair of Catapult owned equipment; and

9.1.25 any other Inputs which Catapult, using its reasonable judgment, considers as fundamental to the operation of the Centre and that ADAPTIMMUNE and all other Collaborators will draw on jointly.

As part of the Integral Inputs, Catapult will also ensure compliance with Applicable Laws and GMP Requirements in relation to Collaborator Common Areas including use of MALs, PALs, PrALs by Collaborator. Should any default by any third party Collaborator be identified by Catapult, ADAPTIMMUNE will be notified of such default as set out under the terms of the QTA. Catapult will procure to the extent reasonably possible that any third party Collaborator will collaborate with Catapult to address any default and that such collaboration will be extended to ADAPTIMMUNE to the extent required for ADAPTIMMUNE to ensure operation of the Process in accordance with GMP Requirements. Catapult will be responsible for ensuring and enforcing such third party Collaborator performance.

9.2 **Catapult shall provide the following Activity Related Inputs:**

9.2.1 perform environmental monitoring in the form of viable monitoring and non-viable particulate monitoring required to demonstrate maintenance of the appropriate environmental classifications, including undertaking remote non- viable sampling in the Manufacturing Space and Common Access Areas provided that ADAPTIMMUNE is responsible for performing viable sampling in the Manufacturing Space which will then be processed by Catapult;

9.2.2 supply of measured electrical power, and all other necessary utilities, to the Manufacturing Space;

9.2.3 access rights to IT systems required for ADAPTIMMUNE activity within the module: eQMS, LIMS, WMS;

9.2.4 upon request of ADAPTIMMUNE, Manufacturing Space decontamination;

9.2.5 a measured supply of pharmaceutical grade oxygen, nitrogen, carbon dioxide, and air;

9.2.6 gowning for Catapult staff providing inputs to ADAPTIMMUNE;

9.2.7 a measured supply of medical grade oxygen, nitrogen, carbon dioxide, and air;

9.2.8 transfer of decontaminated clinical, biological and hazardous chemical liquid waste from the liquid waste staging area and arrange its removal from the Centre by appropriately licensed contractors;

9.2.9 packing and dispatch as described in Schedule 8;

9.2.10 additional IT support if agreed in writing by the Parties (subject to request, and availability at the time of request);

9.2.11 a stand-by facility and personnel to receive incoming patient material and starting material into the Centre outside of office hours;

9.2.12 to the extent required by ADAPTIMMUNE, provision of QA inputs to support ADAPTIMMUNE activity within the Module, in terms of handling non-process related deviations, Quality Events and planned changes, cleanroom environmental excursions, governance of Catapult generated GMP data provided to ADAPTIMMUNE, providing GMP documentation to support QP certification of drug product;

9.2.13 engineering and maintenance support for ADAPTIMMUNE operation within the Module including routine maintenance for the air handling system, including ULPA and HEPA filter changes; and

9.2.14 additional IT support and services if agreed in writing by the Parties (subject to request, and availability at the time of request.

9.3 When providing all Activity Related Inputs, Catapult will ensure compliance with Applicable Laws and GMP Requirements and the QTA to the extent relevant to performance of such inputs.

9.4 **Catapult shall provide the following Establishment Inputs:**

9.4.1 Catapult will work in cooperation with ADAPTIMMUNE to define and implement an agreed strategy for the occupation of the Module, made up of:

9.4.1.1 Process Transfer: defining, implementing and/or supporting conduct of Process Transfer, but such process under the control and responsibility of ADAPTIMMUNE, and

9.4.1.2 On-Boarding: The process is summarised in Schedule 6, the Parties will agree a breakdown of responsibilities and the processes will be defined and agreed in a separate Establishment Input Statement to be entered into by the Parties after the Effective Date.;

9.4.2 Catapult will clean and decontaminate the Manufacturing Space and ensure the Manufacturing Space is operating at the agreed cleanliness grade prior to ADAPTIMMUNE occupation;

9.4.3 Catapult will select and authorise Collaborators and ensure their processes and procedures meet the minimum standards required by Catapult, such standards in each case sufficient to meet the requirements of this Agreement including EU-GMP; and

9.4.4 Catapult will train, qualify and certify an agreed number of ADAPTIMMUNE Personnel to operate in accordance with EU-GMP within the Centre. Notwithstanding the foregoing, ADAPTIMMUNE shall be solely responsible for qualifying the ADAPTIMMUNE Personnel to manufacture ADAPTIMMUNE Product.

9.5 The parties will agree a Quality Technical Agreement which will include provisions related to the constant monitoring and improvement of the Quality Management System to ensure operation in accordance with GMP and Applicable Laws.

9.6 Catapult will provide the Additional Inputs agreed in accordance with Clause 9 (iii) above.

9.7 **Collaborator Forums**

Catapult undertakes to ADAPTIMMUNE it will ensure that the Collaborator Forums take place in accordance with the frequencies, the parameters, and all other terms set out in Schedule 15.

10. **ADAPTIMMUNE RESPONSIBILITIES**

10.1 ADAPTIMMUNE shall, and shall ensure that ADAPTIMMUNE Personnel shall, comply with the following ADAPTIMMUNE Responsibilities:

10.1.1 abide by the Code of Conduct and all other reasonable guidelines and protocols communicated to ADAPTIMMUNE. Any changes to such policies need to be communicated to ADAPTIMMUNE through a formal system, for example within any of the Collaborator Forums or Standard Operating Procedure training and in advance of such guidelines and protocols becoming effective, with sufficient notice being provided to enable ADAPTIMMUNE and other Collaborators to implement any changes required. Where any required guidelines have the potential to conflict with ADAPTIMMUNE processes, implementation of such guidelines and protocols will be discussed and agreed between Catapult and ADAPTIMMUNE. For the avoidance of doubt, there may be situations where Catapult does not have notice that such changes will require implementation; in those instances communication with ADAPTIMMUNE will be as rapid as possible;

10.1.2 Ensure that operation of Module is in accordance with Applicable Laws including the requirement to carry out health and safety risk assessments.

CATAPULT may have a copy of such risk assessments following written request to ADAPTIMMUNE

10.1.3 handle all large volume liquid waste (such as culture media and buffers) within the Manufacturing Space and securely and safely transfer it to the handling area in the Centre (as designated by Catapult from time to time);

10.1.4 collect all small volume liquid waste in a sealable container within the Manufacturing Space and decontaminate it in-situ before removing it from the Manufacturing Space via the MAL out to a waste staging and disposal area;

10.1.5 remove all solid waste from the Manufacturing Space via the MAL out to a staging area for removal by the Catapult;

10.1.6 maintain and implement in accordance with Catapult's standard operating procedures cleaning regimes for the Manufacturing Space;

10.1.7 unless otherwise agreed with Catapult, define and implement Process Transfer;

10.1.8 perform as required by Catapult and agreed with ADAPTIMMUNE all appropriate environmental monitoring within the Manufacturing Space and make the agreed number of plates available to Catapult for analysis; and

10.1.9 comply with its obligations under the QTA.

10.2 If Catapult's performance of its obligations under this Agreement is prevented or delayed by any act or omission of ADAPTIMMUNE, its agents, sub-contractors or employees, Catapult shall not be liable for any costs, charges or loss sustained or incurred by ADAPTIMMUNE arising directly or indirectly from such prevention or delay.

10.3 Should there be any material breach of the obligations set out in clause 10.1 and on provision of notification by CATAPULT to correct within a specific timescale, ADAPTIMMUNE fails to make such correction then to the extent that such material breach materially impacts another collaborator or the Centre, CATAPULT may take immediate corrective measures to address such breach and ADAPTIMMUNE will compensate CATAPULT for all out of pocket expenses so incurred.

11. **BACKGROUND INTELLECTUAL PROPERTY**

11.1 Subject to the provisions of this Agreement, Catapult hereby grants to ADAPTIMMUNE a non-exclusive, fully paid-up, royalty-free, licence, under Catapult's Background Intellectual Property to undertake the Project.

11.2 Subject to the provisions of this Agreement ADAPTIMMUNE hereby grants to Catapult a limited, non-exclusive, fully paid-up, royalty-free, licence to use any ADAPTIMMUNE rights in its Confidential Information or any ADAPTIMMUNE rights in copyright works, or Know How solely to the extent strictly necessary to perform the Project during the Term. Any license to use rights in Confidential Information shall be subject to clause 13 below. In the event Catapult requires a licence to ADAPTIMMUNE Background Intellectual Property only to the extent required to conduct its obligations under this Agreement, ADAPTIMMUNE will not unreasonably withhold or delay its consent so as to prevent Catapult from performing the Project. Such consent shall not apply to any patent right held by ADAPTIMMUNE, in relation to which consent to provide any license will be considered in ADAPTIMMUNE's sole discretion.

11.3 From the date that is 2 years after the Effective Date such license at 11.1 will extend to permit ADAPTIMMUNE to replicate the Module, or in the alternative, to such extent as required to enable ADAPTIMMUNE to otherwise replicate ADAPTIMMUNE's Manufacturing Process, or to produce ADAPTIMMUNE'S Product as manufacture and produced in the Manufacturing Space, provided it is acknowledged and agreed by ADAPTIMMUNE that ADAPTIMMUNE, at its own cost, will need to procure the consents required to use any Third Party Intellectual Property Rights forming any part of the following items that constitute the overall Catapult Background Intellectual Property for use outside the Centre: the Electronic Quality Management System, the Laboratory Information Management System, Warehouse Management System and Environmental Monitoring System (it is acknowledged Catapult cannot procure the grant of such rights and that Catapult accepts no liability whatsoever for i. claims resulting from breaches of any Third Party Intellectual Property Rights resulting from ADAPTIMMUNE'S failure to obtain any rights required under this Clause 11.2, or ii. ADAPTIMMUNE's use of the relevant Catapult Background Intellectual Property without a licence to the necessary Third Party's Intellectual Property).

11.4 This Agreement does not affect the ownership of any Intellectual Property in any Background Intellectual Property, Know-how, or materials of a Party. Each Party shall retain the ownership rights in and to its Background Intellectual Property and except for the licenses granted explicitly under this Agreement, nothing in this **Clause 11** shall be construed as giving to either Party any rights to use any Intellectual Property of the other Party.

12. **FOREGROUND INTELLECTUAL PROPERTY**

12.1 Catapult grants to ADAPTIMMUNE a non-exclusive, fully paid-up, royalty-free, worldwide, sub-licensable licence under the Catapult Foreground Intellectual Property to undertake the Project.

12.2 Subject to Clause 11.3 and the conditions attaching to any Catapult Background Intellectual Property required to use the Catapult Foreground Intellectual Property, from the date that is 2 years from the Effective Date, such license will extend to permit ADAPTIMMUNE to replicate the Module, or in the alternative, to such extent as required to enable ADAPTIMMUNE to otherwise replicate the ADAPTIMMUNE Manufacturing Process, or to produce the ADAPTIMMUNE Product.

12.3 Any costs associated with the licence of any Intellectual Property to ADAPTIMMUNE under this Clause 12 will be borne by ADAPTIMMUNE.

12.4 To the extent that any Catapult Foreground Intellectual Property is capable of prospective assignment, ADAPTIMMUNE now assigns the Catapult Foreground Intellectual Property to Catapult; and to the extent any Catapult Foreground Intellectual Property cannot prospectively be assigned, ADAPTIMMUNE shall assign such Catapult Foreground IP to Catapult as and when they are created, at the request of Catapult.

13. **CONFIDENTIAL INFORMATION**

13.1 The Receiving Party undertakes:

13.1.1 to maintain as secret and confidential all Confidential Information of the other Party;

13.1.2 to use such Confidential Information only for the purposes of this Agreement or in the case of ADAPTIMMUNE for use of the Module or other licensed purpose in each case in accordance with this Agreement and/or the QTA; and

13.1.3 to disclose such Confidential Information only to those of its employees, contractors, and sub-licensees pursuant to this Agreement (if any) to whom and to the extent that such disclosure is reasonably necessary for the purposes of this Agreement.

13.2 The provisions of **C**lause **13.1** shall not apply to Confidential Information which the Receiving Party can demonstrate by reasonable, written evidence:

13.2.1 was, prior to its receipt by the Receiving Party from the Disclosing Party, in the possession of the Receiving Party and at its free disposal;

13.2.2 is subsequently disclosed to the Receiving Party without any obligations of confidence by a third party who has not derived it directly or indirectly from the Disclosing Party;

13.2.3 is or becomes generally available to the public through no act or default of the Receiving Party or its agents, employees, Affiliates, or sub-licensees;

13.2.4 is independently developed by the Receiving Party by individuals who have not had any direct or indirect access to the Disclosing Party's Confidential Information; or

13.2.5 the Receiving Party is required to disclose to the courts of any competent jurisdiction, or to any government regulatory agency or financial authority, provided that the Receiving Party shall (i) inform the Disclosing Party as soon as is reasonably practicable, and (ii) at the Disclosing Party's request seek to persuade the court, agency or authority to have the information treated in a confidential manner, where this is possible under the court, agency, or authority's procedures. To the extent ADAPTIMMUNE takes a decision that this Agreement is required to be filed with the Securities Exchange Commission in the United States, the Parties will work together to agree a confidentiality treatment request in relation to the Agreement, however ADAPTIMMUNE will have the final determination in relation to what needs to be filed with the SEC and what will become publicly available as a result of such filing.

13.3 The Receiving Party shall procure that all of its employees, contractors and sub-licensees pursuant to this Agreement (if any) who have access to any of the Disclosing Party's information to which Clause **13.1** applies, shall be made aware of and subject to these obligations and shall be subject to undertakings of confidentiality at least as restrictive as Clauses **13.1** and **13.2** and which apply to the Disclosing Party's Confidential Information before being given access to the Disclosing Party's Confidential Information.

13.4 Upon any termination of this Agreement, the Receiving Party shall return to the Disclosing Party any documents or other materials that contain the Disclosing Party's Confidential Information, including all copies made, and make no further use or disclosure thereof save that the Receiving Party shall not be obliged to purge or delete Confidential Information of the Disclosing Party from its IT systems and shall be permitted to retain one (1) copy of all such Confidential information in its legal files for purposes of ensuring compliance with the terms of this Agreement. Each Party shall be entitled to continue to use the other's Confidential Information to the extent required to provide responses to any Regulatory Authority or to otherwise satisfy any obligations under Applicable Laws or to any Regulatory Authority. Such ongoing use shall remain subject to the provisions of confidentiality set out in this Clause 13.

13.5 For the avoidance of doubt, and in light of Catapult's objective to disseminate best practices and foster the development of the regenerative medicine sector in the UK, Catapult shall be entitled to publish or otherwise disclose any of its Confidential Information, including the Catapult Intellectual Property.

13.6 Catapult will agree written obligations of confidence equivalent to those set out in this Agreement with any third party Collaborator that has access to the Shared Restricted Access Area in relation to ADAPTIMMUNE's Confidential Information. Where possible ADAPTIMMUNE will be given a third party right to enforce such confidentiality provisions. Catapult will provide evidence of such confidentiality obligations on request from ADAPTIMMUNE.

14. WARRANTIES

All Party Warranties

14.1 Each Party warrants, represents and undertakes to the other that:

14.1.1 it has full capacity and authority to enter into and to perform this Agreement;

14.1.2 as at the Effective Date, there are no:

14.1.2.1 actions, suits or proceedings pending or, to its knowledge, threatened against or affecting it before any court or administrative body or arbitration tribunal and which in the case of ADAPTIMMUNE relate to its use or occupancy of the Module, its ability to pay for any Financial Contribution under this Agreement and to participate in the Project generally or in the case of CATAPULT relate to its ability to provide the Module or provide the Module in accordance with its responsibilities under this Agreement or to participate in the Project generally; or

14.1.2.2 investigations by any Regulatory Authority pending or, to its knowledge, threatened against or affecting it and which relate to the Centre, Module or to ADAPTIMMUNE's Process or Product;

14.1.3 once duly executed, this Agreement will constitute its legal, valid and binding obligations; and

14.1.4 it is not aware of any matters which might adversely affect its ability to perform its obligations pursuant to this Agreement.

Catapult Warranties

14.2 Catapult warrants to ADAPTIMMUNE that from the Effective Date until the Termination Date:

14.2.1 it will at all times have the ability and all rights, titles and Necessary Consents to perform its obligations under this Agreement;

14.2.2 it will not breach the material terms or other materially breach the terms of the Lease and will comply with all material terms of the Lease that affect the Catapult's ability to grant the rights to occupy and use the Module and the Centre;

14.2.3 the Lease is in full force and effect;

14.2.4 it will perform its obligations and responsibilities under this Agreement with all due care and skill, in accordance with the Service Level Commitments, and in any event in accordance with Applicable Law; and

14.2.5 it will make available the Centre and the Module in accordance with the provisions of this Agreement and in any event in accordance with all Applicable Law.

ADAPTIMMUNE Warranties

14.3 ADAPTIMMUNE warrants, represents and undertakes to Catapult that from the Effective Date until the Termination Date it will:

ensure it will at all times have the ability and all rights, titles and Necessary Consents to perform the Adaptimmune Manufacturing Process and to produce the Adaptimmune Product in accordance with the terms of this Agreement ; For clarity such warranty will not include any obligation to obtain rights, titles and Necessary Consents for operation of the Centre (but not the Module); and perform both its obligations under this Agreement and all activities in respect of the Project in accordance with all Applicable Law and the Code of Conduct.

15. **INDEMNITY**

15.1 ADAPTIMMUNE agrees to indemnify, and hold Catapult harmless from and against Liabilities that Catapult suffers or incurs arising out of or in connection with:

15.1.1 any claim or proceedings made, brought or threatened against Catapult by a Third Party in respect of the ADAPTIMMUNE Product or Process because of the negligence, omission or misconduct of ADAPTIMMUNE, its employees, agents or subcontractors;

15.1.2 any loss of or damage to the tangible property or equipment belonging to a Third Party caused by or resulting from the negligence, omission, or wilful misconduct of ADAPTIMMUNE, its employees, agents or subcontractors;

15.1.3 any costs relating to an investigation, action or proceeding by a Regulatory Authority which arises as a result of ADAPTIMMUNE's material breach of this Agreement; and

15.1.4 breach by ADAPTIMMUNE of the warranties given at Clauses 14.3 or failure by ADAPTIMMUNE to comply with Applicable Laws.

15.2 Where Catapult claims the right to be indemnified by ADAPTIMMUNE pursuant to Clause 15.1, it shall be obliged to take such measures as are reasonable in the relevant circumstances to mitigate the loss or damage which has occurred or may occur.

15.3 Indemnification of Catapult under this Clause 15 is conditional upon: (a) the indemnified claim not being caused by or resulting from the negligence, omission, breach or wilful misconduct of Catapult, its employees, agents or subcontractors; and (b) Catapult promptly, on becoming aware of such claim, notifying ADAPTIMMUNE of the existence of the relevant claim, ceding sole defence of any claim to ADAPTIMMUNE and not making any admission or settlement without ADAPTIMMUNE's consent.

15.4 Catapult agrees to indemnify, and hold ADAPTIMMUNE harmless from and against Third Party Claims that ADAPTIMMUNE suffers or incurs arising out of or in connection with: any personal injury caused to any Third Party caused by the negligence, wilful misconduct or breach of this Agreement by CATAPULT its employees, agents or subcontractors or (b) any failure to comply with Applicable Laws.

15.5 Indemnification of ADAPTIMMUNE under this Clause 15 is conditional upon (a) indemnified claim not being caused by or resulting from the negligence, omission, breach or wilful misconduct of ADAPTIMMUNE, its employees, agents or subcontractors; and (b) ADAPTIMMUNE promptly, on becoming aware of such claim, notifying Catapult of the existence of the relevant claim, ceding sole defence of any claim to Catapult, and not making any admission or settlement without Catapult's consent.

16. **LIMITATION OF LIABILITY**

16.1 Collaborators occupying the Centre generally, and ADAPTIMMUNE and Catapult in particular with respect to this Agreement, in choosing to employ the Centre as a base for GMP manufacturing activities accept and acknowledge a degree of risk inherent in any multi-mode, shared occupancy manufacturing facility and the nature of the biological processes undertaken within. Occasional unforeseen situations may arise associated with, for example utilities, equipment and associated processes that have the potential to disrupt or have a detrimental impact on processing, including on the products manufactured and developed at the Centre, and/or the manufacturing process(es) utilised at the Centre, by Collaborators.

16.1.1 In light of this, Catapult will procure from each Collaborator, prior to their occupation of the Centre, contractual agreement not to commence or sustain legal proceedings against ADAPTIMMUNE (or any other Collaborators or Catapult) for damages, or any other financial reimbursement ("Agreement Not to Sue"), as a consequence of any unexpected and unintended consequences as a result of such a situation at the Centre as described in this Clause 16.1 ("Unforeseen Risks") unless it is a result of attributable gross negligence or wilful misconduct of ADAPTIMMUNE (or any other Collaborator or Catapult, as applicable), breach of confidence, material breach of any obligation under the relevant collaborator's (or Catapult's) collaboration agreement or quality agreement for the Centre , or material breach of Catapult SOPs or breach of Applicable Laws, by ADAPTIMMUNE (or any other Collaborators or Catapult, as applicable) and shall procure a direct right of enforcement of such Agreement Not to Sue by ADAPTIMMUNE against each such Collaborator or Catapult pursuant to the Contracts (Rights of Third Parties) Act 1999.

16.1.2 With respect to each Collaborator that Catapult has obtained an enforceable Agreement Not to Sue in accordance with Clause 16.1.1, which ADAPTIMMUNE has a direct right to enforce against such collaborator pursuant to the Contracts (Rights of Third Parties) Act 1999, ADAPTIMMUNE agrees that it shall not commence or sustain legal proceedings against such a collaborator for damages, or any other financial reimbursement, as a consequence of any Unforeseen Risks unless it is a result of attributable gross negligence or wilful misconduct of, or a breach of confidence, material breach of any obligation under the relevant collaborator's collaboration agreement or quality agreement for the Centre, or material breach of Catapult SOPs or breach of Applicable Laws by, such a collaborator.

16.1.3 Catapult and ADAPTIMMUNE, each agree not to commence or sustain legal proceedings against the other Party for damages, or any other financial reimbursement, as a

consequence of any Unforeseen Risks unless it is a result of attributable gross negligence or wilful misconduct of the other Party, or is a breach of confidence, material breach of any obligation under this Agreement or the QTA, or a material breach of Catapult SOPs or breach of Applicable Laws, by the other Party.

This Clause 16.1 is not intended to qualify, and is subject to and without prejudice to, each Party's rights and obligations under Clause 15 (Indemnity).

16.2 Without prejudice to Clauses 16.1, 16.4, 16.5 and 16.6, the maximum aggregate Liability of ADAPTIMMUNE which arises from events which occur in any Year will be limited to five million pounds sterling (£5,000,000) for any 1 event, or any number of separate events (each with a limit of £5m).

16.3 Without prejudice to Clauses 16.1, 16.4 and 16.5, the maximum aggregate Liability of Catapult which arises from any single event will be limited to (£5,000,000) for any 1 event, or any number of separate events (each with a limit of £5m).

16.4 In no circumstances shall any Party have any Liability for:

16.4.1 any indirect, special or consequential loss; including

16.4.2 any loss of profits, revenue, business opportunity, data, or goodwill.

16.5 Nothing in this Agreement limits or excludes any person's liability to the extent that it may not be so limited or excluded by law, including any such liability for death or personal injury caused by that person's negligence, or liability for fraud or fraudulent misrepresentation.

16.6 Without prejudice to Clause 16.5, nothing in this Agreement will operate to exclude or restrict either Party's Liability:

16.6.1 under the indemnity contained in Clause 15; or (in each of 16.6.2 and 16.6.3 below, other than when the specific conditions stipulated in the Agreement are met so as to justify otherwise);

16.6.2 to pay the Compensations; or

16.6.3 for any breach of confidentiality under this Agreement.

16.7 The Parties agree that they have negotiated this Clause16 and the allocation of risk in this Clause is a fair and equitable position.

17. **DURATION AND TERMINATION**

17.1 This Agreement, and the licences granted hereunder, shall come into effect on the Effective Date and, unless terminated earlier in accordance with this Clause 17 or unless specified in the continuing obligations provisions of this Agreement as having continued effect, shall continue in force for 12 months from the Actual Occupation Date ("Initial Period") and will automatically renew for further 12 month periods for a maximum period of 5 calendar years from the Actual Occupation Date, and on such date this Agreement shall terminate automatically by expiry.

17.2 Either party shall be able to terminate on the provision of 12 months' written notice to the other party.

17.3 The Parties may terminate this Agreement at any time by mutual agreement to do so in writing signed by the authorised signatories of the Parties and the provisions of Clauses 18.1 shall not apply.

17.4 Either Party may elect to terminate this Agreement at any time by notice in writing to the other Party, such notice to take effect as specified in the notice:

17.4.1 if the other Party is in material breach of this Agreement (including any breach of Clause 20) and, in the case of a breach capable of remedy within 90 days, the breach is not remedied within 90 days of the party receiving notice specifying the breach and requiring its remedy; or

17.4.2 if (A) the other Party becomes insolvent or unable to pay its debts as and when they become due; or (B) an order is made or a resolution is passed for the winding up of the

other Party (other than voluntarily for the purpose of solvent amalgamation or reconstruction); or (C) a liquidator, administrator, administrative receiver, receiver, or trustee is appointed in respect of the whole or any part of the other party's assets or business; or (D) the other Party makes any composition with its creditors; or (E) the other Party ceases to continue its business; or (F) as a result of debt and/or maladministration the other party takes or suffers any similar or analogous action in any jurisdiction.

17.5 In the event that an MHRA MIA (IMP) license or any other consent required for operation of the Centre by Catapult in accordance with GMP or Applicable Laws is not granted to Catapult on or before 1 September 2018, (the "Target Licence Date"), ADAPTIMMUNE will be able to terminate this Agreement immediately upon written notice to Catapult from such date. In such circumstances, ADAPTIMMUNE will have no liability for any Compensations under Clause 18.1 (other than for all Inputs directly associated with ADAPTIMMUNE's occupation of the Centre to the date it vacates the Centre and which are due and payable under the terms of this Agreement).

17.6 In the event ADAPTIMMUNE chooses to delay occupation of the Module beyond the date by which Catapult has satisfied the criteria to enable the Actual Occupation Date to be declared (as set out in paragraph b of the definition), such a delay will cause the revised deadline for an MHRA MIA (IMP) licence or Necessary Consent to be granted, and the date by which termination may be tendered, under Clause 17.8, to be delayed by a period equal to the period of ADAPTIMMUNE chooses to delay occupation beyond the date Catapult has discharged its obligations to enable declaration of the Actual Occupation Date under paragraph b of the definition.

17.7 A Party's right of termination under this Agreement, and the exercise of any such right, shall be without prejudice to any other right or remedy (including any right to claim damages) that such Party may have in the event of a breach of contract or other default by the other Party.

17.8 If there is destruction or damage to the Centre that leaves the whole or substantially the whole of the Centre and / or the Module unfit for occupation and use or inaccessible so that ADAPTIMMUNE is unable to continue practising or developing the ADAPTIMMUNE Process so as to produce the ADAPTIMMUNE Product, and the Module has not been made fit for occupation and such use by ADAPTIMMUNE within 6 months the date of such destruction or damage (or planned date for correction exceeds 6 months) then either Party may serve notice on the other to terminate this Agreement with immediate effect, such notice to expire after 6 months of the date of such destruction or damage.

17.9 If there is destruction or damage to the Centre by any of the Insured Risks that leaves the whole or substantially the whole of the Centre and / or the Module unfit for occupation and use or inaccessible, then, save to the extent that the Catapult's insurance has not been vitiated or policy moneys refused because of any act or default of ADAPTIMMUNE then the Facility Contribution, the Activity Related Inputs Contributions, the Integral Contributions, and the Business Rates or a fair proportion of them shall not be payable from and including the date of such damage or destruction until the earlier of the date that the Module is once again fit for occupation and use and accessible.

18. **CONSEQUENCES OF TERMINATION**

18.1 ADAPTIMMUNE recognises that considerable planning and advanced preparation is required to ensure timely ADAPTIMMUNE occupation of the Module. In recognition of the opportunity cost of reserving a Module for ADAPTIMMUNE, if ADAPTIMMUNE serves notice to terminate this Agreement in any circumstances other than as set out in Clauses 17.3 or 17.4 (but only where a breach is committed by Catapult), ADAPTIMMUNE will compensate Catapult as follows:

Following notice to terminate, during the notice period ADAPTIMMUNE will continue to pay to Catapult the Contributions ADAPTIMMUNE would have paid had this Agreement not been terminated; no other sums are required. Such sum shall be due whether ADAPTIMMUNE occupies the Module, or elects to vacate the Module in advance of the end of this 1 year notice period) which shall include: the Facility Contribution; the Business Rates Contribution; the Integral Input Contributions, any Services Costs, any Establishment Input Contributions, any Additional Input Contributions and any other unavoidable costs resulting from the Module remaining unoccupied for up to a period of 1 year (the "**Compensations**"). Catapult will, to the extent that it is reasonably able to do so in the circumstances, release ADAPTIMMUNE from its obligations where a suitable alternative collaborator is secured by Catapult. In addition, under these circumstances ADAPTIMMUNE will not be liable to pay the Compensations for any period from the Expected Occupation Date that the Module and the Centre is not ready for occupation during the 1 year period that such Compensations would have been due.

In recognition of the inherent difficulties of moving from a collaborative manufacturing centre to alternative manufacturing facilities, it is understood that COLLABORATOR may wish to extend the Term for between six to twelve months beyond the end of the notice period. Not less than six months prior to the end of the notice period, COLLABORATOR may make a request to Catapult, and Catapult may agree to negotiate with ADAPTIMMUNE to extend the Term for an additional period of between 6 and 12 months. If Catapult agrees, any extension of the Term will only be effective when confirmed in writing by both Parties.

Where ADAPTIMMUNE has notified Catapult under its notice in clause 17.2 above that it wishes to cease paying the Compensations and to vacate the Module as quickly as possible then Catapult will use all reasonable efforts to procure another Collaborator to occupy the Module as quickly as possible. To the extent such third party Collaborator is able to occupy the Module within the 12 month notice period, the Parties will work to agree a shortening of such notice period and reduction in payment of Compensations due to reflect earlier occupation by third party Collaborator. For clarity, the obligation on Catapult to procure another Collaborator to occupy the Module will not mean Catapult is under any obligation to forsake potential income from any other module in the Centre that it would have received had ADAPTIMMUNE not tendered its notice to terminate.

18.2 The provisions of Clause 18.1 shall not apply where this Agreement is terminated in accordance with Clause 20.

18.3 Upon termination of this Agreement for any reason (and unless otherwise agreed by the Parties in a subsequent, written agreement, including any agreement entered into in accordance with the provisions of 9iii):

18.3.1 the provisions of 11, 12, 13, 14, 15, 16, 18 19, and 24 shall remain in force;

18.3.2 the Collaboration will terminate, subject to any subsisting and continuing obligations; and

18.3.3 A. Each Party will cease using the other Party's Confidential Information (save where such ongoing use is in accordance with any ongoing license);

B. For clarity, "cease using" in A. above will not prevent Catapult from retaining such Confidential Information that has been backed up as part of the Catapult's normal business procedures and there will be no obligation on Catapult to purge or delete such Confidential Information stored in this way. This is subject to the obligations of confidentiality under this Agreement continuing to apply to any and all Confidential Information so retained for so long as they are in the possession or control of Catapult;

C. Catapult agrees that ADAPTIMMUNE will have continued access to any Catapult provided IT systems during the notice period that is on a basis that is no different from the pre-existing rights of access it enjoyed before the notice period commenced. At the end of any notice period Catapult will supply ADAPTIMMUNE with a paper copy of any Confidential Information that continues to be stored on Catapult provided IT systems if it is requested by ADAPTIMMUNE; and

D. To the extent ADAPTIMMUNE requires access to any information or data held by Catapult to address any request from any regulatory authority or in relation to any product recall after termination of this Agreement, to the extent Catapult has retained such information or data or has access to such information or data, Catapult will provide reasonable assistance to ADAPTIMMUNE to enable ADAPTIMMUNE to access such information or data.

19. **INSURANCE**

19.1 Catapult shall take out with a reputable insurance company and maintain at all times during the Term of this Agreement professional indemnity, public and product liability insurance including against all loss of and damage to the Module, the Centre, and injury to persons including death arising out of or in connection with this Agreement. Such insurances may be limited in respect of one claim provided that such limit must be at least £5 million (five million pounds).

19.2 ADAPTIMMUNE shall take out with a reputable insurance company, and maintain at all times during the Term of this Agreement public and product liability insurance including against all loss of and

damage to the Module and Centre arising out of or in connection with this Agreement and caused by or to ADAPTIMMUNE, injury to persons including death arising out of or in connection with this Agreement, and against all loss of and damage to any ADAPTIMMUNE owned equipment, or ADAPTIMMUNE personnel personal effects within the Module or in the Centre generally. Such insurances may be limited in respect of one claim provided that public and product liability will have a limit of at least £3 million pounds prior to any commercial sale of Product by Adaptimmune (excluding use of Product in association with any clinical trials) and £5 million pounds from the date of first commercial sale of Product by Adaptimmune. During the period in which any Product is used in association with any clinical trials, ADAPTIMMUNE shall also hold clinical trials insurance which may be limited in respect of one claim provided that the aggregate limit is at least £5 million pounds. ADAPTIMMUNE acknowledges that Catapult will have no responsibility for any ADAPTIMMUNE owned equipment or any ADAPTIMMUNE personnel personal effects located in the Module or any other part of the Centre save where any damage to such is caused directly by Catapult negligence or intentional misconduct. With respect to public liability insurance required to be taken out by ADAPTIMMUNE under this Agreement, ADAPTIMMUNE will ensure Catapult is noted as a beneficiary on the policy so that it is an interested party with respect to such policy or alternatively the policy includes 'additional insureds' language requiring the insurance company to indemnify against liability that ADAPTIMMUNE is obligated to provide.

20. **ANTI-BRIBERY AND ANTI-CORRUPTION**

20.1 Each Party agrees that, in connection with this Agreement and the Projects, they shall each, (and shall procure that their respective officers, employees, agents and any other persons who perform services for them or on their behalf in connection with this Agreement shall):

20.1.1 not commit any act or omission which causes or could cause the other Party to breach, or commit an offence under, any laws relating to anti-bribery and/or anti-corruption including Foreign Corrupt Practices Act in the United States and the UK Anti-Bribery Act;

20.1.2 keep accurate and up to date records showing all payments made and received and all other advantages given and received in connection with this Agreement and the steps taken to comply with this Clause 20, and permit the other Party to inspect those records as reasonably required;

20.1.3 promptly notify the other Party of:

20.1.3.1 any request or demand for any financial or other advantage received by it (or that person); and

20.1.3.2 any financial or other advantage it (or that person) give or intend to give whether directly or indirectly in connection with this Agreement; and

20.1.3.3 promptly notify the other Party of any breach of this Clause 20.

20.2 Any breach of this clause 20 shall constitute a material breach.

21. **PUBLICITY**

The Parties agree consent is required in before use of the other's name, or any adaptation of their name, or any of their logo(s), trademark(s), or other of their device(s) in any advertising, promotional, or sales materials (however, they also agree that such consent is not to be unreasonably withheld).

22. **STATE AID**

22.1 The parties acknowledge that Catapult is a 'Research Organisation' as defined under European Union legislation and has an obligation to ensure, and is subject to audits to demonstrate, that all activities it undertakes are compliant with EU state aid rules, including its activities under this Agreement. The parties therefore agree that, notwithstanding any other provision of this Agreement:

22.1.1 Catapult shall be entitled to cooperate fully with any investigation by any grant funder of Catapult or by the European Commission or any court of law with respect to this Agreement regarding the grant/alleged grant of state aid and the provision of Services hereunder and ADAPTIMMUNE shall, if so requested by Catapult, promptly provide to

Catapult all reasonable and necessary assistance in connection with any such investigation(s);

22.1.2 Catapult shall keep ADAPTIMMUNE informed of any active and specific investigation into this Agreement and, where possible, liaise with ADAPTIMMUNE concerning any response to the European Commission; and

22.1.3 the parties shall comply with any ruling of the European Commission or court of law in relation to the application of the EU state aid rules to this Agreement.

22.2 The obligations set out in Clause **22.1** above shall subsist for a period of 10 years from the date of this Agreement, notwithstanding any earlier termination of this Agreement.

23. **NOTICES**

23.1 Any notice required to be given under this Agreement shall be given in writing and sent by prepaid airmail post or courier, delivered personal, or sent by email to the following addresses or such other address as may be notified by the relevant party from time to time in writing:

To Catapult:

If sent by post to:

Cell Therapy Catapult
12th Floor Tower Wing
Guy's Hospital
Great Maze Pond
London
SE1 9RT
United Kingdom

For the attention of:

Matthew Durdy, CBO

If sent by email, to:

matthew.durdy@ct.catapult.org.uk

To ADAPTIMMUNE:

If sent by post to:

Adaptimmune Limited
60 Jubilee Avenue
Milton Park
Abingdon
Oxfordshire
OX14 4RX
United Kingdom

For the attention of:

John Lunger; with a copy to General Counsel

If sent by email, to:

legal@adaptimmune.com

23.2 Any notice so sent shall be deemed to have been duly given:

23.2.1 if sent by personal delivery or courier, on delivery at the address of the relevant party;

23.2.2 if sent by prepaid airmail post, five days after the date of posting; and

23.2.3 if sent by email, only on acknowledgement of receipt, such acknowledgement not being an automated message.

24. **FURTHER ASSURANCES**

Each party shall, as and when requested by the other party and without charge, do all such acts and execute all such documents as may be reasonably necessary to give full effect to the provisions of this Agreement.

25. **ENTIRE AGREEMENT**

25.1 This Agreement constitutes the entire agreement between the parties and supersedes and replaces any and all previous agreements, understandings or arrangements between the parties, whether oral or in writing, relating to its subject matter.

25.2 The parties acknowledge that in entering into this Agreement they do not rely on any statement, representation (including, without limitation, any negligent misrepresentation but excluding any

fraudulent misrepresentation), warranty, course of dealing, custom, understanding or promise except for those expressly set out in this Agreement.

25.3 The parties irrevocably and unconditionally waive any rights and/or remedies they may have to the fullest extent permitted by law (including without limitation the right to claim damages and/or to rescind this Agreement) in respect of any misrepresentation (including, without limitation, any negligent misrepresentation but excluding any fraudulent misrepresentation).

25.4 Except as expressly set forth in this Agreement, neither party grants to the other by implication, estoppel or otherwise, any right, title, licence or interest in any Intellectual Property Right

26. **VARIATION**

26.1 Subject to Clause 26.2, no variation or amendment to this Agreement shall be effective unless it is made in writing and signed by the duly authorised representatives of both parties.

26.2 The following principles will be adhered to in the event a change is proposed by Catapult to Schedule 8 (Warehouse and Procurement Management Provisions), Schedule 9 (Quality Control), Schedule 10 (IT Infrastructure), and Schedule 12 (Module and Centre Specifications) only:

26.2.1 If the proposed change has no material impact on ADAPTIMMUNE Product(s) or Process(es), or ADAPTIMMUNE'S compliance with GMP guidelines or would not require ADAPTIMMUNE to amend or change any regulatory filing or regulated procedure, Catapult may enact the change by a written notification (signed by a member of Catapult's Quality team) to ADAPTIMMUNE, such written notification forming an amendment to this Agreement. Catapult will provide at least 30 days notification ahead of the notification;

26.2.2 If the proposed change has a material impact on the ADAPTIMMUNE Product(s) or Process(es), or ADAPTIMMUNE'S compliance with GMP guidelines, or would require ADAPTIMMUNE to amend or change any regulatory filing or regulated procedure, such change will require the mutual written consent of the Parties in the form of an amendment including the authorised signatories of their respective Quality Teams where relevant to quality procedures to this Agreement in accordance with Clause 26.1; or

26.2.3 If ADAPTIMMUNE does not agree that a change under clause 26.2.1 has no material impact, the matter will be resolved through the use of the Expert Determination Procedure under Schedule 13;

26.3 This section shall not override the Quality Technical Agreement in relation to changes relating to quality.

27. **ASSIGNMENT AND SUB-CONTRACTING**

27.1 Subject to Clause **27.2**, neither Party shall assign, sub-contract, mortgage, charge, or otherwise transfer any rights or obligations under this Agreement, without the prior written consent of the other Party.

27.2 Either Party may assign and transfer all its rights and obligations under this Agreement to an Affiliate provided that the assignee undertakes to the other Party to be bound by and perform the obligations of the assignor under this Agreement. Catapult will be entitled to sub-contract any of its obligations under this Agreement, provided that it shall ensure any relevant obligations are passed on to such sub-contractor and Catapult shall be responsible for the performance of such sub-contractor.

28. **WAIVER**

No failure or delay by a party to exercise any right or remedy provided under this Agreement or by law shall constitute a waiver of that or any other right or remedy, nor shall any single or partial exercise of any right or remedy preclude the further exercise of such right or remedy.

29. **SEVERABILITY**

If any provision (or part of any provision) of this Agreement is held to be invalid, void or otherwise unenforceable by a court of competent jurisdiction from whose decision no appeal is available, or from whose decision no appeal is made within the applicable time limit, then the provision (or relevant part

of the provision) shall be re-written to be compliant where possible or omitted and the remaining provisions of this Agreement (and parts of the relevant provision, as applicable) shall continue in full force and effect. Should a material provision be rendered void, unenforceable or invalid by a court, either Party may terminate this Agreement within 30 days of the relevant court finding of voidness, unenforceability or invalidity.

30. **RELATIONSHIP OF THE PARTIES**

Nothing in this Agreement is intended to, or shall be deemed to, establish or imply any agency, partnership or joint venture between the parties. Neither party shall act or describe itself as the agent of the other party and neither party shall have, or hold itself out as having any authority to make commitments for or on behalf of the other party.

31. **THIRD PARTY RIGHTS**

This Agreement does not create any right enforceable by any person who is not a party to it.

32. **GOVERNING LAW AND JURISDICTION**

This Agreement and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the laws of England and Wales.

33. **DISPUTE RESOLUTION PROCEDURE**

33.1 If a dispute arises out of or in connection with this Agreement or the performance, validity or enforceability of it ("**Dispute"**), then, except as expressly provided in specific clauses of this Agreement, the Parties shall follow the procedure set out in this clause:

(a) either Party shall give to the other written notice of the Dispute, setting out its nature and full particulars ("**Dispute Notice"**), together with relevant supporting documents. On service of the Dispute Notice, the Chief Business Officer of the Catapult, and Chief Finance Officer of ADAPTIMMUNE shall attempt in good faith to resolve the Dispute;

(b) if the Chief Business Officer of Catapult and Chief Finance Officer of ADAPTIMMUNE are for any reason unable to resolve the Dispute within 30 days of service of the Dispute Notice, the Dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules. The place of arbitration will be London.

34. **COUNTERPARTS**

This Agreement may be executed in any number of counterparts, each of which when executed and delivered shall constitute a duplicate original of this agreement, but all the counterparts shall together constitute the same agreement. If this Agreement is executed in counterparts, it shall not be effective unless and until each party has executed and delivered a counterpart to the other party.

35. **FORCE MAJEURE**

Neither Party shall have any liability or be deemed to be in breach of this Agreement for any delays or failures in performance of this Agreement that result from circumstances beyond the reasonable control of that Party (each Party having in place appropriate disaster recovery and fail-safe measures to minimise the risk of force majeure), including without limitation labour disputes involving that Party. The Party affected by such circumstances shall promptly notify the other Party in writing when such circumstances cause a delay or failure in performance and when they cease to do so. To the extent any force majeure continues for more than 3 continuous months, the affected Party may service 14 days written notice to terminate this Agreement. Such termination shall be automatic on expiry of the 14 day period provided the force majeure event has not ceased.

36. **DATA PROTECTION**

36.1 In this Agreement the terms "**Personal Data**", "**Data Processor**", "**Data Subject**", "**Process**" and "**Data Controller**" are as defined in the Data Protection Act 1988 ("**Act**") or the GDPR or other data

protection legislation in force in the UK from time to time. Each Party shall comply with its respective obligations under the provisions of the Act.

36.2 The Data Controller shall be determined in accordance with the Act.

36.3 Insofar as ADAPTIMMUNE provides or otherwise makes available Personal Data to Catapult and such Personal Data is Processed by Catapult, or if Catapult is required to Process Personal Data in connection with this Agreement; Catapult shall (a) keep such Personal Data strictly confidential; (b) only distribute to employees of Catapult to the extent such employees require access to such Personal Data for the performance of the Agreement; (c) not transfer such Personal Data to any third party (including any sub-contractor) without the prior written approval of ADAPTIMMUNE; outside of the EU; (e) only transfer Personal Data outside of the EU with the prior written consent of ADAPTIMMUNE; (f) only Process the Personal Data for purposes authorised by ADAPTIMMUNE and in accordance with any instructions provided by ADAPTIMMUNE (and for clarity, any purpose set out in this Agreement will be deemed to meet this requirement to the extent processing is require for the performance of that purpose); and (g) keep such Personal Data secure in accordance with the requirements of the Act and the principles articulated in the Act. Should Catapult receive any request from a Data Subject in relation to any Personal Data provided by ADAPTIMMUNE, Catapult shall immediately pass on such Data Subject request to ADAPTIMMUNE.

36.4 To the extent required under data protection legislation, each Party will permit and assist the other to carry out any privacy impact assessments or other data protection assessments reasonably required under data protection legislation.

AGREED by the parties through their duly authorised representatives on the date written at the start of this Agreement:

SIGNED for and on behalf of:	SIGNED for and on behalf of:
Cell Therapy Catapult Limited	**Adaptimmune Limited**
Signature: /s/ Matthew Durdy	Signature: /s/ James Noble
Name: Matthew Durdy	Name: James Noble
Title: CBO	Title: CEO

SCHEDULE 1

WORK STREAMS

A.

Development and operation of ADAPTIMMUNE Manufacturing Process for the production of ADAPTIMMUNE Product

B.

Development and operation of a multi-product manufacturing centre and its associated quality management system

C.

Development and operation of a supply and distribution chain

SCHEDULE 2

Part 1 - Occupation of Module

1. **Definitions**

In this Schedule 2: -

1.1 "**Co-location Fee**" means the aggregate of the Facility Charge and Business Rates payable under clauses 8.1.1 and 8.1.2 of this Agreement.

1.2 "**end of the Licence Period"** means the expiry of the Licence Period or its earlier termination pursuant to Clause 17 or Clause 19 of this Agreement.

2. **Occupation of the Module**

Catapult permits ADAPTIMMUNE to occupy the Module for the performance of the Project for the Term in common with Catapult and all others authorised by Catapult together with the rights mentioned in Part 2 of this Schedule and subject to the rights reserved to Catapult in Part 3 of this Schedule and subject further to payment of the Colocation Fee in accordance with Clause 8 of this Agreement.

3. **ADAPTIMMUNE's Covenants and Acknowledgement**

3.1 ADAPTIMMUNE covenants with Catapult as follows:

3.1.1 to keep the Module clean, tidy and clear of rubbish;

3.1.2 not to use the Module other than for the Permitted Use;

3.1.3 other than the Permitted Alterations, to not to make any alteration or addition to the Module or the Centre without the prior written consent of Catapult;

3.1.4 not to display any advertisement, signboards, nameplate, inscription, flag, banner, placard, poster, signs or notices at the Module or elsewhere in the Centre (that is not on agreed signage areas) without the prior written consent of Catapult, such consent not to be unreasonably withheld or delayed;

3.1.5 not to do or permit to be done in the Module anything which is illegal or which may be or become a disruption, nuisance (whether actionable or not), annoyance, inconvenience, or disturbance to Catapult, or to other occupiers of the Centre or to the owner or occupier of neighbouring property;

3.1.6 not to cause or permit to be caused any damage (other than general wear and tear as would be expected from general usage of the Module over time for the Project) to:

3.1.6.1 the Module, Centre or any neighbouring property; or

3.1.6.2 any property of the owners or occupiers of any neighbouring property;

3.1.7 not to obstruct the Common Parts, make them dirty or untidy or leave any rubbish on them and to otherwise keep the Common Parts free and clear of any equipment, materials or personal property of ADAPTIMMUNE;

3.1.8 not to apply for any planning permission in respect of the Module unless agreed in advance in writing with Catapult;

3.1.9 not to do anything that will or might constitute a breach of any Applicable Law affecting the Centre or which will or might vitiate in whole or in part any insurance effected by Catapult in respect of the Centre from time to time and, in the case of the latter, to the extent that Catapult has made ADAPTIMMUNE aware in writing of such requirements under its insurance;

3.1.10 (in as much as this applies to ADAPTIMMUNE as the end user of any such supplies) to comply with all laws and with any recommendations of the relevant suppliers relating to the supply and removal of electricity, gas, water, sewage, telecommunications and data and other services and utilities to or from the Module;

3.1.11 to observe any rules and regulations Catapult makes and notifies to ADAPTIMMUNE from time to time in writing governing ADAPTIMMUNE's use of the Module and the Common Parts, provided in each case (a) prior notice (at least 30 calendar days) is provided of such rules and regulations or any changes to such rules and regulations; (b) such rules and regulations do not impact or affect ADAPTIMMUNE's ability to carry out the Project in accordance with Applicable Laws and its own SOPs; and

3.1.12 not to do anything on or in relation to the Module and the Centre that would or might cause Catapult to be in breach of Catapult's covenants and the conditions contained in the Lease, repeated, for reference, in Part 3 to this Schedule 2 and

3.1.13 to comply with Catapult's reasonable requests for cooperation with respect to any further development of the Centre and the Module and not to raise any objection to any noise and disturbance resulting from such further development on condition Catapult uses reasonable endeavours to minimise any disruption to ADAPTIMMUNE's activities within the Module and the Centre and tables any planned development in the relevant forum.

3.2 ADAPTIMMUNE acknowledges that:

3.2.1 Catapult is entitled to exclusive control and possession of the Centre and the Module and nothing contained in this Agreement creates any relationship of landlord and tenant or any other relationship other than that of a licensor and licensee between Catapult and ADAPTIMMUNE; and

4. **Relocation of Module**

Catapult shall be entitled, upon not less than 6 months' written notice to Collaborator, from time to time, to relocate ADAPTIMMUNE to a different location within the Centre provided that: (a) Catapult has first considered all reasonable alternatives to relocation while discussing such alternatives with ADAPTIMMUNE; (b) there is made available to ADAPTIMMUNE a module which is in all material respects the same as the Module; and (c) the Collaborator is permitted to continue occupation of the Module for 3 months in tandem with that of the proposed replacement module for the latter 3 months of the 6 month notice period to enable a smooth handover. The costs and expenses incurred in relocating ADAPTIMMUNE shall be borne by Catapult.

5. **Termination**

5.1 At the end of the Licence Period:

5.1.1 ADAPTIMMUNE's rights to occupy the Module will automatically terminate;

5.1.2 ADAPTIMMUNE will leave the Module in the same state and condition (taking into account normal "wear and tear" usage), with all fixtures, fittings and equipment as were provided to it by Catapult as recorded in the Schedule of Condition and Inventory referred to at **Schedule 7**.

5.2 The termination of ADAPTIMMUNE's rights to occupy the Module will be without prejudice to any subsisting breach of ADAPTIMMUNE's obligations contained in this Schedule.

Part 2 A — Rights granted to ADAPTIMMUNE

The following rights are granted to ADAPTIMMUNE in common with Catapult, any person authorised by Catapult and all other ADAPTIMMUNE's and occupiers of the Centre but subject to Catapult's rights:

6. **Running of services**

To connect to and use the existing service media at the Centre for the passage of supplies to and from and to the Module.

7. **Access and servicing**

7.1 Access to and from the Module on foot only over the Common Parts from time to time designated by Catapult for ADAPTIMMUNE's use.

7.2 To use any service area from time to time designated by Catapult for ADAPTIMMUNE's use for loading and unloading and otherwise servicing the Module and the service roads with or without vehicles to come and go to and from that service area.

8. **Refuse disposal**

To deposit rubbish in any receptacles or waste compactors within the Common Parts provided by Catapult for that purpose and designated by Catapult for the use of ADAPTIMMUNE.

9. **Support and shelter**

Support and shelter for the Module from the Centre.

10. **Parking**

Use of up to 6 parking spaces designated by Catapult, from time to time, as available for COLLABORATOR's use. Overflow parking is also available to Catapult and Collaborators.

11. **Signage**

To exhibit ADAPTIMMUNE's name in such form, shape and size as Catapult specifies as the standard size and form of such signs on any appropriate directory board within the Centre. Any signage or use of ADAPTIMMUNE name will require ADAPTIMMUNE consent and request.

12. **Toilet facilities**

To use any toilet facilities within the Common Parts designated by Catapult as facilities for the use of ADAPTIMMUNE.

13. **Escape**

On foot only, in emergencies and for fire escape drills, to use all fire escape routes in the Centre designated by Catapult for the use of ADAPTIMMUNE whether or not forming part of the Common Parts.

Part 2 B — Rights granted to ADAPTIMMUNE II

The Parties acknowledge any licence to alter entered into between them at any point ("Licence to Alter") with respect to the modifications to the Module that the Catapult permits the ADAPTIMMUNE to perform, pursuant to the terms contained in such Licence to Alter.

Part 3 — Rights reserved to Catapult

The following rights are excepted and reserved to Catapult and all those authorised by Catapult:

14. **Support, shelter, light and air**

14.1 Support and shelter for the remainder of the Centre from the Module.

14.2 All rights of light or air to the Module that now exist or that might (but for this reservation) be acquired over any other land.

15. **Running of services**

The passage and running of services from and to the remainder of the Centre through existing Conducting Media (if any) within the Module.

16. **Entry on to the Module**

16.1 To enter the Module during regular business hours and on not less than 24 hours prior notice, but excluding any period in which ADAPTIMMUNE Products are being manufactured in the Manufacturing Space (unless notice is required under the QTA) for any purpose including (without limitation) to:

16.1.1 estimate the current value or rebuilding cost of the Centre for insurance or any other purpose;

16.1.2 install, inspect, clean, maintain, replace and to take readings from metering equipment, heat cost allocators and thermostatic radiator valves within or relating to the Module and to prepare an energy performance certificate; and

16.1.3 do anything that Catapult is expressly entitled or required to do under this Agreement or the Lease or for any other reasonable purpose in connection with this Agreement including to inspect the state of repair and condition of the Module.

16.2 To enter the Module to carry out any works to the Module to improve their environmental performance.

16.3 If the relevant work cannot be reasonably carried out without entry onto the Module, to enter them to:

16.3.1 build on or into any boundary or party walls on or adjacent to the Module;

16.3.2 inspect, clean, maintain, repair, alter, decorate, rebuild or carry out works upon the Centre;

16.3.3 carry out any of the necessary services; or

16.3.4 for any other reasonable management purpose.

17. **Common Parts and Conducting Media**

17.1 In an emergency, or when works are being carried out to them, to close off or restrict access to the Common Parts, so long as (except an emergency) alternative facilities are provided that are not materially less convenient.

17.2 To change, end the use of or reduce the extent of any Common Parts or Conducting Media so long as alternative facilities are provided that are not materially less convenient or, if no alternative is provided, the use and enjoyment of the Module is not materially adversely affected.

18. **Adjoining Property**

To carry out works of construction, demolition, alteration or redevelopment on Centre and any adjoining property (and to permit others to do so) as Catapult in its absolute discretion considers fit (whether or not these works interfere with the flow of light and air to the Module). Catapult shall use all reasonable efforts to ensure that any such works do not interfere with ADAPTIMMUNE's use of the Module and undertaking of the Project. Where possible, Catapult shall provide all collaborators with reasonably advanced notice of any such works through the Collaborator Forums.

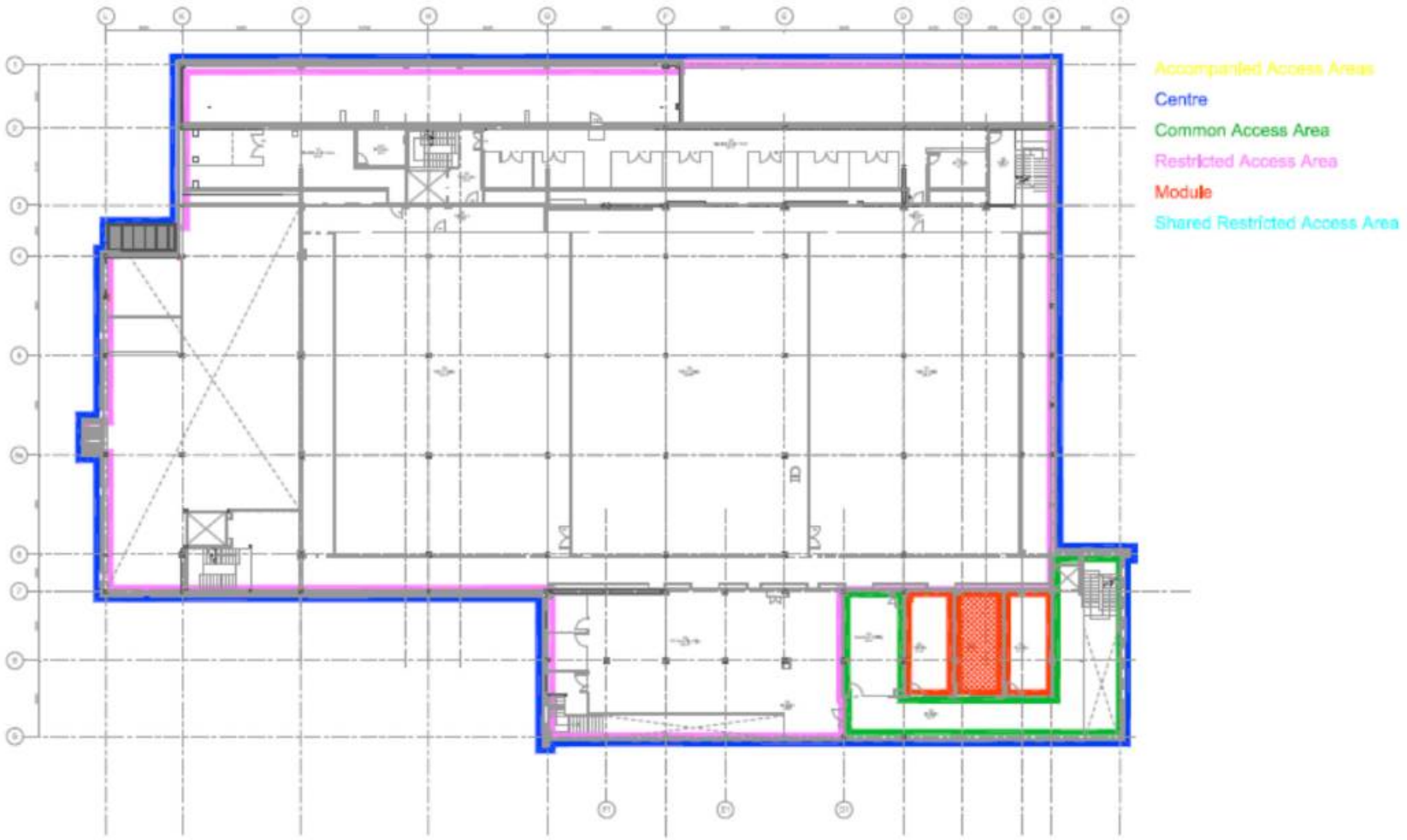
19. **Plant, equipment and scaffolding**

The right, where necessary, to bring plant and equipment onto the Module and to place scaffolding and ladders upon the exterior of or outside any buildings on the Centre (including the Module).

Part 3: Plans of the Module and the Centre

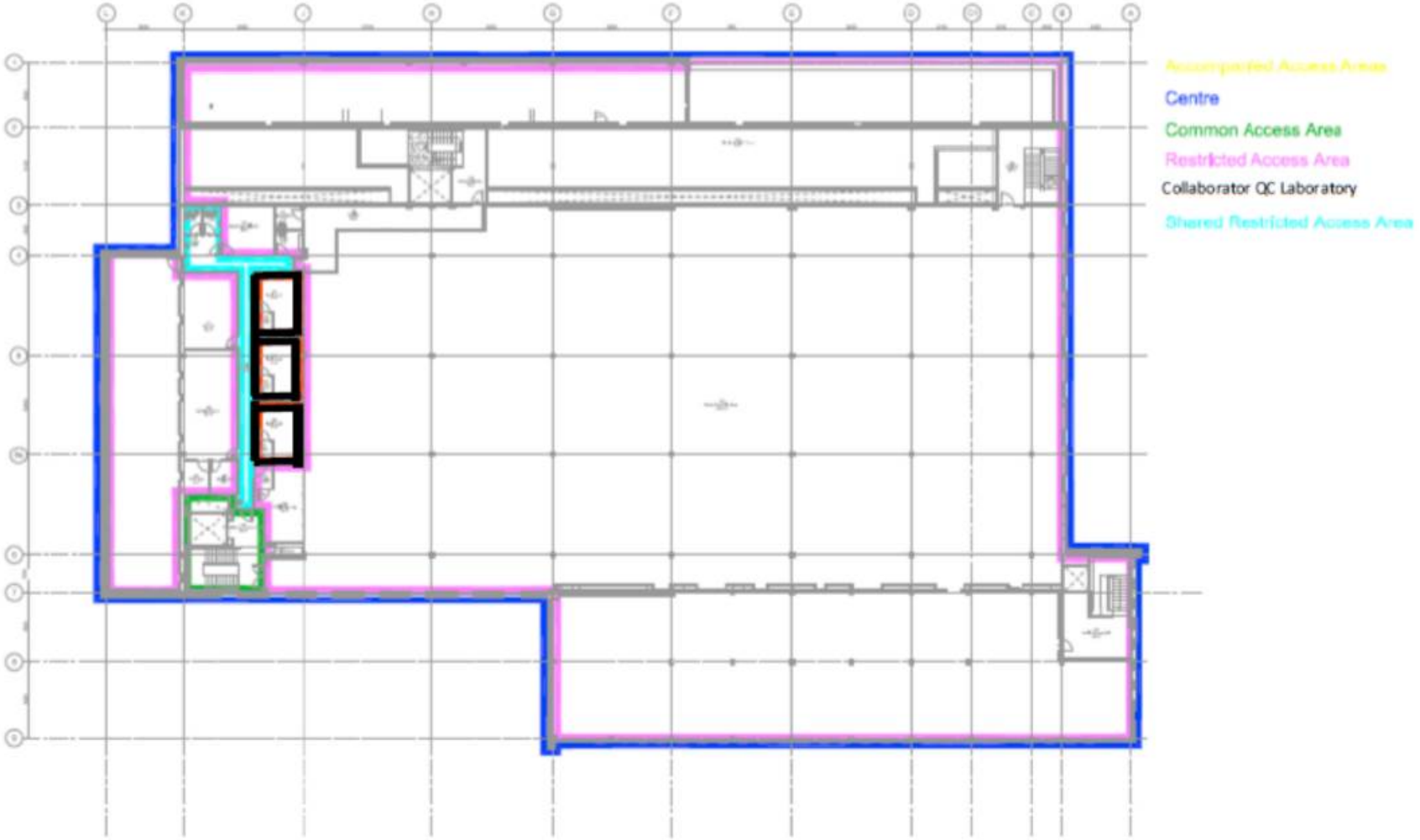
CATAPULT CGT STEVENAGE - LEVEL 0 GROUND FLOOR

ADAPTIMMUNE



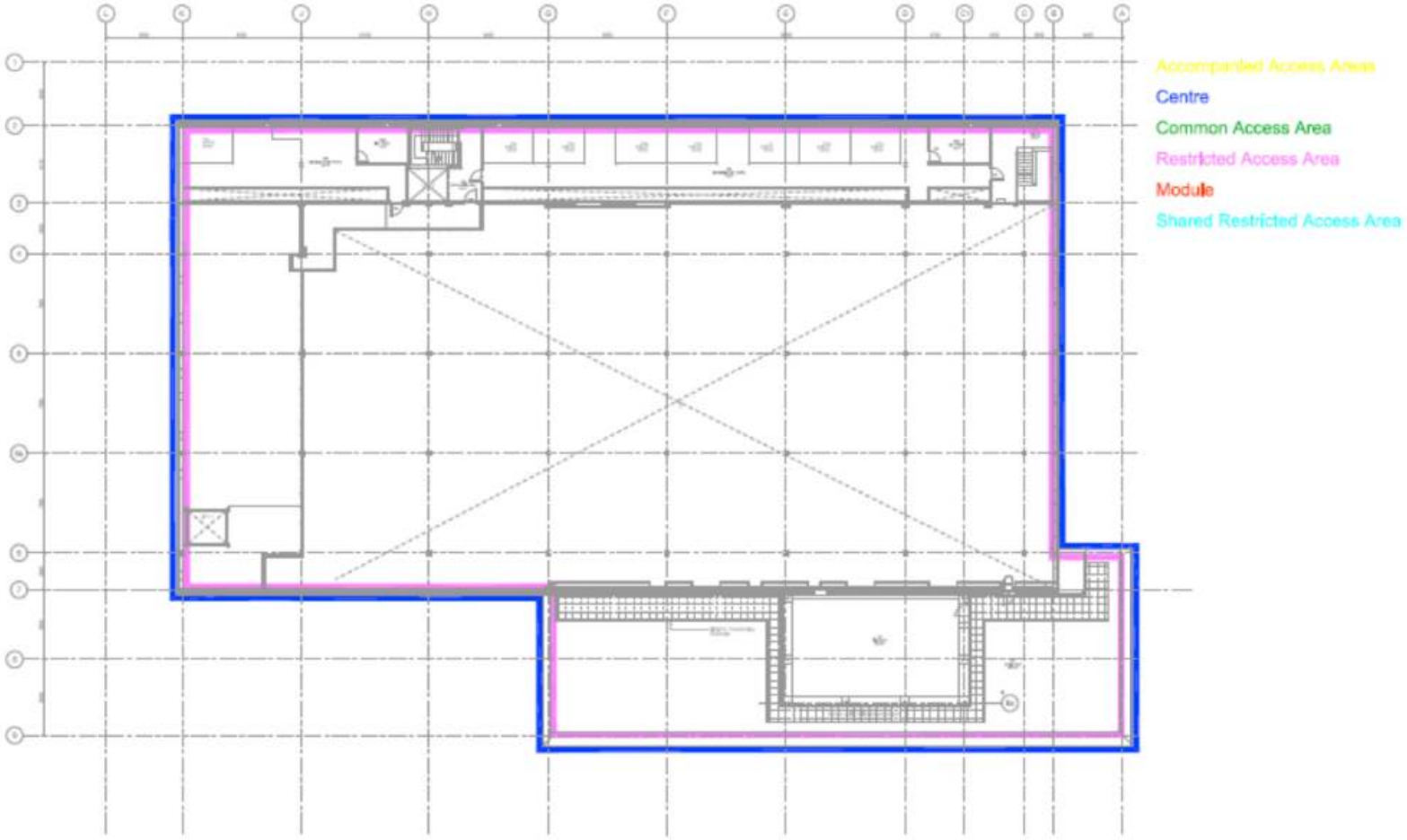
CATAPULT CGT STEVENAGE - LEVEL 1 MEZZANINE AND INTERSTITIAL CEILING

ADAPTIMMUNE



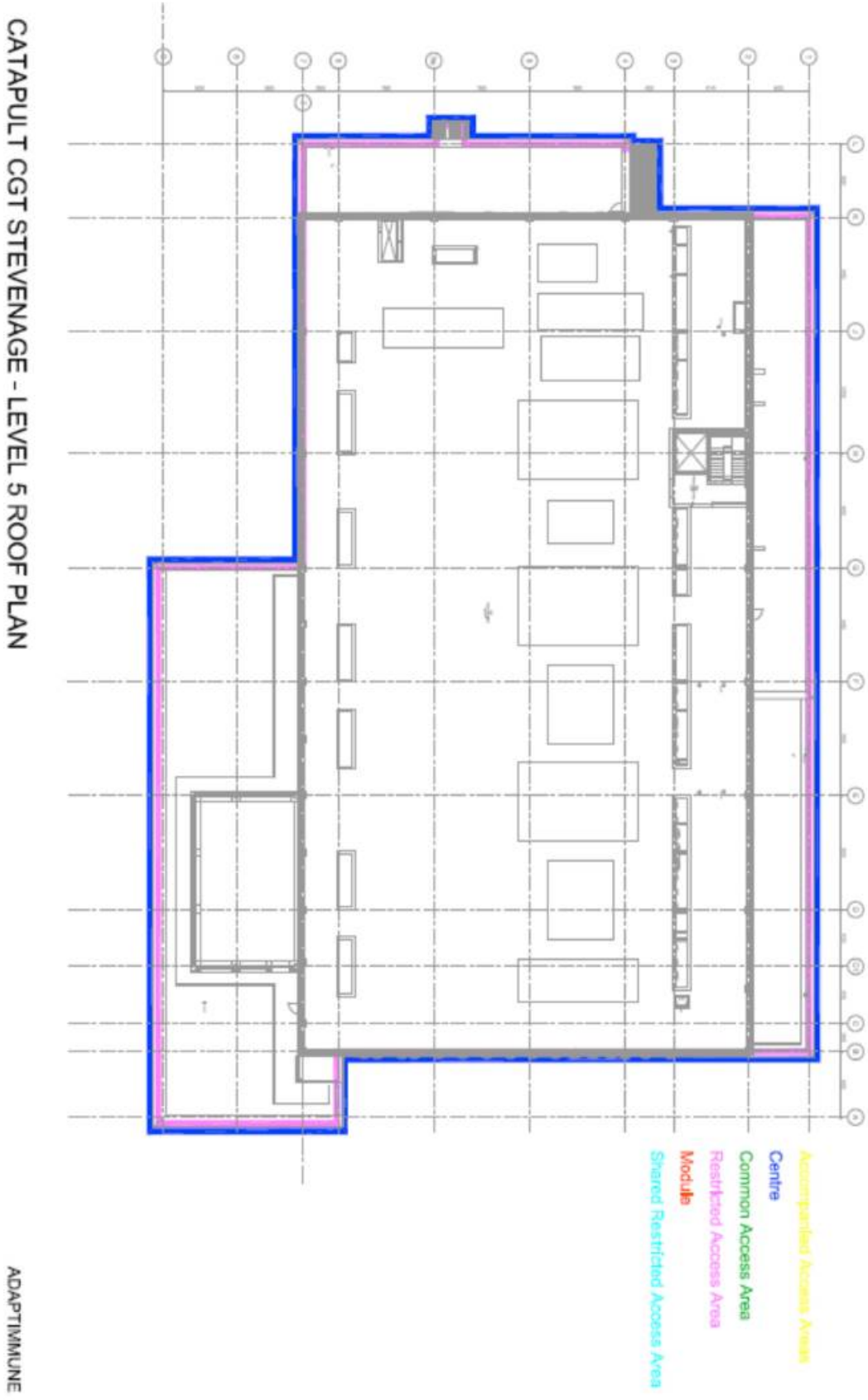
CATAPULT CGT STEVENAGE – LEVEL 3

ADAPTIMMUNE



CATAPULT CGT STEVENAGE - LEVEL 4 INTERSTITIAL CEILING AND ADMIN ROOF

ADAPTIMMUNE



Part 4: the Lease

Provided under cover of a separate document to ADAPTIMMUNE

SCHEDULE 3

Financial Contributions

	Contribution per module (estimate)
1. [***]	**£[***]**
2. Rates	**£120,000**
3. Integral Inputs Contributions*	**£747,000**
4. Activity Input Contributions*	**These services are dependent on Collaborator readiness, activity, and level of operation. This means that the precise nature of how these services will be provided, and the pricing cannot be estimated or fixed in advance**
5. Establishment Input Contributions*	**The cost for the standard On-boarding element of these inputs is estimated at £56,650plus the cost of consumables and subcontracting, charged as the pass through costs and estimated at £10,100. On-boarding may involve costs for Additional Services at the option of the ADAPTIMMUNE. [Actual cost to be inserted once On-boarding scope agreed]**

**** Note that these costs are subject to a 10% risk and capital charge, as per Clause 8.1**

All costs are subject to vat at the prevailing rate

Note that the scope and contributions for of Activity Related Inputs are dependent on ADAPTIMMUNE activity, and level of operation. This means that the precise nature of how these inputs will be provided, and the contributions attributable to them cannot be estimated, or fixed until the costs are incurred.

SCHEDULE 4

Catapult Background Intellectual Property

THE REMAINDER OF THIS PAGE HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO A REQUEST FOR CONFIDENTIAL TREATMENT

[***]

SCHEDULE 5

Code of Conduct

ADAPTIMMUNE agrees to:

(a) Operate in a manner consistent with EU GMP to maintain a compliant multiproduct environment;

(b) Operate in the spirit of the Collaboration;

(c) Respect the confidentiality, privacy and operations of other Collaborators;

(d) Maintain an environment within its Module in accordance with any procedures governing the Centre's operation and the terms of occupation;

(e) Adhere to facility quality policies and protocol to the extent communicated to ADAPTIMMUNE and relevant to operation of Project by ADAPTIMMUNE;

(f) Adhere to roles and responsibilities as detailed in the Quality Technical Agreement and the Service Level Agreement;

(g) Abide by incident reporting requirements communicated by Catapult; and

(h) Operate in compliance with all appropriate environment, health and safety requirements (both national and local).

SCHEDULE 6

On-boarding and New Business Introduction

Summary of the On-boarding process

The entry level on-boarding process comprises the following stages:

1. The On-boarding process is initiated once the Pre-Screen Questionnaire and the Establishment Input Statement have been approved & signed.

2. The Catapult provides the ADAPTIMMUNE with a documentation pack, designed to outline the ADAPTIMMUNE requirements of the Catapult.

3. ADAPTIMMUNE and CATAPULT agree a common understanding of the On-boarding requirements:

    a. ADAPTIMMUNE outlines their specific requirements for each On-boarding subject area (see below).

    b. Catapult undertakes and shares with ADAPTIMMUNE a gap analysis comparing the ADAPTIMMUNE subject area requirements with the Catapult capability and capacity as defined in the Collaboration Agreement. Schedules to ensure that the documents are aligned.

    c. After evaluation of the risks, ADAPTIMMUNE and Catapult work together to find appropriate solutions to fill any gaps identified.

    d. The solution is risk assessed and any further mitigations identified and agreed by the Parties.

4. Agree On-boarding project plan

    Catapult and ADAPTIMMUNE design a combined overview project plan for the n-boarding of the ADAPTIMMUNE team and process into the Centre.

5. Catapult and ADAPTIMMUNE implement the On-boarding project plan.

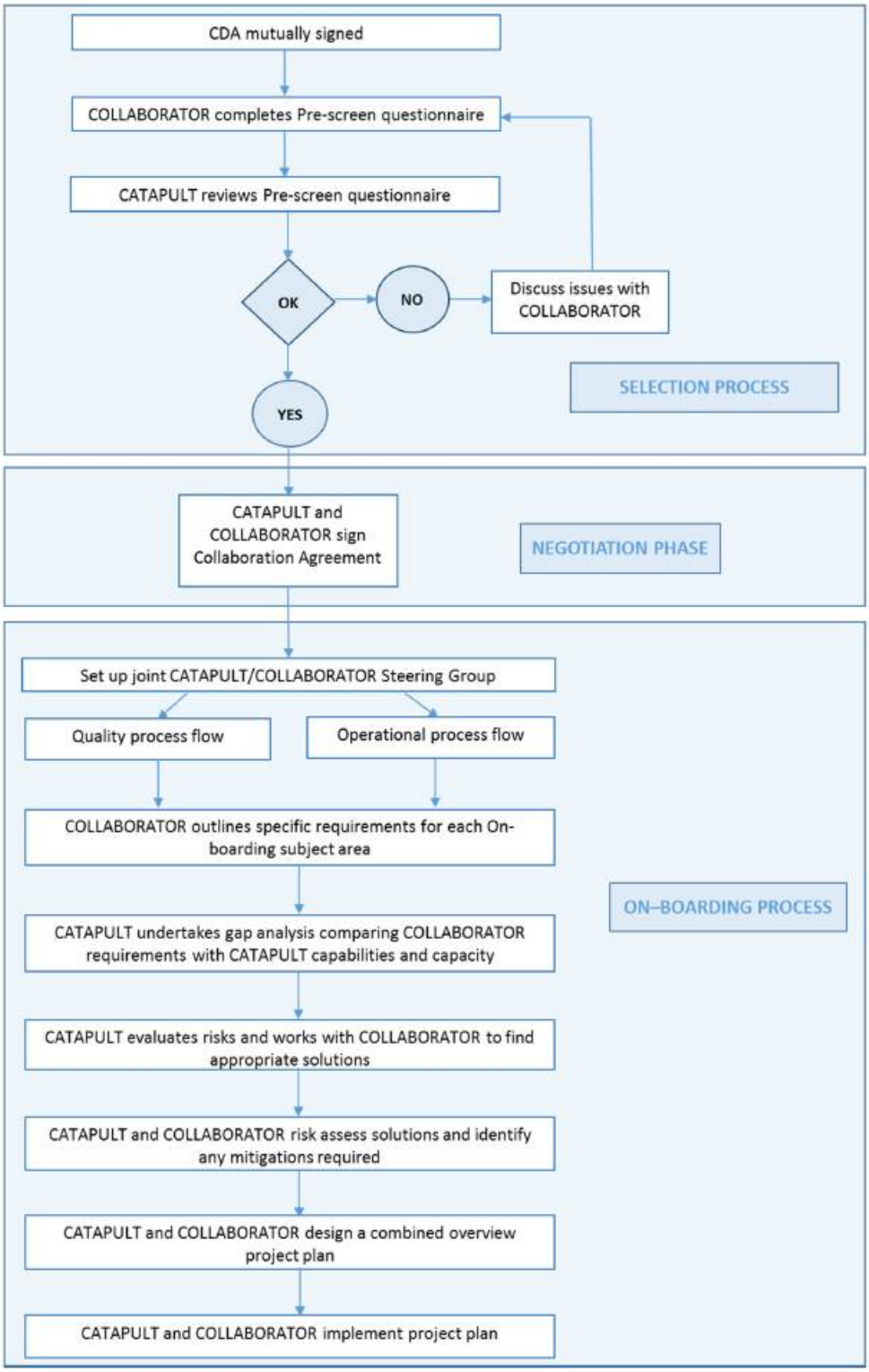
On-boarding Work Streams

- Process
- Quality Control
- Quality Assurance
- Environmental Health & Safety
- Materials and Product
- Waste management
- Equipment
- Facility modifications
- Training
- IT
- Communication

Note: ADAPTIMMUNE is not required to supply any sensitive/confidential information to Catapult during the On-boarding process

Establishment Input Statement to be provided under cover of a separate document, signed by both parties immediately prior to occupation, but incorporated into this Schedule 6 by reference

New Business Introduction process flow: set out on the following page



SCHEDULE 7

Schedule of Condition and Inventory of Module Fixtures and Fittings

To be provided under cover of a separate document, signed by both parties immediately prior to occupation, but incorporated into this Schedule 7 by reference

SCHEDULE 8

Warehouse and Procurement Management Provisions

1. **General**

1.1 Catapult is responsible for operating the warehouse area & processes in an EU- GMP compliant manner. In summary this includes goods in, common consumables stock and ADAPTIMMUNE owned stock, storage, picking, delivery and final product storage. Catapult will operate the warehouse area in accordance with the Quality Technical Agreement.

1.2 Catapult is responsible for the EHS within the warehouse and monitoring storage temperatures.

1.3 The Centre warehouse is an access controlled area limited to authorised Catapult personnel. ADAPTIMMUNE personnel can only access the warehouse when accompanied by Catapult personnel.

1.4 Catapult will man the warehouse from 8am to 5pm each week day (excluding bank holidays).

1.5 Catapult will provide a 24/7 call-out system for unexpected out of hours' deliveries, etc.

1.6 All ADAPTIMMUNE equipment, samples and materials must enter the Centre through the Centre's goods in warehouse entrance and be booked onto the Catapult Warehouse management system.

1.7 Transfer to the modules of all ADAPTIMMUNE equipment, samples and materials must be formerly authorised by Catapult personnel.

1.8 The Centre is considered a forward picking area and as such warehouse space is limited.
- i. Catapult will maintain a stock of common consumables.
- ii. Each Collaborator will have allocated storage at ambient temperature (15°C to 25°C), 2-8°C, -20°C, -80°C and LN2 for their raw materials, product contact equipment & excipients.
- iii. Visibility of the Collaborator's inventory is through the warehouse management system. Each Collaborator will only have visibility of their inventory items.

2. **Common consumables stock**

2.1 Catapult maintain a stock of an agreed list of commonly used consumables.
2.2 Catapult will be responsible for purchasing this stock or arranging a consignment stock with external vendors for direct purchase by ADAPTIMMUNE, maintaining stock levels, undertaking the appropriate QC & putting the stock away.
2.3 Catapult will invoice the ADAPTIMMUNE for the stock used and purchased by Catapult.
2.4 Catapult personnel will transfer the consumables to the ADAPTIMMUNE's Grade C MAL staging area once a day or as agreed.
2.5 Common consumables stock will not be segregated between collaborators.

3. **ADAPTIMMUNE owned inventory**

3.1 ADAPTIMMUNE is responsible for the management of its own inventory supply chain including sourcing & auditing suppliers, price negotiation, purchasing and insurance.
3.2 Before purchasing any stock to be stored in the Centre, ADAPTIMMUNE is responsible for providing a list of the inventory they will store & use within the Centre. Catapult reserves the right to reject any inventory item that does not comply with Catapult policies & procedures e.g. EHS
3.3 ADAPTIMMUNE is responsible for the completion & submission of a Material Specification for each item which will include such information as product container size, weight, required stock level, QC sampling and testing regime.
3.4 Catapult will be responsible for notifying ADAPTIMMUNE when the stock has reached its minimum stock level. The stock will then be re-ordered by ADAPTIMMUNE.
3.5 ADAPTIMMUNE must give at least 48 hours' notice of a delivery of their items, and must be delivered during the warehouse opening hours unless by prior agreement.

3.6 Catapult personnel will book the goods into the Warehouse Management System, attach appropriate labels, undertake the initial goods inspection, notify ADAPTIMMUNE of the goods receipt and place the goods in a location.
3.7 ADAPTIMMUNE is responsible for the management of all retention samples.
3.8 ADAPTIMMUNE will be responsible for the Quality Control (QC) of their inventory & Pass labelling.
3.9 If the products fail QC then ADAPTIMMUNE personnel will be responsible for attaching Reject labels. Catapult personnel will transfer these Reject products to the relevant Reject product storage area. Catapult will store these Reject products for up to 30 days during which time it is expected that the ADAPTIMMUNE will arrange appropriate disposal. If this is not arranged Catapult will manage the appropriate disposal with additional costs being charged to the ADAPTIMMUNE.

4. **Picking & delivery of stock for ADAPTIMMUNE**

4.1 For non-batch related common consumables stock such as clean room clothing CATAPULT manage the supply of these items.
4.2 For batch specific common consumables and for ADAPTIMMUNE owned materials, ADAPTIMMUNE will provide Catapult with a Bill of Materials (BoM) and a schedule identifying when the full or part BoMs are required.
4.3 A member of the Catapult staff will formally receive the BoM. If there are any queries or discrepancies with the BoM these will be highlighted & addressed at this time.
4.4 For Biological material or cryo-stored items, through prior arrangement, the ADAPTIMMUNE with a Catapult representative will pick and transfer these items to the Manufacturing Space.

5. **Final product storage**

5.1 The Centre will provide the following temperature final product storage:
- i. -20°C
- ii. -80°C
- iii. LN2 (vapour phase)

5.2 The final product will be stored in multi-collaborator storage equipment unless by previous agreement
5.3 ADAPTIMMUNE can store quarantined final product for up to 30 days and released final product in these storage areas for up to 14 days unless by agreement as an additional service for which there may be an additional charge.
5.4 Access to the areas will be strictly controlled and will only be possible when accompanied by an appropriately trained and authorised CATAPULT representative
5.5 Centre will be responsible for the maintenance of all equipment in this area including the temperature monitoring system and 24/7 emergency cover

6. **Drug Substance (DS) or Drug Product (DP) packing area**

6.1 Catapult will provide either a supervised GMP packing area or a GMP packing service.
6.2 Catapult will provide an area to charge dry shippers with liquid nitrogen.

6.3 Catapult will provide storage area for a reasonable supply of packing materials and boxes.

7. **Drug Substance (DS) or Drug Product (DP) shipping**
   7.1 If required CATAPULT will provide access to cold chain EU-GMP compliant courier service.

8. **Examples of the warehouse & logistics additional services available with additional charge**
   8.1 Out of hours support service.
   8.2 Sampling of ADAPTIMMUNE raw materials.
   8.3 QC of ADAPTIMMUNE raw materials.
   8.4 Auditing the ADAPTIMMUNE supply chain.
   8.5 Purchasing the ADAPTIMMUNE raw materials.
   8.6 Storing ADAPTIMMUNE raw materials or starting materials for longer than the specified period.
   8.7 Managing and storing retention samples.
   8.8 GMP packing service.
   8.9 Arrange GMP shipping service through an EU-GMP compliant logistics service provider.
   8.10 Offsite additional storage space.

SCHEDULE 9

Environmental Monitoring Schedule

Introduction

Catapult is committed to providing and maintaining manufacturing and manufacturing support environments that are fit for their intended purpose with regard to air quality. These environments will be appropriately controlled and monitored based on the room classification requirements defined in Eudralex Volume 4 Annex 1. This will be achieved by:

- The regular application of qualified cleaning agents and procedures to all GMP environments within the manufacturing centre
- The training and qualification of personnel to assure the consistent and appropriate execution of gowning and de-gowning procedures
- The development of and adherence to an appropriate environmental monitoring program
- Regular reporting and trending of data generated by the program
- The creation and dissemination of procedures for the appropriate handling of starting materials, raw materials, consumables, samples, in-process and final product and waste within the manufacturing facility

Summary of the environmental monitoring process

- The environmental monitoring (EM) program shall be established by CATAPULT to comply with the requirements of Eudralex Volume 4 Annex 1 — Manufacture of sterile medicinal products.

- CATAPULT Quality will establish and periodically reassess (based on historical data) action and alert limits for EM test result values or all types of monitoring.

- CATAPULT will supply the following calibrated and maintained EM sampling and measuring equipment per module for ADAPTIMMUNE use:
  - 3 portable active air samplers (for ‘in-operation’ viable air monitoring)
  - 3 portable non-viable particulate monitors
  - 5 fixed sampling points and associated non-viable particulate monitors

- Catapult will supply all the necessary consumables to facilitate ADAPTIMMUNE is to undertake viable ‘in-operation’ environmental monitoring (including sufficient TSA & SDA settle plates and contact plates to cover monitoring of the entire daily processing period).

- Responsibility for the execution of the manufacturing facility environmental monitoring program will be shared between Catapult and the ADAPTIMMUNE per the QTA

When requested by ADAPTIMMUNE staff, CATAPULT Technical Services staff are responsible for the delivery of EM consumables to the relevant Materials Air Lock directly adjacent to the CNC corridor.

- ADAPTIMMUNE collected EM samples should be appropriately labelled and packaged immediately subsequent to exposure.

- When requested by ADAPTIMMUNE staff, CATAPULT Technical Services staff are responsible for the collection of exposed EM samples, their transportation to CGT QC Microbiology, documentation of their receipt and transfer to QC staff for storage prior to testing.

- CATAPULT QC Microbiology staff are responsible for the appropriate processing of EM samples (incubation, enumeration and speciation as required), documenting the results and providing trended data to ADAPTIMMUNE.

- All module specific EM data and that collected from sampling of the common facility areas will be made available to individual ADAPTIMMUNEs.

- Data will be presented per specific EM session and as a trend graph on a mutually agreed frequency. Data will include the results of any speciation undertaken as a result of an action or alert limit breach.

- Alert limit breach trends and any action limit breaches will result in CATAPULT QC staff raising a record in the Quality Management System to document the event, investigate root cause (with ADAPTIMMUNE

assistance if appropriate) and identify the appropriate preventative and corrective actions necessary to mitigate the risk of recurrence.

SCHEDULE 10

IT infrastructure

The Centre will accommodate several collaborators consecutively, each of whom could potentially use the Centre in a different way.

The underlying IT infrastructure has been configured for each module to have its own self-contained secure network. This will allow independent network scenarios, the configuration of these requirements will be carried out, administered and monitored by CATAPULT IT staff.

ADAPTIMMUNE will have its own dedicated secure VLANs.

All Collaborator will however be subject to the Catapult's information security policy in relation to access to IT systems provided by Catapult (or if not provided by Catapult, to the extent such systems interact with IT systems provided by Catapult). Catapult will provide the policy prior to MHRA license inspection. Where possible ADAPTIMMUNE will be given an opportunity to comment on such information security policies.]

Internet provision is not provided as standard however we can provide the following:

- Synchronous Fibre broadband provided by Catapult at current market rates. [Broadband -
- ADAPTIMMUNE supplies their own internet connectivity subject to Wayleave
- ADAPTIMMUNE organises their own lease Line (PPTP) connectivity between their own sites and the Centre, subject to wayleave.

SCHEDULE 11

Module and Centre Specifications

Part A: Manufacturing Space Specification

It will:

- be part of a UK-licensed EU-GMP-compliant facility developed in close relationship with the Medicines and Healthcare Products Regulatory Agency
- be of a design, construction, fit and finish in compliance with governing environment, health and safety legislation;
- be designed, built, fitted and finished in compliance with Applicable Law including 2001/83/EC and 2001/20/EC;
- have individual personnel access control between the corridors and offices, to the Grade C corridors and the Grade C corridor to the Manufacturing Space. Catapult will issue ADAPTIMMUNE staff with access cards and ADAPTIMMUNE will have visibility of card usage by their own employees via the access control system.
  - include a positive pressure maintained cleanroom of not less than 86m² and include a culture room of not less than 15m²;
  - have appropriate pressure cascades with negative pressure sinks in all entry and egress routes to minimise the risk of ingress and/or egress of contamination;
  - have walk-on ceilings and a technical corridor;
  - have a high-efficiency particulate arrestance (**"HEPA"**) filtered HVAC supplying segregated air as single pass through, with heat recovery;
  - have a gas supply supplied through services plates (details of the service plates are set out in Schedule 7);
  - have single and three phase power supply, 2 connections with UPS and emergency generator back-up, supplied through service plates (details of the service plates are set out in Schedule 7)
  - The building will have a genset capacity of 8 hours tank fuel capacity. Any requirement for the generator to be running longer than 8 hours additional fuel will be connected to the generator.
  - have dedicated adjacent material air locks ("MALs") and dedicated adjacent personnel air locks ("PALs")
  - The Building Management System will record temperature, and pressure (reference sensor located in a plant rom).

Part B: Manufacturing Office and Non-Manufacturing Office Specification

There will be:

- a Manufacturing Office of not less than 15m2, designed for occupation by up to 2 ADAPTIMMUNE personnel, as set out on the Plans with direct access from the controlled, non-classified (CMC) corridor and cleaned by Catapult
- A Non-Manufacturing Office of not less than 28m2 designed for occupation by up to 4 ADAPTIMMUNE personnel on the first or second floor of the Centre and cleaned by Catapult, as set out in the Plans;
- be equipped for normal administrative functions only;
- be equipped with lighting in line with British standards;
- have lockable doors compliant with insurers requirements;
- be furnished with desks, chairs and storage as agreed with the Centre staff;

- have small power outlets (not UPS-protected) suitable for normal small office equipment use. have service media outlets for IT and Telephones. Internet services can be provided on request and recharged as appropriate as an Activity Related Contribution;

SCHEDULE 12

Expert Determination

This Schedule governs the appointment of an Expert in accordance with Clause 7.2.4 to resolve a disagreement as to the acceptability of a new product and/or process, and/or the introduction of any modification to an existing ADAPTIMMUNE Product or Process into the Centre applying the criteria in Clause 7.2.3 OR in accordance with clause 26.2.3 to resolve a disagreement connected with a change to the schedules listed at that clause.

1. EXPERT

1.1 The Parties shall agree on the appointment of an independent third party to be an expert ("**Expert**") and shall agree with the Expert the terms of their appointment. The Parties shall use all reasonable efforts to agree such Expert within 7 days of [insert trigger]. Any Expert suggested by either Party must have at least [X] years' experience of resolving matters similar to those in dispute.

1.2 If the Parties are unable to agree on an Expert or the terms of their appointment within seven days of either Party serving details of a suggested expert on the other, either Party shall then be entitled to request the Centre for Effective Dispute Resolution (CEDR) to appoint an Expert of professional repute and for the CEDR to agree with the Expert the terms of appointment.

1.3 The Expert is required to prepare a written decision including reasons and give notice (including a copy) of the decision to the parties within a maximum of three months of the matter being referred to the Expert.

1.4 If the Expert dies or becomes unwilling or incapable of acting, or does not deliver the decision within the time required by this Clause then:

(a) either Party may apply to the London Court of International Arbitration to discharge the Expert and to appoint a replacement Expert with the required expertise; and

(b) this Clause shall apply to the new Expert as if they were the first Expert appointed.

1.5 All matters under this clause must be conducted, and the Expert's decision shall be written, in the English language.

1.6 The Parties are entitled to make submissions to the Expert including oral submissions and will provide (or procure that others provide) the Expert with such assistance and documents as the Expert reasonably requires for the purpose of reaching a decision.

1.7 Each Party shall with reasonable promptness supply each other with all information and give each other access to all documentation and personnel and/or things as the other Party may reasonably require to make a submission under this clause.

1.8 The Expert shall act as an expert and not as an arbitrator. The Expert shall determine the matter under the agreement. The Expert may award interest as part of their decision. The Expert's written decision on the matters referred to them shall be final and binding on the parties in the absence of manifest error or fraud.

1.9 The Expert's fees and any costs properly incurred by them in arriving at their determination (including any fees and costs of any advisers appointed by the Expert) shall be borne by the Parties equally or in such other proportions as the Expert shall direct.

1.10 All matters concerning the process and result of the determination by the Expert shall be kept confidential among the Parties and the Expert.

1.11 Each Party shall act reasonably and co-operate to give effect to the provisions of this clause and otherwise do nothing to hinder or prevent the Expert from reaching their determination.

1.12 The Expert and Nominating Body shall have no liability to the parties for any act or omission in relation to this appointment; save in the case of bad faith.

SCHEDULE 13

List of Centre Utilities and their Associated Providers as referenced at Clause 9.1.7

Utility
Natural Gas
Electricity
Water
Sewerage

SCHEDULE 14

Collaborator Forums

The purposes of the collaborator forums (the "**Forums**") are:

- to facilitate open and transparent exchange of information between Catapult and collaborators, and between Collaborators in relation to the operation of the Centre,
- to enable all parties to contribute to the safe, efficient, and successful operation of the Centre, and of the collaborators' manufacturing activity,
- to enable the standards of the centre to be maintained at an appropriate cost.

The Forums will be supplemented by regular informal ad-hoc meetings and weekly/bi-weekly surgeries involving Catapult and any collaborator as is necessary.

Key objectives of the Forums include:

1. Updating any requirements needed to continue to maintain a suitable level of services for robust operation of a licensed facility suitable for late stage clinical and commercial manufacture of ATMPs in the most economical way;

2. Considering Collaborator input into the relevant aspects of the management and operation of the Centre;

3. Discussing Catapult and Collaborator compliance with all relevant Quality, Health & Safety and Legal requirements;

4. Discussing any modifications to any Module or the Centre with the potential to impact any collaborator (Prior to being raised in the relevant Forum, Catapult will consider all collaborator requests for facility modifications that require any Other Collaborator's cleanroom to be non-operational for any period of time, or that affect the Centre license and will discuss feasibility with the all Collaborators. For clarity, such modifications should remain part of the notification to collaborators of the agenda for any Collaborator Forum);

5. Having formal two-way communications between Catapult and collaborators to discuss common issues;

6. Raising awareness of issues and incidents with potential for impact on the Catapult and Other Collaborators;

7. Encouraging and facilitating the sharing of best practice between collaborators; and

8. Examining appropriate ways of managing costs.

The Forums will be advisory in their nature and initially take place monthly, with their frequency being reviewed/varied as required. However, the frequency of Forums will be no less than quarterly.

The agenda, format, time and venue will be set and reasonable notice given in advance by Catapult, with the agenda being subject to change based on operational experience and input from collaborators. Relevant issues will be discussed and appropriate recommendations made during the Forums. Outputs of any key decisions that need to be made separately outside of the Forums will be communicated prior to the following meeting.

Key issues and follow-up actions will be summarised and circulated to all Collaborators by Catapult after each Forum.

Collaborators will be fully consulted prior to any key decisions being made. In recognition of the fact that the Catapult has overall responsibility for the operation of the centre Catapult reserves the right to make the final decision in the best interests of all Collaborators and the Catapult.

There will be 3 Forums covering 3 key areas, with the relevant Catapult chairs, Catapult leads, and Terms of Reference being summarised in the table below.

The Forums with be separated into 3 key areas, with the relevant Catapult chairs, Catapult leads or their representatives, and Terms of Reference being summarised in the table below.

FORUM	CATAPULT CHAIR	CATAPULT LEAD	TERMS OF REFERENCE
Quality Forum	Director of Quality	Head of QA	· Environmental Monitoring Trends · Collective discussion of recent deviations or changes with a shared impact · Audit findings (internal and external) · Audit findings of shared Vendors · Regulatory Trends · Best Practise Information · Training Requirements · Updates to Facility Management Procedures · Updates to Foundation Documents · Quality Agreement Compliance

Health & Safety Forum	Manufacturing Centre Director	H&S Representative	· Review of Catapult & collaborator accidents, incidents and near misses since last meeting
			· Review of accident, incident and near miss trends
			· Review of collaborators EHS concerns
			· Catapult H&S update as it relates to:
			  · People
			  · Facilities, offices & equipment
			  · Facility modifications
			  · Biological & chemical
			  · Contractor management
			· Catapult Environmental update
			· New or updated EHS legislation

Operational Forum	Manufacturing Centre Director	Operations Lead(s)	· Summary of current key discussions in the Quality and H&S forum, to ensure that any business-critical topics receive broad attention
			· Catapult general operational updates
			· Collaborator general operational updates
			· Area specific issues/updates
			  · Welfare
			  · Process
			  · Equipment
			  · Materials & Product
			  · Waste Management
			  · IT
			  · Communications
			  · Proposed Facility modifications — requirements and costs
			  · Schedule for any planned shutdowns
			  · People & Training
			· Budgetary and resource issues/updates
			  · Proposed capital expenditure
			  · Update on any expected changes in Integral, Activity Related Input Contributions and Additional Input Contributions
			  · Staff resources

SCHEDULE 15

Additional Input Agreement

ADDITIONAL INPUT AGREEMENT No. 001

Collaborator:

Customer's Manager:

Catapult: **Cell Therapy Catapult Limited**

Catapult's Manager:

Date of this ADDITIONAL INPUT AGREEMENT:

This Additional Input Agreement is the [insert] Additional Input Agreement entered into between the Collaborator and the Catapult in accordance with, and in relation to, the Collaboration Agreement entered into between Customer and the Catapult and dated [insert] (the "**Agreement**"). This [insert] Additional Input Agreement further amends the provisions of the Agreement as follows:

Additional Inputs Required:

Changes to the Contributions associated with the changes to be made under this Additional Input Agreement (including changes to invoicing provisions):

Additional terms required as a result of the changes to be made under this Additional Input Agreement:

This **Additional Input Agreement** is accepted:

For and on behalf of:

For and on behalf of
Cell Therapy Catapult Limited

Signed: _____

Signed: _____

Full Name: _____

Full Name: _____

Job Title: _____

Job Title: _____

SCHEDULE 16

Input Commitments

The heating, ventilation and air conditioning system (HVAC) and all other equipment listed as critical within this Agreement Schedule or Quality Technical Agreement will be serviced and qualified in line with the QTA (this means that no planned preventative maintenance visit will be delayed by more than a pre-agreed number of working days, nor will any necessitating interruption of ADAPTIMMUNE's Manufacturing Process be arranged with less than a minimum pre-defined notice period).

Catapult staffing levels will be maintained at a level appropriate to maintain a GMP facility and that is proportionate to the requirements of the number of ADAPTIMMUNEs in simultaneous occupation of the Centre at any time. Details of current staffing levels and any planned changes will be shared at the regular Quality Reviews (such reviews to take place quarterly or at any pre-agreed frequency).

Minimum review times for quality documents will be defined in the QTA.

Exhibit 10.2

FIRST AMENDMENT TO EMPLOYMENT AGREEMENT

THIS FIRST AMENDMENT TO EMPLOYMENT AGREEMENT (this "First Amendment") is made effective as of October 30, 2017 ("Effective Date") by and between Adaptimmune, LLC, a wholly-owned subsidiary of Adaptimmune Ltd. ("Company"), and Gwendolyn Binder-Scholl of Philadelphia, PA ("Executive"). Capitalized terms used and not otherwise defined herein shall have the meanings ascribed to such terms in the Employment Agreement (as defined below).

WHEREAS, the Company and Executive have entered into that certain Employment Agreement (the "Employment Agreement"), dated as of March 10, 2017, which sets forth the terms and conditions of Executive's employment by the Company; and

WHEREAS, the Company and Executive desire to amend the Employment Agreement as set forth in this First Amendment;

NOW, THEREFORE, in consideration of the premises set forth herein and for other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the Company and Executive hereby amend the Employment Agreement as follows, effective as of the Effective Date:

1. The following paragraphs 26, 27 and 28 shall be added immediately after paragraph 25 of the Employment Agreement:

26. Reimbursement and allowance. During her assignment in Oxford, England during the Employment Period, the Company shall (i) reimburse Executive for the cost of maintaining an apartment in the Oxford, England area, and (ii) make a car allowance payment to Executive to enable Executive to have the use of a car in England. Such reimbursement and allowance shall be made in accordance with the requirements of paragraph 25(a), (c), and (e) of this Agreement.

27. Withholding; Payment of Taxes.

27.1 U.S. Income Tax Withholding. The Company shall withhold from Executive's compensation from the Company and remit to U.S. federal, state, local, or foreign taxing authorities any income taxes and any other amounts that may be required to be remitted pursuant to U.S. federal, state, local laws, or foreign laws and regulations.

27.2 UK Taxes. The Company shall remit, as such taxes become due, any income taxes required by the laws of the United Kingdom (the "UK") to be paid or withheld from Executive's compensation in respect of Executive's services for the Company in the UK. For purposes of this paragraph 27.2, income tax shall mean any income taxes, and any other charges, fees, assessments or any other taxes that may be assessed by UK taxing authorities on Executive's compensation from the Company pursuant to any law of the UK or governmental regulation thereunder. Notwithstanding the foregoing, social security and Medicare taxes shall be remitted to the United States government, and the Company and Executive shall complete all applicable documentation required to exempt Executive from UK social security taxes.

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28. Tax Equalization/Tax Indemnity.

28.1 Generally. The Company agrees that it shall indemnify Executive for any additional taxes incurred by her as a result of Executive performing services for the Company and its affiliates in the United Kingdom, such that Executive will not incur a greater combined U.S. federal, state, local, and United Kingdom income tax expense in respect of her compensation from the Company than she would have if she were performing her services for the Company and its affiliates entirely in the United States during each year or partial year of her employment with the Company. Executive's total compensation under this Agreement will be adjusted to fulfill the tax indemnity provisions of this paragraph (any additional amount payable by the Company to Executive pursuant to this paragraph 28 being a "Tax Indemnity Amount"). The Company shall also pay or reimburse Executive for the cost of preparing her U.S. federal, state, local, and United Kingdom income tax returns by an accounting firm in order to implement this paragraph 28. If such income tax return preparation expenses are reimbursed, such reimbursement shall be made no later than December 31 of the year following the year in which the expense is incurred by Executive.

28.2 Tax Indemnity Adjustments.

28.2.1 Any Tax Indemnity Amount payable to Executive pursuant to this paragraph 28 shall be paid promptly following a determination that such amount is due and in any event, no later than the end of the second calendar year beginning after the calendar year in which the Executive's U.S. federal income tax return is required to be filed (including any extensions) for the year to which the compensation subject to the tax neutrality/tax indemnify payment relates, or, if later, the second calendar year beginning after the latest such calendar year in which the Executive's foreign tax return or payment is required to be filed or made for the year to which the compensation subject to the tax neutrality/tax indemnity payment relates. Where such additional payments arise due to an audit, litigation or similar proceeding, the payments shall be scheduled and made in accordance with the provisions of Treas. Reg. §1.409A-3(i)(1)(v) (relating to the timing of tax gross-up payments).

28.2.2 If for any UK income tax year, (i) amounts withheld from Executive's compensation by the Company to satisfy applicable UK withholding obligations in respect of Executive's services in the UK are insufficient to cover such withholding obligations (the "Insufficiency Amount"), and (ii) Executive will receive a foreign tax credit on her U.S. foreign tax return for such withholdings and for any additional amounts Executive pays to the Company or to the United Kingdom tax authorities to cover such insufficiency such that, as a result, Executive will not incur a greater combined U.S. federal, state, local, and United Kingdom income tax expense in respect of her compensation from the Company than she would have if she were performing his services for the Company and its affiliates entirely in the United States during each year or partial year of her employment with the Company, Executive shall pay the Insufficiency Amount (or, if less, the part of the Insufficiency Amount such that Executive would not incur a greater combined U.S. federal, state, local, and United Kingdom income tax expense in respect of her compensation from the Company than she would have if she were performing

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her services for the Company and its affiliates entirely in the United States during each year or partial year of her employment with the Company) to the Company within 60 days after the Insufficiency Amount is determined, including without limitation, for the 2017/2018 UK tax year. Executive shall not be liable to the Company for any penalties, interest or other liabilities assessed by UK taxing authorities against the Company for its failure to withhold sufficient amounts from Executive's compensation.

2. This First Amendment shall be and is hereby incorporated in and forms a part of the Employment Agreement.

3. Except as amended and set forth herein, the Employment Agreement shall continue in full force and effect.

THE PARTIES TO THIS FIRST AMENDMENT HAVE READ THE FOREGOING FIRST AMENDMENT AND FULLY UNDERSTAND EACH AND EVERY PROVISION CONTAINED HEREIN. WHEREFORE, THE PARTIES HAVE EXECUTED THIS FIRST AMENDMENT ON THE DATES SHOWN BELOW.

Dated: January 12, 2018

/s/ Gwendolyn Binder-Scholl
Gwendolyn Binder-Scholl

Adaptimmune, LLC

Dated: January 12, 2018

/s/ William Bertrand
William Bertrand
Authorized Signatory

BROOK STREET DES ROCHES

MILTON PARK

DATED 28 FEBRUARY 2018

(1) MEPC MILTON PARK NO. 1 LIMITED AND MEPC MILTON PARK NO. 2 LIMITED

(2) ADAPTIMMUNE LIMITED

LEASE

relating to

39 Innovation Drive

Milton Park

+44 (0) 1235 836600
BSDR.COM
DX 144160 ABINGDON 4

BrookStreet des Roches LLP
25A Western Avenue, Milton Park,
Abingdon, Oxfordshire, OX14 4SH

AN MEPC ASSET

PRESCRIBED CLAUSES

LR1.	**Date of lease**	28 February 2018
LR2.	**Title number(s)**	**LR2.1 Landlord's title number(s)** BK102078 **LR2.2 Other title number(s)** ON122118, ON122717, ON130606, ON145942, ON146219, ON225380, ON38283, ON72772, ON96949, ON216090
LR3.	**Parties to this lease**	**Landlord** **MEPC MILTON PARK NO. 1 LIMITED** (Company number 5491670) and **MEPC MILTON PARK NO. 2 LIMITED** (Company number 5491806), on behalf of MEPC Milton LP (LP No. LP14504), both of whose registered offices are at Sixth Floor, 150 Cheapside, London, England, EC2V 6ET **Tenant** **ADAPTIMMUNE LIMITED** (Company number 6456741) whose registered office is at 60 Jubilee Avenue, Milton Park, Abingdon, Oxfordshire, England, OX14 4RX **Other parties** None
LR4.	**Property**	**In the case of a conflict between this clause and the remainder of this lease then, for the purposes of registration, this clause shall prevail.** 39 Innovation Drive, Milton Park, Abingdon, Oxfordshire, OX14 4RT shown edged red on the Plan with a gross internal floor area of 4,275 square metres (46,017 square feet) measured in accordance with the RICS Code of Measuring Practice (sixth edition)
LR5.	**Prescribed Statements etc.**	None
LR6.	**Term for which the Property is leased**	From and including 28 February 2018 To and including 23 October 2041
LR7.	**Premium**	None
LR8.	**Prohibitions or restrictions on disposing of this lease**	This lease contains a provision that prohibits or restricts dispositions

LR9.	**Rights of acquisition etc.**	**LR9.1 Tenant's contractual rights to renew this lease, to acquire the reversion or another lease of the Property, or to acquire an interest in other land** None **LR9.2 Tenant's covenant to (or offer to) surrender this lease** None **LR9.3 Landlord's contractual rights to acquire this lease** None
LR10.	**Restrictive covenants given in this lease by the Landlord in respect of land other than the Property**	None

LR11.	**Easements**	**LR11.1 Easements granted by this lease for the benefit of the Property** The easements specified in Part I of the First Schedule of this lease **LR11.2 Easements granted or reserved by this lease over the Property for the benefit of other property** The easements specified in Part II of the First Schedule of this lease
LR12.	**Estate rentcharge burdening the Property**	None
LR13.	**Application for standard form of restriction**	None
LR14.	**Declaration of trust where there is more than one person comprising the Tenant**	None

This lease made on the date and between the parties specified in the Prescribed Clauses **Witnesses** as follows:

1 Definitions and Interpretation

In this lease unless the context otherwise requires:

1.1 Definitions

Adjoining Property means any adjoining or neighbouring premises in which the Landlord or a Group Company of the Landlord holds or shall at any time during the Term hold a freehold or leasehold interest;

Agreement for Lease means the agreement dated 25 May 2017 made between (1) MEPC Milton Park No. 1 Limited and MEPC Milton Park No. 2 Limited, on behalf of MEPC Milton LP, and (2) Adaptimmune Limited providing, inter alia, for the grant of this lease;

Base Rate means the base rate from time to time of Barclays Bank PLC or (if not available) such comparable rate of interest as the Landlord shall reasonably require;

Break Date 1 means the fifth (5th) anniversary of the date of commencement of the Contractual Term;

Break Date 2 means 24 October 2027;

Break Date 3 means 24 October 2031;

Break Date 4 means 24 October 2036;

Clearing Bank means a bank which is a shareholder in CHAPS Clearing Company Limited;

Common Control means that each of the companies concerned has 50% or more of its outstanding voting stock in the ownership of the same persons or companies;

Conduit means any existing or future media for the passage of substances or energy and any ancillary apparatus attached to them and any enclosures for them;

Contractual Term means the term specified in the Prescribed Clauses;

Encumbrances means the obligations and encumbrances (if any) specified in Part III of the First Schedule;

Estate means Milton Park, Abingdon, Oxfordshire (of which the Property forms part) and the buildings from time to time standing on it as owned by the Landlord and shown on the Plan together with any other adjoining land which is incorporated into Milton Park;

Estate Common Areas means the roads, accesses, landscaped areas, car parks, estate management offices and other areas or amenities on the Estate or outside the Estate but serving or otherwise benefiting the Estate as a whole which are from time to time provided or designated for the common amenity or benefit of the owners or occupiers of the Estate;

Estate Services means the services provided or procured by the Landlord in relation to the Estate as set out in Part II of the Fourth Schedule;

Group Company means a company which is a member of the same group of companies within the meaning of Section 42 of the 1954 Act or is within Common Control;

Guarantor means any party to this lease so named in the Prescribed Clauses (which in the case of an individual includes his personal representatives) and any guarantor of the obligations of the Tenant for the time being;

Indexation Review Dates means 24 October 2021 and 24 October 2031;

Insurance Commencement Date means 28 February 2018;

Insured Risks means fire, lightning, earthquake, explosion, terrorism, aircraft (other than hostile aircraft) and other aerial devices or articles dropped therefrom, riot, civil commotion, malicious damage, storm or tempest, bursting or overflowing of water tanks apparatus or pipes, flood and impact by road vehicles (to the extent that insurance against such risks may ordinarily be arranged with an insurer of good repute) and such other risks or insurance as may from time to time be reasonably required by the Landlord (subject in all cases to such usual exclusions and limitations as may be imposed by the insurers), and **Insured Risk** means any one of them;

Landlord means the party to this lease so named in the Prescribed Clauses and includes any other person entitled to the immediate reversion to this lease;

Landlord's Surveyor means a suitably qualified person or firm appointed by the Landlord (including an employee of the Landlord or a Group Company) to perform the function of a surveyor for the purposes of this lease;

Lease Particulars means the descriptions and terms in the section headed **Lease Particulars** which form part of this lease insofar as they are not inconsistent with the other provisions of this lease;

Permitted Use means use within Class B1 of the 1987 Order

Plan means the plan or plans annexed to this lease;

Prescribed Clauses means the descriptions and terms in the section headed **Prescribed Clauses** which form part of this lease;

Principal Rent means:

From and including 28 February 2018 to but excluding 28 July 2018: TWO HUNDRED AND EIGHTEEN THOUSAND FIVE HUNDRED AND EIGHTY POUNDS AND FIFTY PENCE (£218,580.50) per annum;

From and including 28 July 2018 to and including 23 October 2021: FOUR HUNDRED AND THIRTY SEVEN THOUSAND ONE HUNDRED AND SIXTY ONE POUNDS (£437,161.00) per annum;

subject to increase in accordance with the Second Schedule;

Property means the property described in the Prescribed Clauses and includes any part of it, any alteration or addition to the Property and any fixtures and fittings in or on the Property;

Quarter Days means 25 March, 24 June, 29 September and 25 December in every year and **Quarter Day** means any of them;

Rent Commencement Date means 28 February 2018;

Review Dates means 24 October 2026 and 24 October 2036;

Schedule of Condition means the schedule of condition to be prepared in accordance with the provisions of the Agreement for Lease.

Service Charge means the Service Charge set out in the Fourth Schedule;

Service Charge Commencement Date means 28 February 2018;

Tenant means the party to this lease so named in the Prescribed Clauses and includes its successors in title;

Term means the Contractual Term together with any continuation of the term or the tenancy (whether by statute, common law holding over or otherwise);

This lease means this lease and any document supplemental to it or entered into pursuant to it;

Uninsured Risks means an Insured Risk against which insurance is from time to time unobtainable on normal commercial terms in the London insurance market at reasonable commercial rates for a property equivalent in size, layout, type and location.

VAT means Value Added Tax and any similar tax substituted for it or levied in addition to it;

1954 Act means the Landlord and Tenant Act 1954;

1987 Order means the Town and Country Planning (Use Classes) Order 1987 (as originally made);

1995 Act means the Landlord and Tenant (Covenants) Act 1995;

2003 Order means The Regulatory Reform (Business Tenancies) (England and Wales) Order 2003.

1.2 Interpretation

1.2.1 If the Landlord, Tenant or the Guarantor is more than one person then their covenants are joint and several;

1.2.2 Any reference to a statute includes any modification extension or re-enactment of it and any orders, regulations, directions, schemes and rules made under it;

1.2.3 Any covenant by the Tenant not to do any act or thing includes an obligation not knowingly to permit or suffer such act or thing to be done;

1.2.4 If the Landlord reserves rights of access or other rights over or in relation to the Property then those rights extend to persons authorised by it;

1.2.5 References to the **act or default of the Tenant** include acts or default or negligence of any undertenant or of anyone at the Property with the Tenant's or any undertenant's permission or sufferance;

1.2.6 The index and Clause headings in this lease are for ease of reference only;

1.2.7 References to the **last year of the Term** shall mean the twelve months ending on the expiration or earlier termination of the Term;

1.2.8 References to **Costs** include all liabilities, claims, demands, proceedings, damages, losses and proper and reasonable costs and expenses;

1.2.9 References to Principal Rent, Current Rent, Indexed Rent and Revised Rent are references to yearly sums.

2 Demise

The Landlord with Full Title Guarantee DEMISES the Property to the Tenant for the Contractual Term TOGETHER WITH the rights set out in Part I of the First Schedule, EXCEPT AND RESERVING as mentioned in Part II of the First Schedule and SUBJECT TO the Encumbrances;

3 Rent

The Tenant will pay by way of rent during the Term or until released pursuant to the 1995 Act without any deduction counterclaim or set off except where required by law:

3.1 The Principal Rent and any VAT by equal quarterly payments in advance on the Quarter Days to be paid by Direct Debit, Banker's Standing Order or other means as the Landlord requires, the first payment for the period from and including the Rent Commencement Date to (but excluding) the next Quarter Day to be made on the Rent Commencement Date;

3.2 The Service Charge and any VAT at the times and in the manner set out in the Fourth Schedule;

3.3 The following amounts and any VAT:

3.3.1 the sums specified in Clauses 4.1 [interest] and 4.2 [outgoings and utilities];

3.3.2 the sums specified in Clause 6.2.1 [insurance];

3.3.3 all Costs incurred by the Landlord as a result of any breach of the Tenant's covenants in this lease.

4 Tenant's covenants

The Tenant covenants with the Landlord throughout the Term, or until released pursuant to the 1995 Act, as follows:

4.1 Interest

If the Landlord does not receive any sum due to it within 14 days of the due date to pay on demand interest on such sum at 2 per cent above Base Rate from the due date until payment (both before and after any judgment), provided this Clause shall not prejudice any other right or remedy for the recovery of such sum;

4.2 Outgoings and Utilities

4.2.1 To pay all existing and future rates, taxes, charges, assessments and outgoings in respect of the Property (whether assessed or imposed on the owner or the occupier), except any tax (other than VAT) arising as a result of the receipt by the Landlord of the rents reserved by this lease and any tax arising on any dealing by the Landlord with its reversion to this lease;

4.2.2 To pay for all gas, electricity, water, telephone and other utilities used on the Property, and all charges in connection with such utilities and for meters and all standing charges, and a fair and reasonable proportion of any joint charges as determined by the Landlord's Surveyor;

4.3 VAT

4.3.1 Any payment or other consideration to be provided to the Landlord is exclusive of VAT, and the Tenant shall in addition pay any VAT chargeable on the date the payment or other consideration is due;

4.3.2 Any obligation to reimburse or pay the Landlord's expenditure extends to irrecoverable VAT on that expenditure, and the Tenant shall also reimburse or pay such VAT;

4.4 Repair

4.4.1 To keep the Property in good and substantial repair and condition (damage by the Uninsured Risks or by the Insured Risks excepted save to the extent that insurance moneys are irrecoverable as a result of the act or default of the Tenant) PROVIDED THAT nothing in this Lease shall oblige the Tenant to put the Property in any better state of repair or condition as that evidenced in the Schedule of Condition;

4.4.2 To make good any disrepair for which the Tenant is liable within 2 months after the date of written notice from the Landlord (or sooner if the Landlord reasonably requires);

4.4.3 If the Tenant fails to comply with any such notice the Landlord may enter and carry out the work and the cost shall be reimbursed by the Tenant on demand as a debt;

4.4.4 To enter into maintenance contracts with reputable contractors for the regular servicing of all plant and equipment serving only the Property;

4.5 Decoration

4.5.1 To clean, prepare and paint or treat and generally redecorate:

(i) all external parts of the Property in every third year and in the last year of the Term;

(ii) all internal parts of the Property in every fifth year and in the last year of the Term;

4.5.2 All the work described in Clause 4.5.1 is to be carried out:

(i) in a good and workmanlike manner to the Landlord's reasonable satisfaction; and

(ii) in colours which (if different from the existing colour) are first approved in writing by the Landlord (approval not to be unreasonably withheld or delayed);

4.6 Cleaning

4.6.1 To keep the Property clean, tidy and free from rubbish;

4.6.2 To clean the inside and outside of windows and any washable surfaces at the Property as often as reasonably necessary;

4.7 Overloading

Not to overload the floors, ceilings or structure of the Property or any plant machinery or electrical installation serving the Property;

4.8 Conduits

To keep the Conduits in or serving the Property clear and free from any noxious, harmful or deleterious substance, and to remove any obstruction and repair any damage to the Conduits as soon as reasonably practicable to the Landlord's reasonable satisfaction;

4.9 User

4.9.1 Not to use the Property otherwise than for the Permitted Use;

4.9.2 Not to use the Property for any purpose which is:

(i) noisy, offensive, dangerous, illegal, immoral or an actionable nuisance; or

(ii) which in the reasonable opinion of the Landlord causes damage or disturbance to the Landlord, or to owners or occupiers of any neighbouring property; or

(iii) which involves any substance which may be harmful, polluting or contaminating other than in quantities which are normal for and used in connection with the Permitted Use provided that the use of the Property as laboratories shall not be taken to be a breach of this clause;

4.10 Signs

Not to erect any sign, notice or advertisement which is visible outside the Property without the Landlord's prior written consent;

4.11 Alterations

4.11.1 Not to make any alterations or additions which:

(i) affect the structural integrity of the Property (including without limitation the roofs and foundations and the principal or load-bearing walls, floors, beams and columns);

(ii) merge the Property with any adjoining premises;

(iii) affect the external appearance of the Property;

4.11.2 Not to make any other alterations or additions to the Property without the Landlord's written consent (which is not to be unreasonably withheld or delayed) save that the Tenant may install or demount internal, non-structural partitioning without the consent of the Landlord provided plans showing the extent of such works are deposited with the Landlord promptly on completion of the works;

4.12 Preservation of Easements

4.12.1 Not to prejudice the acquisition of any right of light for the benefit of the Property and to preserve all rights of light and other easements enjoyed by the Property;

4.12.2 Promptly to give the Landlord notice if any easement enjoyed by the Property is obstructed, or any new easement affecting the Property is made or attempted;

4.13 Alienation

4.13.1 Not to:

(i) assign, charge, underlet or part with possession of the whole or part only of the Property nor to agree to do so except by an assignment or underletting or charging of the whole of the Property permitted by this Clause 4.13;

(ii) share the possession or occupation of the whole or any part of the Property;

(iii) assign, part with or share any of the benefits or burdens of this lease, or any interest derived from it by a virtual assignment or other similar arrangement;

4.13.2 Charging

Not to charge the whole of the Property without the Landlord's written consent (not to be unreasonably withheld or delayed).

4.13.3 Assignment

Not to assign or agree to assign the whole of the Property without the Landlord's written consent (not to be unreasonably withheld or delayed), provided that:

(i) the Landlord may withhold consent in circumstances where in the reasonable opinion of the Landlord

(a) the proposed assignee is not of sufficient financial standing to enable it to comply with the Tenant's covenants in this lease; or

(b) such persons as the Landlord reasonably requires do not act as guarantors for the assignee and do not enter into direct covenants with the Landlord including the provisions set out in the Third Schedule (but referring in paragraph 1.2 to the assignee);

(ii) the Landlord's consent shall in every case be subject to conditions (unless expressly excluded) requiring that:

(a) the assignee covenants with the Landlord to pay the rents and observe and perform the Tenant's covenants in this lease during the residue of the Term, or until released pursuant to the 1995 Act;

(b) the Tenant enters into an authorised guarantee agreement guaranteeing the performance of the Tenant's covenants in this lease by the assignee including the provisions set out in paragraphs 1-5 (inclusive) of the Third Schedule (but omitting paragraph 1.2);

(c) all rent and other payments due under this lease are paid before completion of the assignment;

4.13.4 Underletting

Not to underlet or agree to underlet the whole of the Property nor vary the terms of any underlease without the Landlord's written consent (not to be unreasonably withheld or delayed). Any permitted underletting must comply with the following:

(i) the rent payable under the underlease must be:

(a) not less than the rent reasonably obtainable in the open market for the Property without fine or premium;

(b) payable no more than one quarter in advance;

(c) subject to upward only reviews at intervals no less frequent than the rent reviews under this lease;

(ii) the undertenant covenants with the Landlord and in the underlease:

(a) either:

(I) to observe and perform the Tenant's covenants in this lease (except for payment of the rents) during the term of the underlease or until released pursuant to the 1995 Act; or

(II) to observe and perform the Tenant's covenants in the underlease during the term of the underlease or until released pursuant to the 1995 Act

(b) not to underlet, share or part with possession or occupation of the whole or any part of the underlet premises, nor to assign or charge part only of the underlet premises;

(c) not to assign the whole of the underlet premises without the Landlord's prior written consent (which shall not be unreasonably withheld or delayed);

(iii) all rents and other payments due under this lease (not the subject of a bona fide dispute) are paid before completion of the underletting;

(iv) the underlease reserves as rent the Service Charge payable under this lease;

(v) unless any underletting of the whole of the Property

(a) contains a covenant on the part of the undertenant to observe and perform the Tenant's covenants in this lease (except for payment of the rents) during the term of the underlease or until released pursuant to the 1995 Act; or

(b) is on terms obliging the undertenant to take a lease of the whole of the Property for the unexpired residue of the term of this lease (less one day) on the same terms as those contained in this lease (including as to rents and rent review) in the event of the immediate reversion to such underlease becoming vested in the Landlord

the underlease shall contain a break exercisable by the landlord on three (3) months' notice in the event of the immediate reversion thereto becoming vested in the Landlord;

(vi) the underlease is in a form approved by the Landlord (such approval not to be unreasonably withheld or delayed)

4.13.5 To take all necessary steps and proceedings to remedy any breach of the covenants of the undertenant under the underlease and not to permit any reduction of the rent payable by any undertenant;

4.13.6 Group Sharing

Notwithstanding Clause 4.13.1 the Tenant may share occupation of the whole or any part of the Property with a Group Company PROVIDED THAT

(a) the relationship of landlord and tenant is not created; and

(b) occupation by any Group Company shall cease upon it ceasing to be a Group Company; and

(c) the Tenant informs the Landlord in writing before each occupier commences occupation and after it ceases occupation;

4.14 Registration

Within 21 days to give to the Landlord's solicitors (or as the Landlord may direct) written notice of any assignment, charge, underlease or other devolution of the Property together with a certified copy of the relevant document and a reasonable registration fee of not less than £50;

4.15 Statutory Requirements and Notices

4.15.1 To supply the Landlord with a copy of any notice, order or certificate or proposal for any notice order or certificate affecting or capable of affecting the Property as soon as it is received by or comes to the notice of the Tenant;

4.15.2 To comply promptly with all notices served by any public, local or statutory authority, and with the requirements of any present or future statute or European Union law, regulation or directive (whether imposed on the owner or occupier), which affects the Property or its use;

4.15.3 At the request of the Landlord, but at the joint cost of the Landlord and the Tenant, to make or join the Landlord in making such objections or representations against or in respect of any such notice, order or certificate as the Landlord may reasonably require;

4.15.4 To observe and perform the obligations of any agreement entered into prior to the date of this lease under any statute or European Union law, regulation or directive so far as the same relates to the use and/or occupation of the Property;

4.16 Planning

4.16.1 Not to apply for or implement any planning permission affecting the Property without first obtaining the Landlord's written consent (not to be unreasonably withheld or delayed in cases where the subject matter of the planning permission has been approved by the Landlord pursuant to the other provisions of this lease);

4.16.2 If a planning permission is implemented the Tenant shall complete all the works permitted and comply with all the conditions imposed by the permission before the determination of the Term (including any works stipulated to be carried out by a date after the determination of the Term unless the Landlord requires otherwise);

4.17 Contaminants and Defects

4.17.1 To give the Landlord prompt written notice upon becoming aware of the existence of any defect in the Property, or of the existence of any contaminant, pollutant or harmful substance on the Property but not used in the ordinary course of the Tenant's use of the Property;

4.17.2 If so requested by the Landlord, to remove from the Property or remedy to the Landlord's reasonable satisfaction any such contaminant, pollutant or harmful substance introduced on the Property by or at the request of the Tenant;

4.18 Entry by Landlord

To permit the Landlord at all reasonable times and on reasonable notice (which shall not be less than 72 hours' notice except in emergency) to enter the Property in order to:

4.18.1 inspect and record the condition of the Property or the Adjoining Property;

4.18.2 remedy any breach of the Tenant's obligations under this lease;

4.18.3 repair, maintain, clean, alter, replace, install, add to or connect up to any Conduits which serve the Adjoining Property;

4.18.4 repair, maintain, alter or rebuild the Adjoining Property;

4.18.5 comply with any of its obligations under this lease;

Provided that the Landlord shall only exercise such rights where necessary and shall cause as little inconvenience as reasonably practicable in the exercise of such rights and shall promptly make good all physical damage to the Property caused by such entry;

4.19 Landlord's Costs

To pay to the Landlord on demand amounts equal to such Costs as it may properly and reasonably incur:

4.19.1 in connection with any application for consent made necessary by this lease (including where consent is lawfully refused or the application is withdrawn);

4.19.2 incidental to or in reasonable contemplation of the preparation and service of a schedule of dilapidations (whether before or within three (3) months after the end of the Term) or a notice or proceedings under Section 146 or Section 147 of the Law of Property Act 1925 (even if forfeiture is avoided other than by relief granted by the Court);

4.19.3 in connection with the enforcement or remedying of any breach of the covenants in this lease on the part of the Tenant and any Guarantor;

4.19.4 incidental to or in reasonable contemplation of the preparation and service of any notice under Section 17 of the 1995 Act;

4.20 Yielding up

Immediately before the end of the Term:

(i) to give up the Property repaired and decorated and otherwise in accordance with the Tenant's covenants in this lease;

(ii) if the Landlord so requires, to remove all alterations made during the Term or any preceding period of occupation by the Tenant and reinstate the Property as the Landlord shall reasonably direct and to its reasonable satisfaction;

(iii) to remove all signs, tenant's fixtures and fittings and other goods from the Property, and make good any damage caused thereby to the Landlord's reasonable satisfaction;

(iv) to replace any damaged or missing Landlord's fixtures with ones of no less quality and value;

(v) to replace all carpets with ones of no less quality and value than those in the Property at the start of the Contractual Term;

(vi) to give to the Landlord all operating and maintenance manuals together with any health and safety files relating to the Property;

(vii) to provide evidence of satisfactory condition and maintenance of plant and machinery including (without limitation) electrical installation condition reports in respect of all of the electrical circuits and supply equipment in the Property, and any other condition reports as required under any relevant statute or European Union law, regulation or directive and copies of all service records;

(viii) to return any security cards or passes provided by the Landlord for use by the Tenant and its visitors.

4.21 Encumbrances

To perform and observe the Encumbrances so far as they relate to the Property.

4.22 Roads Etc

Not to obstruct the roads, pavements, footpaths and forecourt areas from time to time on the Estate in any way whatsoever and not to use any part of the forecourts and car parking spaces or other open parts of the Property for the purpose of storage or deposit of any materials, goods, container ships' pallets, refuse, waste scrap or any other material or matter.

4.23 Parking Restrictions

Except as to any right specifically granted in this lease not to permit any vehicles belonging to or calling upon the Tenant to stand on the roads, car parking spaces, forecourts, pavements or footpaths on the Estate.

4.24 Regulations etc

4.24.1 At all times during the Term to observe and perform such regulations (if any) in respect of the Estate as the Landlord may reasonably think expedient to the proper management of the Estate and which are notified to the Tenant.

4.24.2 Not to cause any obstruction to any part of the Estate.

4.25 Land Registration Provisions

4.25.1 Promptly following the grant of this lease the Tenant shall apply to register this lease at the Land Registry and shall ensure that any requisitions raised by the Land Registry in connection with that application are dealt with promptly and properly and within one month after completion of the registration, the Tenant shall send the Landlord official copies of its title;

4.25.2 Immediately after the end of the Term (and notwithstanding that the Term has ended), the Tenant shall make an application to close the registered title of this lease and shall ensure that any requisitions raised by the Land Registry in connection with that application are dealt with promptly and properly and the Tenant shall keep the Landlord informed of the progress and completion of its application.

5 Landlord's Covenants

5.1 Quiet Enjoyment

The Landlord covenants with the Tenant that, the Tenant may peaceably enjoy the Property during the Term without any interruption by the Landlord or any person lawfully claiming under or in trust for it.

5.2 Provision of Services

The Landlord will use its reasonable endeavours to provide or procure the provision of the Estate Services PROVIDED THAT the Landlord shall be entitled to withhold or vary the provision or procurement of such of the Estate Services as the Landlord considers necessary or appropriate in the interests of good estate management and PROVIDED FURTHER THAT the Landlord will not be in breach of this Clause as a result of any failure or interruption of any of the Estate Services:

5.2.1 resulting from circumstances beyond the Landlord's reasonable control, so long as the Landlord uses its reasonable endeavours to remedy the same as soon as reasonably practicable after becoming aware of such circumstances; or

5.2.2 to the extent that the Estate Services (or any of them) cannot reasonably be provided as a result of works of inspection, maintenance and repair or other works being carried out at the Property or the Estate.

6 Insurance

6.1 Landlord's insurance covenants

The Landlord covenants with the Tenant as follows:

6.1.1 To insure the Property (other than tenant's and trade fixtures and fittings) unless the insurance is invalidated in whole or in part by any act or default of the Tenant:

(i) with an insurance office or underwriters of repute;

(ii) against loss or damage by the Insured Risks;

(iii) subject to such excesses as may be imposed by the insurers;

(iv) in the full cost of reinstatement of the Property (in modern form if appropriate) including shoring up, demolition and site clearance, professional fees, VAT and allowance for building cost increases;

6.1.2 To insure against loss of the Principal Rent thereon payable or reasonably estimated by the Landlord to be payable under this lease arising from damage to the Property by the Insured Risks for three years or such longer period as the Landlord may reasonably require having regard to the likely period for reinstating the Property;

6.1.3 The Landlord will use its reasonable endeavours to procure that the insurer waives its rights of subrogation against the Tenant (so long as such provision is available in the London insurance

market) and to ensure that the Tenant's interest is noted on such policy (which may be by way of the policy providing for a general noting of the interests of tenants);

6.1.4 At the request and cost of the Tenant (but not more frequently than once in any twelve month period) to produce summary details of the terms of the insurance under this Clause 6.1;

6.1.5 To notify the Tenant as soon as becoming aware of any material change in the terms and conditions of the insurer in relation to the policy under which the Property is for the time being insured;

6.1.6 If the Property is destroyed or damaged by an Insured Risk, then, unless payment of the insurance moneys is refused in whole or part because of the act or default of the Tenant, and subject to obtaining all necessary planning and other consents to use the insurance proceeds (except those relating to loss of rent and fees) and any uninsured excess paid by the Tenant under Clause 6.2.4(ii) in reinstating the same (other than tenant's and trade fixtures and fittings) as quickly as reasonably practicable substantially as it was before the destruction or damage in modern form if appropriate but not necessarily identical in layout

6.2 Tenant's insurance covenants

The Tenant covenants with the Landlord from and including the Insurance Commencement Date and then throughout the Term or until released pursuant to the 1995 Act as follows:

6.2.1 To pay to the Landlord on demand sums equal to:

(i) the amount which the Landlord spends on insurance pursuant to Clause 6.1;

(ii) the cost of property owners' liability and third party liability insurance in connection with the Property;

(iii) the cost of any professional valuation of the Property properly required by the Landlord (but not more than once in any two year period);

6.2.2 To give the Landlord immediate written notice on becoming aware of any event or circumstance which might affect or lead to an insurance claim;

6.2.3 Not to do anything at the Property which would or might prejudice or invalidate the insurance of the Property or the Adjoining Property or cause any premium for their insurance to be increased;

6.2.4 To pay to the Landlord on demand:

(i) any increased premium and any Costs incurred by the Landlord as a result of a breach of Clause 6.2.3;

(ii) any uninsured excess to which the insurance policy may be subject;

(iii) the whole of the irrecoverable proportion of the insurance moneys if the Property or any part are destroyed or damaged by an Insured Risk but the insurance moneys are irrecoverable in whole or part due to the act or default of the Tenant;

6.2.5 To comply with the requirements and reasonable recommendations of the insurers;

6.2.6 To notify the Landlord of the full reinstatement cost of any fixtures and fittings installed at the Property at the cost of the Tenant which become Landlord's fixtures and fittings;

6.2.7 Not to effect any insurance of the Property against an Insured Risk but if the Tenant effects or has the benefit of any such insurance the Tenant shall hold any insurance moneys upon trust for the Landlord and pay the same to the Landlord as soon as practicable;

6.3 Suspension of Rent

If the Property is unfit for occupation and use because of damage by an Insured Risk then (save to the extent that payment of the loss of rent insurance moneys is refused due to the act or default of the Tenant) the Principal Rent (or a fair proportion according to the nature and extent of the damage) shall be suspended until the date on which the Property is again fit for occupation and use.

6.4 Determination Right

6.4.1 If the Property is destroyed or damaged by an Insured Risk such that the Property is unfit for occupation and use and shall not be rendered fit for occupation and use within two years and nine months of the date of such damage then either the Landlord or the Tenant may whilst the Property

has not been rendered fit for occupation and use terminate the Contractual Term by giving to the other not less than three (3) months' previous notice in writing. PROVIDED THAT if the Property has been rendered fit for occupation and use within three years of the date of such damage then such notice shall be deemed not to have been given.

6.4.2 Termination of this lease pursuant to the provisions of Clause 6.4.1 shall be without prejudice to the liability of either party for any antecedent breach of the covenants and conditions herein contained (save for Clause 6.1.6 which shall be deemed not to have applied).

6.5 Uninsured Risks

6.5.1 For the purposes of this Clause 6.5:

(i) These provisions shall apply from the date on which any Insured Risk becomes an Uninsured Risk but only in relation to the Uninsured Risk;

(ii) References to an Insured Risk becoming an Insured Risk shall, without limitation, include the application by insurers of an exclusion, condition or limitation to an Insured Risk to the extent to which such risk thereby is or becomes an Uninsured Risk.

(iii) The Landlord shall notify the Tenant in writing as soon as reasonably practicable after an Insured Risk becomes an Uninsured Risk.

6.5.2 If during the Term the Property (or part thereof) shall be damaged or destroyed by an Uninsured Risk so as to make the Property (or part thereof) unfit for occupation or use:

(i) The Principal Rent and the Service Charge or a fair proportion according to the nature and extent of the damage sustained will not be payable until the earlier of the date on which:

(a) The Property shall again be fit for occupation and use excluding fitting out and replacement of contents; or

(b) This lease shall be terminated in accordance with Clause 6.5.2(ii) or 6.5.5

(ii) The Landlord may within one year of the date of such damage or destruction serve notice on the Tenant confirming that it will reinstate the Property (a 'Reinstatement Notice') so that the Property shall be fit for occupation and use and if the Landlord fails to serve a Reinstatement Notice by the expiry of such prescribed period the lease will automatically end on the date one year after the date of such damage or destruction.

6.5.3 Clause 6.5.2(i) shall not apply if an Insured Risk shall have become an Uninsured Risk owing to the act or default of the Tenant or any person deriving title under the Tenant or their respective agents, employees, licensee, invitees or contractors.

6.5.4 If the Landlord shall have served a Reinstatement Notice the provisions of Clause 6.1.6 shall apply as if the damage had been caused by an Insured Risk

6.5.5 If the Landlord shall have served a Reinstatement Notice and such reinstatement has not been completed by the date two years and nine months of the date of such damage at any time after that date the Landlord or the Tenant may terminate this lease by serving not less than three months' notice on the other stating that it terminates this lease, and if by the end of such notice the Property has been reinstated so that the Property is fit for occupation and use the notice shall be void and this lease shall continue in full force and effect.

6.5.6 Service of a Reinstatement Notice shall not oblige the Landlord to replace any Tenant's fitting out works or property belonging to the Tenant or any third party.

7 Provisos

7.1 Forfeiture

If any of the following events occur:

7.1.1 the Tenant fails to pay any of the rents payable under this lease within 21 days of the due date (whether or not formally demanded); or

7.1.2 the Tenant or Guarantor breaches any of its obligations in this lease; or

7.1.3 the Tenant or Guarantor being a company incorporated within the United Kingdom

(i) has an Administration Order made in respect of it; or

(ii) passes a resolution, or the Court makes an Order, for the winding up of the Tenant or the Guarantor, otherwise than a member's voluntary winding up of a solvent company for the purpose of amalgamation or reconstruction previously consented to by the Landlord (consent not to be unreasonably withheld); or

(iii) has a receiver or administrative receiver or receiver and manager appointed over the whole or any part of its assets or undertaking; or

(iv) is struck off the Register of Companies; or

(v) is deemed unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986; or

7.1.4 proceedings or events analogous to those described in Clause 7.1.3 shall be instituted or shall occur where the Tenant or Guarantor is a company incorporated outside the United Kingdom; or

7.1.5 the Tenant or Guarantor being an individual:

(i) has a bankruptcy order made against him; or

(ii) appears to be unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986;

then the Landlord may re-enter the Property or any part of the Property in the name of the whole and forfeit this lease and the Term created by this lease shall immediately end, but without prejudice to the rights of either party against the other in respect of any breach of the obligations contained in this lease;

7.2 Notices

7.2.1 All notices under or in connection with this lease shall be given in writing

7.2.2 Any such notice shall be duly and validly served if it is served (in the case of a company) to its registered office or (in the case of an individual) to his last known address;

7.2.3 Any such notice shall be deemed to be given when it is:

(i) personally delivered to the locations listed in Clause 7.2.2; or

(ii) sent by registered post, in which case service shall be deemed to occur on the third Working Day after posting.

7.3 No Implied Easements

The grant of this lease does not confer any rights over the Estate or the Adjoining Property or any other property except those mentioned in Part I of the First Schedule, and Section 62 of the Law of Property Act 1925 is excluded from this lease;

8 Break Clause

8.1 The Tenant may terminate the Contractual Term on Break Date 1 or Break Date 2 or Break Date 3 or Break Date 4 by giving to the Landlord not less than twelve (12) months' previous notice in writing;

8.2 Any notice given by the Tenant shall operate to terminate the Contractual Term only if:

8.2.1 the Principal Rent reserved by this lease have been paid by the time of such termination; and

8.2.2 the Tenant yields up the Property free from any subleases and other third party occupational interests on termination; and

8.2.3 (if notice is given to terminate the Contractual Term on Break Date 1) a sum equal to six (6) months' worth of the Principal Rent for the time being payable (calculated at the rate payable immediately before Break Date 1) together with a sum equal to VAT thereon at the standard rate for the time being payable has been paid to the Landlord in cleared funds by Break Date 1;

8.3 Upon termination the Contractual Term shall cease but without prejudice to any claim in respect of any prior breach of the obligations contained in this lease;

8.4 If the Tenant terminates this Lease in accordance with this clause 8 the Landlord shall promptly reimburse the Tenant in respect of any sums received which relate to a period following termination of this Lease.

8.5 Time shall be of the essence for the purposes of this Clause.

9 Contracts (Rights of Third Parties) Act 1999

A person who is not a party to this lease has no right under the Contracts (Rights of Third Parties) Act 1999 to enforce any terms of this lease.

10 Environmental Conditions

For the purposes of this clause the expression 'Environment' includes air, man-made structures and surface or substrata any surface water or ground water, any life form (including human) or eco system and notwithstanding any other provisions of this Lease to the extent that the Property or Estate are affected by contamination or pollution, the Environment or the presence of any substance harmful to the Environment present or occurring prior to this Lease otherwise than through the act or default of the Tenant or any party under their control (an 'Environmental Condition') the Tenant shall not:

10.1 be responsible for (or contribute to whether by Service Charge or otherwise) any management compliance with statutory requirements, clean up, remediation or containment of any such Environmental Condition; nor

10.2 be responsible to repair any damage disrepair or injury caused by or arising from any Environmental Condition; nor

10.3 be responsible to contribute to any cost, fine or liability of any kind arising out of or in any way connected with any Environmental Condition.

Executed by the parties as a **Deed** on the date specified in the Prescribed Clauses.

The First Schedule

Part I - Easements and Other Rights granted

There are granted to the Tenant (in common with others authorised by the Landlord)

1 The right to use the relevant Estate Common Areas for access to and from the Property and for all purposes for which they are designed;

2 Free and uninterrupted use of all existing and future Conduits which serve the Property, subject to the Landlord's rights to re-route the same subject to there being no unreasonable interruption of services;

3 The right to enter the Adjoining Property excluding any buildings which are occupied as necessary to perform Clause 4.4 [repair] on reasonable prior written notice to the Landlord, subject to causing as little inconvenience as practicable and complying with conditions reasonably imposed by the Landlord and making good all physical damage caused.

Part II - Exceptions and Reservations

There are excepted and reserved to the Landlord:

1 The right to carry out any building, rebuilding, alteration or other works to the Estate and the Adjoining Property (including the erection of scaffolding) notwithstanding any temporary interference with light and air enjoyed by the Property but provided that the Tenant's use and enjoyment of the Property is not materially compromised;

2 Free and uninterrupted use of all existing and future Conduits which are in the Property and serve the Estate or the Adjoining Property;

1 Rights of entry on the Property as referred to in Clause 4.18;

2 The right to regulate and control in a reasonable manner the use of the Estate Common Areas;

3 The right to alter the layout of the roads forecourts footpaths pavements and car parking areas from time to time on the Estate in such manner as the Landlord may reasonably require PROVIDED THAT such alterations do not materially diminish the Tenant's rights under this lease and that such works do not materially compromise the Tenant's access to the Property;

4 The right in the last six months of the Term to view the Property with prospective tenants upon giving reasonable notice (not to be less than 72 hours) and the right throughout the Term to view the Property with prospective purchasers upon giving reasonable notice (not to be less than 72 hours).

Part III - Encumbrances

The covenants declarations and other matters affecting the Property contained or referred to in the Landlord's freehold reversionary title number BK102078 as at the date of this lease

The Second Schedule

Part I - Indexation Rent Review

1 In this Part of this Schedule:

1.1 **Indexation Review Date** means each of the Indexation Review Dates and **Relevant Indexation Review Date** shall be interpreted accordingly;

1.2 **Current Rent** means the Principal Rent payable under this lease immediately before the Relevant Indexation Review Date;

1.3 **Index** means the Consumer Prices Index published by the Office for National Statistics or (if not available) such index of comparative prices as the Landlord shall reasonably require;

1.4 **Indexed Rent** means:

Current Rent multiplied by (A/B) per annum where:

A = The figure shown in the Index for the month immediately before the Relevant Indexation Review Date; and

B = (In the case of the first Indexation Review Date) the figure shown in the Index for January 2018 and (in the case of the subsequent Indexation Review Date) the figure shown in the Index for September 2026.

1.5 **Revised Rent** means the new Principal Rent following each Indexation Review Date pursuant to paragraph 2 of the Second Schedule.

2 The Principal Rent shall be reviewed on each Indexation Review Date to the higher of:

2.1 the Current Rent (disregarding any suspension or abatement of the Principal Rent); and

2.2 the Indexed Rent ascertained in accordance with this lease;

3 If a Revised Rent has not been ascertained by the Relevant Indexation Review Date:

3.1 the Current Rent shall continue to be payable until the Revised Rent is ascertained;

3.2 when the Revised Rent is ascertained:

3.2.1 the Tenant shall pay within 14 days of ascertainment of the Revised Rent:

(i) any difference between the Principal Rent payable immediately before the Relevant Indexation Review Date and the Principal Rent which would have been payable had the Revised Rent been ascertained on the Relevant Indexation Review Date (the **Balancing Payment**); and

(ii) interest on the Balancing Payment at Base Rate from the date or dates when the Balancing Payment or the relevant part or parts would have been payable had the Revised Rent been ascertained on the Relevant Indexation Review Date;

3.2.2 the Landlord and Tenant shall sign and exchange a memorandum recording the amount of the Revised Rent.

4 Time shall not be of the essence for the purposes of this Schedule.

Part II - Rent Review

1 In this Part of this Schedule:

1.1 **Review Date** means each of the Review Dates and **Relevant Review Date** shall be interpreted accordingly;

1.2 **Rack Rental Value** means the annual rent (exclusive of VAT) at which the Property might reasonably be expected to be let in the open market at the Relevant Review Date

ASSUMING

1.2.1 the letting is on the same terms as those contained in this lease but subject to the following qualifications:

(i) the term shall commence on the Relevant Review Date and be for a term equal to the unexpired residue of the Term;

(ii) the amount of the Principal Rent shall be disregarded, but it shall be assumed that the Principal Rent is subject to review every five (5) years to the Rack Rental Value;

1.2.2 the Property is available to let as a whole, with vacant possession, by a willing landlord to a willing tenant, without premium;

1.2.3 the Property is ready, fit and available for immediate occupation and use for the Permitted Use;

1.2.4 all the obligations on the part of the Tenant contained in this lease have been fully performed and observed;

1.2.5 no work has been carried out to the Property which has reduced the rental value of the Property;

1.2.6 if the whole or any part of the Property has been destroyed or damaged it has been fully reinstated;

1.2.7 that there is no alternative basis in the hypothetical lease for the assessment of rent on review other than for assessment of the Rack Rental Value;

1.2.8 that the works referred to in the agreement for the grant of this lease have been carried out and completed at the Landlord's sole expense;

BUT DISREGARDING

1.2.9 any goodwill attached to the Property by reason of any business carried on there;

1.2.10 any effect on rent of the fact that any Tenant and any undertenant is or has been in occupation of the Property;

1.2.11 any effect on rent of any improvements at the Property made with the Landlord's consent by the Tenant or any undertenant, except improvements carried out pursuant to an obligation to the Landlord or at the expense of the Landlord;

PROVIDED THAT the Rack Rental Value shall be that which would be payable after the expiry of any rent free period or concessionary rent period for fitting out (or the receipt of any contribution to fitting out works or other inducement in lieu thereof) which might be given on a letting of the Property, so that no discount reduction or allowance is made to reflect (or compensate the tenant for the absence of) any such rent free or concessionary rent period or contribution or other inducement;

1.3 **Revised Rent** means the new Principal Rent following each Review Date pursuant to paragraph 2 of the Second Schedule.

1.4 **Expert** means a surveyor (who shall be a Fellow of the Royal Institution of Chartered Surveyors with at least ten (10) years experience in the letting and valuation of premises of a similar nature to and situate in the same region as the Property) agreed between the Landlord and the Tenant, or in the absence of agreement nominated on the application of either party by the President for the time being of the Royal Institution of Chartered Surveyors.

2 The Principal Rent shall be reviewed on each Review Date to the higher of:

2.1 the Principal Rent payable immediately before the Relevant Review Date (disregarding any suspension or abatement of the Principal Rent); and

2.2 the Rack Rental Value on the Relevant Review Date agreed or determined in accordance with this lease.

3 The Rack Rental Value at any Review Date shall be:

3.1 agreed in writing *bet*ween the Landlord and the Tenant; or

3.2 determined by an Expert (acting as an expert) on the application of either Landlord or Tenant at any time after the Relevant Review Date;

4 In the case of determination by an Expert:

4.1 the Expert will be instructed to afford the Landlord and the Tenant the opportunity to make written representations to him and comment upon written representations received by him;

4.2 if an Expert dies, refuses to act or becomes incapable of acting, or if he fails to notify the parties of his determination within 2 months after receiving the last submission delivered to him, either the Landlord or the Tenant may apply to the President to discharge him and appoint another in his place;

4.3 the fees and expenses of the Expert and any VAT thereon shall be paid by the Landlord and the Tenant in such shares as the Expert shall decide (or in equal shares if the Expert does not decide this point); if one party pays all the Expert's fees and expenses, the paying party may recover the other's share from the other party, in the case of the Landlord as arrears of rent.

5 If a Revised Rent is not agreed or determined by the Relevant Review Date:

5.1 the Principal Rent payable immediately before the Relevant Review Date shall continue to be payable until the Revised Rent is ascertained;

5.2 when the Revised Rent is ascertained:

5.2.1 the Tenant shall pay within 14 days of ascertainment:

(i) any difference between the Principal Rent payable immediately before the Relevant Review Date and the Principal Rent which would have been payable had the Revised Rent been ascertained on the Relevant Review Date (the **Balancing Payment**); and

(ii) interest on the Balancing Payment at Base Rate from the date or dates when the Balancing Payment or the relevant part or parts would have been payable had the Revised Rent been ascertained on the Relevant Review Date;

5.2.2 the Landlord and Tenant shall sign and exchange a memorandum recording the agreed amount of the Revised Rent.

6 Time shall not be of the essence for the purposes of this Schedule.

The Third Schedule

Guarantee

1 The Guarantor covenants with the Landlord as principal debtor:

1.1 that throughout the Term or until the Tenant is released from its covenants pursuant to the 1995 Act:

1.1.1 The Tenant will pay the rents reserved by and perform its obligations contained in this lease;

1.1.2 The Guarantor will indemnify the Landlord on demand against all Costs arising from any default of the Tenant in paying the rents and performing its obligations under this lease;

1.2 the Tenant (here meaning the Tenant so named in the Prescribed Clauses) will perform its obligations under any authorised guarantee agreement that it gives with respect to the performance of any of the covenants and conditions in this lease.

2 The liability of the Guarantor shall not be affected by:

2.1 Any time given to the Tenant or any failure by the Landlord to enforce compliance with the Tenant's covenants and obligations;

2.2 The Landlord's refusal to accept rent at a time when it would or might have been entitled to re-enter the Property;

2.3 Any variation of the terms of this lease;

2.4 Any change in the constitution, structure or powers of the Guarantor the Tenant or the Landlord or the administration, liquidation or bankruptcy of the Tenant or Guarantor;

2.5 Any act which is beyond the powers of the Tenant;

2.6 The surrender of part of the Property;

3 Where two or more persons have guaranteed obligations of the Tenant the release of one or more of them shall not release the others.

4 The Guarantor shall not be entitled to participate in any security held by the Landlord in respect of the Tenant's obligations or stand in the Landlord's place in respect of such security.

5 If this lease is disclaimed, and if the Landlord within 6 months of the disclaimer requires in writing the Guarantor will enter into a new lease of the Property at the cost of the Guarantor on the terms of this lease (but as if this lease had continued and so that any outstanding matters relating to rent review or otherwise shall be determined as between the Landlord and the Guarantor) for the residue of the Contractual Term from and with effect from the date of the disclaimer.

6 If this lease is forfeited and if the Landlord within 6 months of the forfeiture requires in writing the Guarantor will (at the option of the Landlord):

6.1 enter into a new lease as in paragraph 5 above with effect from the date of the forfeiture; or

6.2 pay to the Landlord on demand an amount equal to the moneys which would otherwise have been payable under this lease until the earlier of 6 months after the forfeiture and the date on which the Property is fully relet.

The Fourth Schedule
Service Charge
Part I - Calculation and payment of the Service Charge

1 In this Schedule unless the context otherwise requires:

1.1 **Accounting Date** means 31 December in each year or such other date as the Landlord notifies in writing to the Tenant from time to time;

1.2 **Accounting Year** means the period from but excluding one Accounting Date to and including the next Accounting Date;

1.3 **Estimated Service Charge** means the Landlord's Surveyor's reasonable and proper estimate of the Service Charge for the Accounting Year notified in writing to the Tenant from time to time;

1.4 **Service Cost** means all reasonable and proper costs and expenses paid or incurred by the Landlord in relation to the provision of the Estate Services (including irrecoverable VAT);

1.5 **Tenant's Share** means a fair and reasonable proportion of the Service Cost.

2 The Service Charge shall be the Tenant's Share of the Service Cost in respect of each Accounting Year, and if only part of an Accounting Year falls within the Term the Service Charge shall be the Tenant's Share of the Service Cost in respect of the relevant Accounting Period divided by 365 and multiplied by the number of days of the Accounting Year within the Term.

3 The Landlord shall have the right to adjust the Tenant's Share from time to time to make reasonable allowances for differences in the services provided to or enjoyable by the other occupiers of the Estate.

4 The Tenant shall pay the Estimated Service Charge for each Accounting Year to the Landlord in advance by equal instalments on the Quarter Days, (the first payment for the period from and including the Service Charge Commencement Date to (but excluding) the next Quarter Day after the Service Charge Commencement Date to be made on the Service Charge Commencement Date); and

4.1 If the Landlord's Surveyor does not notify an estimate of the Service Charge for any Accounting Year the Estimated Service Charge for the preceding Accounting Year shall apply; and

4.2 Any adjustment to the Estimated Service Charge after the start of an Accounting Year shall adjust the payments on the following Quarter Days equally.

5 As soon as practicable after the end of each Accounting Year the Landlord shall serve on the Tenant a summary of the Service Cost and a statement of the Service Charge certified by the Landlord's Surveyor which shall be conclusive (save in the case of manifest error).

6 The difference between the Service Charge and the Estimated Service Charge for any Accounting Year (or part) shall be paid by the Tenant to the Landlord within fourteen days of the date of the statement for the Accounting Year, or allowed against the next Estimated Service Charge payment, or after the expiry of the Term refunded to the Tenant.

7 The Tenant shall be entitled by appointment within a reasonable time following service of the Service Charge statement to inspect the accounts maintained by the Landlord and the Landlord's Surveyor relating to the Service Cost and supporting vouchers and receipts at such location as the Landlord reasonably directs.

8 For the avoidance of doubt any cost charged as a Service Cost in respect of any element of the Estate Services shall not be charged as a Service Cost in respect of any other head of charge under which charges are made for services by the Landlord.

Part II - Estate Services

In relation to the Estate the provision of the following services or the Costs incurred in relation to:

1 The Common Areas

Repairing, maintaining and (where appropriate) cleaning, lighting and (as necessary) altering renewing, rebuilding and reinstating the Estate Common Areas.

2 Conduits

The repair, maintenance and cleaning and (as necessary) replacement and renewal of all Conduits within the Estate Common Areas.

3 Plant and machinery

Hiring, operating, inspecting, servicing, overhauling, repairing, maintaining, cleaning, lighting and (as necessary) renewing or replacing any plant, machinery, apparatus and equipment from time to time within the Estate Common Areas or used for the provision of services to the Estate and the supply of all fuel and electricity for the same and any necessary maintenance contracts and insurance in respect thereof.

4 Signs

Maintaining and (where appropriate) cleaning and lighting and (as necessary) renewing and replacing the signboards, all directional signs, fire regulation notices, advertisements, bollards, roundabouts and similar apparatus or works.

5 Landscaping

Maintaining, tending and cultivating and (as necessary) re-stocking any garden or grassed areas including replacing plants, shrubs and trees as necessary.

6 Common facilities

Repairing maintaining and (as necessary) rebuilding as the case may be any party walls or fences, party structures, Conduits or other amenities and easements which may belong to or be capable of being used or enjoyed by the Estate in common with any land or buildings adjoining or neighbouring the Estate.

7 Security

Installation, operation, maintenance, repair, replacement and renewal of closed circuit television systems and other security systems.

8 Outgoings

Any existing and future rates, taxes, charges, assessments and outgoings in respect of the Estate Common Areas or any part of them except tax (other than VAT) payable in respect of any dealing with or any receipt of income in respect of the Estate Common Areas.

9 Transport

The provision of a bus service to and from Didcot or such other transport and/or location (if any) deemed necessary by the Landlord.

10 Statutory requirements

The cost of carrying out any further works (after the initial construction in accordance with statutory requirements) to the Estate Common Areas required to comply with any statute.

11 Management and Staff

11.1 The proper and reasonable fees, costs, charges, expenses and disbursements (including irrecoverable VAT) of any person properly employed or retained by the Landlord for or in connection with surveying or accounting functions or the performance of the Estate Services and any other duties in and about the Estate relating to the general management, administration, security, maintenance, protection and cleanliness of the Estate:

11.2 Management costs fees and disbursements in respect of the Estate of 10% of the Service Cost (excluding costs under this clause 11.2).

11.3 Providing staff in connection with the Estate Services and the general management, operation and security of the Estate and all other incidental expenditure including but not limited to:

11.3.1 salaries, National Health Insurance, pension and other payments contributions and benefits;

11.3.2 uniforms, special clothing, tools and other materials for the proper performance of the duties of any such staff;

11.3.3 providing premises and accommodation and other facilities for staff.

12 Enforcement of Regulations

The reasonable and proper costs and expenses incurred by the Landlord in enforcing the rules and regulations from time to time made pursuant to Clause 4.24 provided that the Landlord shall use all reasonable endeavours to recover such costs and expenses from the defaulting party and provided further that there shall be credited against the Service Cost any such costs recovered.

13 Insurances

13.1 Effecting such insurances (if any) as the Landlord may properly think fit in respect of the Estate Common Areas the plant, machinery, apparatus and equipment used in connection with the provision of the Estate Services (including without prejudice those referred to in paragraph 3 above) and any other liability of the Landlord to any person in respect of those items or in respect of the provision of the Estate Services.

13.2 Professional valuations for insurance purposes (but not more than once in any two year period);

13.3 Any uninsured excesses to which the Landlord's insurance may be subject.

14 Generally

Any reasonable and proper costs (not referred to above) which the Landlord may incur in providing such other services and in carrying out such other works as the Landlord may reasonably consider to be reasonably desirable or necessary for the benefit of occupiers of the Estate.

15 Anticipated Expenditure

Establishing and maintaining reserves to meet the future costs (as from time to time estimated by the Landlord's Surveyor) of providing the Estate Services;

16 Borrowing

The costs of borrowing any sums required for the provision of the Estate Services at normal commercial rates available in the open market or if any such sums are loaned by the Landlord or a Group Company of the Landlord interest at Base Rate.

17 VAT

Irrecoverable VAT on any of the foregoing.

EXECUTED as a DEED by **ADAPTIMMUNE LIMITED** acting by

A director in the presence of:

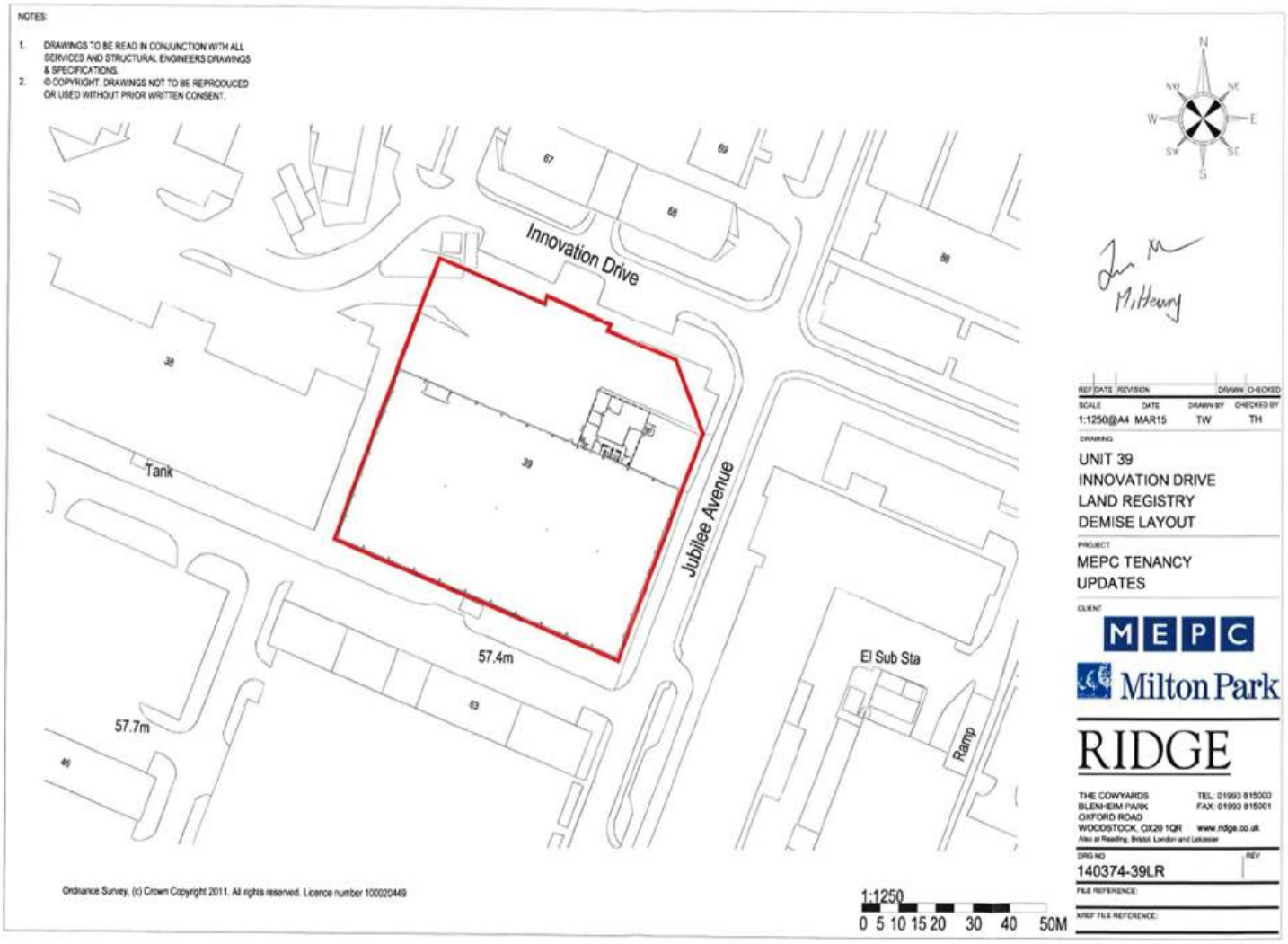
/s/ James Noble
Director

/s/ M. Henry

Witness Name: Margaret Henry

Address: 60 Jubilee Avenue
Milton Park
Abingdon, Oxfordshire OX14 4RX

Occupation: Company Secretary



SIGNED as a DEED by TIMOTHY BARLOW
MEPC MILTON PARK NO. 1
LIMITED acting by a director in the presence of:

/s/ Timothy Barlow
MEPC MILTON PARK NO. 1 LIMITED

/s/ Philip Campbell
Signature of witness

Witness name: Philip Campbell

Address: 99 Park Drive,
Milton Park, OX14 4RY

SIGNED as a DEED by TIMOTHY BARLOW
MEPC MILTON PARK
NO. 2 LIMITED acting by a director in the presence of:

/s/ Timothy Barlow
MEPC MILTON PARK NO. 2 LIMITED

/s/ Philip Campbell
Signature of witness

Witness name: Philip Campbell

Address: 99 Park Drive,
Milton Park, OX14 4RY

DATED 28 FEBRUARY 2018

(1) MEPC MILTON PARK NO. 1 LIMITED AND MEPC MILTON PARK NO. 2 LIMITED

(2) ADAPTIMMUNE LIMITED

RENT SECURITY DEPOSIT DEED

relating to

39 Innovation Drive

Milton Park

+44 (0) 1235 836600
BSDR.COM
DX 144160 ABINGDON 4

BrookStreet des Roches LLP
25A Western Avenue, Milton Park,
Abingdon, Oxfordshire, OX14 4SH

Rent Security Deposit Deed

Dated	28 February 2018
The Landlord	**MEPC MILTON PARK NO. 1 LIMITED** (Company number 5491670) and **MEPC MILTON PARK NO. 2 LIMITED** (Company number 5491806), on behalf of MEPC Milton LP (LP No. LP14504), both of whose registered offices are at Sixth Floor, 150 Cheapside, London, England, EC2V 6ET
The Tenant	**ADAPTIMMUNE LIMITED** (Company number 6456741) whose registered office is at 60 Jubilee Avenue, Milton Park, Abingdon, Oxfordshire, England, OX14 4RX
The Lease	
Date	28 February 2018
Parties	(1) The Landlord
	(2) The Tenant
Property	39 Innovation Drive Milton Park, Abingdon, Oxfordshire OX14 4RT
Term	From and including 28 February 2018 to and including 23 October 2041

1 In this Deed the following expressions shall have the following meanings:

1.1 the **Landlord** and the **Tenant** mean the parties to this Deed respectively referred to above by those names and (where the context so admits) shall include their successors in title;

1.2 the **Lease** means the document or documents of which short particulars are set out above under the heading "the Lease" and includes all documents supplemental thereto;

1.3 the **Property** means the property to be demised by the Lease;

1.4 the **Deposit** means the moneys referred to in Clause 2 below together with any interest credited to the Deposit Account by virtue of the proviso to Clause 5 below;

1.5 the **Deposit Account** means the deposit account at the Bank in the name of the Landlord or of a managing agent acting on behalf of the Landlord;

1.6 the **Bank** means the London Clearing Bank where the Deposit Account is from time to time held;

1.7 **Minimum Amount** means a sum equal to 6 months' worth of the Principal Rent (as defined in the Lease and as payable for the time being) plus a sum equal to VAT at the standard rate payable as at the commencement date of the Lease;

1.8 **Working Day** means any day except Saturdays, Sundays and bank, public and statutory holidays

2 The Landlord hereby acknowledges receipt of the sum of £262,296.60;

3 The Tenant hereby charges and agrees to charge all its interest in the Deposit to the Landlord as security for the due performance and observance of the covenants agreements and conditions on the part of the Tenant under the Lease and all losses which the Landlord may incur by reason of or consequent upon any breach of those covenants agreements and conditions and (without prejudice to the generality of the foregoing) as more particularly provided in Clause 6 below.

4 The Landlord shall place the Deposit at the Bank in the Deposit Account on seven days' notice of withdrawal until repayment of the Deposit in accordance with the terms of Clause 8 below.

5 Any interest earned on the Deposit (or if any sums have been withdrawn from the Deposit pursuant to Clause 6, the balance thereof) after deduction of tax shall belong to the Tenant and for any period in which the Deposit has not been repaid to the Tenant the Landlord will arrange for any such interest (after deduction of tax) to be paid to the Tenant or to the Tenant by direct credit to the Tenant to such bank account as the Tenant shall from time to time advise the Landlord in writing.

6 The Landlord and Tenant hereby agree that without prejudice to any right or remedy which the Landlord may have under the Lease the Landlord shall be entitled to withdraw from the Deposit from time to time the sums specified below which shall thereupon become the absolute property of the Landlord:

6.1 if any sum (whether rent or otherwise) is due to the Landlord from the Tenant and unpaid for a period of fourteen days: the amount of that sum,

6.2 if the Landlord suffers any loss or damage as the result of any material breach of any covenant agreement or condition on the part of the Tenant under the Lease: the amount of that loss or damage,

6.3 if the Lease is determined otherwise than by agreement before the expiration of the term granted by the Lease or if the Lease is forfeited or disclaimed by any liquidator or trustee in bankruptcy of the Tenant: the whole or that proportion of the Deposit as is reasonably necessary to compensate the Landlord for its loss but the Landlord will return the balance of the Deposit (if any) to the Tenant as soon as reasonably practicable after the Landlord shall have ascertained the full extent of its loss.

Provided that the Landlord shall notify the Tenant in writing within fourteen days of any withdrawal of any sum from the Deposit and the reason for such withdrawal and (if the Lease is still subsisting) the Tenant hereby covenants to reinstate to the Deposit the amount required to ensure that the Deposit is equal to the Minimum Amount within a further fourteen days from the date of such notification being received by the Tenant.

7 **It is hereby agreed** between the parties:

7.1 that the existence of the Deposit shall not prejudice the Landlord's ability to proceed against the Tenant for any breach of any covenant, agreement or condition on the part of the Tenant under the Lease or entitle the Tenant to withhold any moneys or fail to perform any covenant agreement or condition under the Lease and the Deposit shall not be regarded as an advance payment of rent;

7.2 that if the Landlord transfers the reversion to the Lease the benefit of this Deed shall be assignable to the transferee of the reversion to whom the Deposit shall be transferred AND if the benefit is so assigned and the Deposit so transferred the Landlord shall procure that the transferee will covenant at its sole expense with the Tenant in the same terms as this Deed as if the transferee had executed this Deed as Landlord and the Tenant will subject to being indemnified for all costs arising therefrom execute and deliver to the Landlord a deed releasing the Landlord from any further liability under the terms of this Deed.

8 The Deposit or such part thereof as shall be remaining shall be repaid to the Tenant when:

8.1 The period of 5 years from the commencement of the Contractual Term shall have expired and during that period the Tenant has not;

8.1.1 been in arrears of the Principal Rent for longer than 5 Working Days; OR

8.1.2 been in arrears of the Principal Rent on more than 2 separate occasions.

OR

8.2 the:

8.2.1 term granted by the Lease shall have expired or been determined earlier by agreement;

OR

8.2.2 the Lease shall have been lawfully assigned with the consent of the Landlord in accordance with the terms of the Lease;

And the Landlord will in all cases be entitled to retain from the Deposit such proportion of the Deposit as may reasonably be necessary to make good any default provided that in the case of repayment of the Deposit following a lawful assignment any such default has accrued prior to the date of the lawful assignment.

9 The Tenant HEREBY FURTHER COVENANTS with the Landlord that in the event of the level of the Principal Rent (as defined in the Lease) being increased at any time during the term the Tenant shall forthwith pay to the credit of the Deposit Account an additional sum of such amount that the Deposit shall (after such payment is made) again be equal to the Minimum Amount.

10 A person who is not a party to this Deed has no right under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this Deed.

11 This Agreement shall be governed by and construed in all respects in accordance with the law of England and the Landlord and the Tenant each submits to the exclusive jurisdiction of the English Courts**.**

In witness whereof this document has been executed as a Deed the day and year first before written.

EXECUTED as a DEED by **ADAPTIMMUNE LIMITED** acting by

A director in the presence of:

/s/ James Noble
Director

/s/ M. Henry

Witness Name: Margaret Henry

Address: 60 Jubilee Avenue
Milton Park
Abingdon, Oxfordshire OX14 4RX

Occupation: Company Secretary

EXECUTED as a DEED by **MEPC MILTON PARK NO. 1 LIMITED** acting by

A director in the presence of:

/s/ Timothy Barlow
Director

/s/ Philip Campbell

Witness Name: Philip Campbell

Address: 99 Park Drive,
Milton Park, OX14 4RY

EXECUTED as a DEED by **MEPC MILTON PARK NO. 2 LIMITED** acting by

A director in the presence of:

/s/ Timothy Barlow
Director

/s/ Philip Campbell

Witness Name: Philip Campbell

Address: 99 Park Drive,
Milton Park, OX14 4RY

RULES of the
ADAPTIMMUNE THERAPEUTICS PLC 2015 SHARE OPTION SCHEME

Adopted by the Company on 16 March 2015

Amended on 15 April 2015, 13 January 2016 and 18 December 2017

CONTENTS

RULES OF THE ADAPTIMMUNE THERAPEUTICS PLC 2015 SHARE OPTION SCHEME (INCORPORATING ENTERPRISE MANAGEMENT INCENTIVE OPTIONS)

1. DEFINITIONS

1.1 In these Rules, unless the context otherwise requires, the following words and expressions have the meanings set opposite them:

"ADS"	an American Depositary Share of the Company (also known as an American Depositary Receipt or ADR), each of which represents 6 Ordinary Shares (the underlying Ordinary Shares);
"Auditors"	the auditors for the time being of the Company or in the event of there being joint auditors such one of them as the Board shall select;
"Board"	the board of directors from time to time of the Company (or the directors present at a duly convened meeting of such board) or a duly authorised committee of directors appointed by that board of directors to carry out any of its functions under this Scheme;
"Company"	Adaptimmune Therapeutics plc, a company incorporated and registered in England with number 9338148;
"Connected"	means that the relevant individual is an employee or a director of, or a Consultant to, a Group Company;
"Consultant"	means any person who is providing consultancy services to a Group Company including, without prejudice to the generality of the foregoing, any member of any Scientific Advisory Board that may from time to time be established by the Company;
"control"	except as otherwise provided, has the meaning given in Section 719 of ITEPA 2003;
"Date of Grant"	the date on which an Option is granted as provided in Rule 3.6;
"Deed of Grant"	has the meaning given in Rule 3.4A;
"Disqualifying Event"	has the meaning given in sections 533 to 539 of ITEPA 2003;
"Eligible Person"	in relation to the grant of an Option which is not an EMI Option, any employee or director of a Group Company or any Consultant and in relation to the grant of an EMI Option, any employee of a Group Company who satisfies the eligibility criteria set out in Rule 2;

"EMI Notice"	a notice of an option which must be given to HMRC for that Option to be an EMI Option and which complies with the requirements of paragraph 44 of Schedule 5 to ITEPA 2003;
"EMI Option"	an Option which is a **"qualifying option"** as defined in paragraph 1(2) of Schedule 5 to ITEPA 2003;
"Employer NICs"	any secondary class 1 (employer) National Insurance contributions (or any similar liability for social security contribution in any jurisdiction) that the Option Holder's Employer is liable to pay as a result of any Taxable Event (or which such person would be liable to pay in the absence of an election of the type referred to in Rule 9.2(b)) and which may be lawfully recovered from the Option Holder.
"Grantor"	the person granting an Option pursuant to the Rules of this Scheme which may be: (a) the Company; or (b) the trustees of an employee benefit trust authorised by the Board to grant Options at the relevant time, subject to Rule 3.7; or (c) any other person authorised by the Board to grant Options at the relevant time, subject to Rule 3.7;
"the Group"	the Company and its subsidiaries from time to time;
"Group Company"	a company which is a member of the Group and includes the Company, whether or not it has any subsidiaries at the relevant time;
"HMRC"	HM Revenue & Customs;
"ITEPA 2003"	the Income Tax (Earnings and Pensions) Act 2003;
"Listing"	the listing of the securities of the Company on the London Stock Exchange plc (including for the avoidance of doubt the AIM Market) or any recognised investment exchange (as defined in section 285 of the Financial Services and Market Act 2000) including NASDAQ and NASDAQ Europe and their respective share dealing markets and the Listing shall be treated as occurring on the day on which trading in the securities of the Company begins;
"New Share Option"	a right to subscribe for Shares at the Option Price pursuant to and in accordance with these Rules;

"N.I. Regulations"	the laws, regulations and practices from time to time in force relating to liability for and the collection of National Insurance contributions;
"Nominal Cost Option"	an Option (other than an RSU-style Option) with an Option Price equal to the nominal value of an Ordinary Share (being £0.001 per Ordinary Share), if it is an option to acquire Ordinary Shares, or six times the nominal value of an Ordinary Share (being £0.006 per ADS), if it is an option to acquire ADSs, which is identified as such in the Option Agreement or Deed of Grant;
"Option"	a right to acquire Shares at the Option Price pursuant to and in accordance with these Rules;
"Option Agreement"	a written agreement executed in respect of the grant of an Option pursuant to Rule 3.4;
"Option Holder"	a person holding an Option, including, where applicable, his Personal Representatives;
"Option Holder's Employer"	such Group Company as is the Option Holder's employer or, if he has ceased to be employed within the Group, was his employer or such other Group Company, or other person as, under the PAYE Regulations or, as the case may be, the N.I. Regulations, or any other statutory or regulatory enactment (whether in the United Kingdom or otherwise), is obliged to account for any Tax Liability;
"Option Price"	the price, as from time to time determined by the Board (with the prior consent of the Grantor, where appropriate), at which each Share subject to an Option may be acquired on the exercise of that Option which, if Shares are to be newly issued to satisfy the exercise of the Option, shall not be less than the nominal value of a Share;
"Option Shares"	the Shares over which an Option subsists;
"ordinary share capital"	all the issued share capital (by whatever name called) of the Company other than capital the holders whereof have a right to a dividend at a fixed rate but have no other right to share in the profits of the Company;
"Ordinary Shares"	fully paid irredeemable shares with a nominal value of £0.001 each in the ordinary share capital of the Company. For these purposes, in relation to an EMI Option, shares: (a) will not be fully paid-up if there is any undertaking to pay cash to the Company at a future date for those Shares; and

(b) shall be treated as redeemable if they may become so at a future date;

"PAYE Regulations" the regulations made under section 684 of ITEPA 2003;

"Performance Option" an Option the exercise of which is subject to attainment of a Performance Target;

"Performance Period" in relation to a Performance Option, the period (as determined by the Board) over which the performance of the Company and/or any other condition is to be measured for the purposes of determining whether and to what extent the Performance Target is met;

"Performance Target" the condition or conditions imposed on the exercise of an Option pursuant to Rule 5 as amended and varied from time to time in accordance with these Rules;

"Personal Data" any personal information which could identify an Option Holder, including but not limited to, the Option Holder's:

(a) date of birth;

(b) home address;

(c) telephone number;

(d) e-mail address;

(e) National Insurance number (or equivalent); or

(f) Options under the Scheme or any other employee share scheme operated by the Company.

"Personal Representatives" in relation to an Option Holder, the personal representatives of the Option Holder (being either the executors of his will to whom a valid grant of probate has been made or, if he dies intestate, the duly appointed administrator(s) of his estate) who have produced to the Company evidence of their appointment as such;

"Qualifying Subsidiary" a subsidiary which satisfies the conditions of paragraph 11 of Schedule 5 to ITEPA 2003;

"Regular Option" an Option other than an RSU-style Option;

"Relevant Restriction" a provision included in any contract, agreement, arrangement or condition (including the articles of association of the Company) to which any of sections 423(2), 423(3) or 423(4) of ITEPA 2003 would apply if references in them to employment related securities were references to Shares;

"RSU-style Option" an Option (other than a Nominal-Cost Option) with an Option Price equal to the nominal value of an Ordinary Share (being £0.001 per Ordinary Share), if it is an option to acquire Ordinary Shares, or six times the nominal value of an Ordinary Share (being £0.006 per ADS), if it is an option to acquire ADSs, and which is identified as such in the Option Agreement or Deed of Grant;

"Sale" an unconditional agreement being entered into for the sale to a person other than a Group Company of the whole, or substantially the whole, of the business and assets of the Company;

"Scheme" this share option scheme as constituted and governed by these Rules, as from time to time amended in accordance with these Rules;

"Shares" Ordinary Shares or ADSs, as the context so admits;

"Short-Term Deferral Period" the short-term deferral period (within the meaning of Section 409A of the United States Internal Revenue Code and §1.409A-1(b)(4) of the United States Treasury Regulations);

"subsidiary" a company which is a subsidiary of the Company within the meaning of Section 1159 of the Companies Act 2006, except that any company that is a subsidiary under section 1159(1)(b) or section 1159(c) shall not cease to be a subsidiary for the purposes of these Rules (in particular, the definitions of Group, Group Company, Qualifying Subsidiary and Eligible Person) when shares in that subsidiary held by the Company (or by another subsidiary) are registered in the name of:

(a) another person (or its nominee) solely by way of security or in connection with the taking of security; or

(b) the Company's (or another subsidiary's) nominee;

"Sufficient Shares"	the smallest number of Shares which, when sold at the best price which can reasonably be expected to be obtained at the time of sale, will produce an amount at least equal to the relevant Tax Liability (after deduction of brokerage and any other charges or taxes on the sale);
"Takeover"	the Company coming under the control of a person or persons as mentioned in Rule 11;

"Taxable Event"	any event or circumstance that gives rise to a liability for the Option Holder to pay income tax and National Insurance contributions or either of them (or their equivalents in any jurisdiction) in respect of: (a) the Option, including its exercise, its assignment or surrender for consideration, or the receipt of any benefit in connection with it; (b) any Shares (or other securities or assets): (i) earmarked or held to satisfy the Option; (ii) acquired on exercise of the Option; (iii) acquired as a result of holding the Option; or (iv) acquired in consideration of the assignment or surrender of the Option; or (c) any securities (or other assets) acquired or earmarked as a result of holding Shares (or other securities or assets) mentioned in (b); or (d) any amount due under PAYE in respect of securities or assets within (a) to (c) above, including any failure by the Option Holder to make good such an amount within the time limit specified in section 222 of ITEPA 2003.
"Tax Liability"	the total of: (a) any income tax and primary class 1 (employee) National Insurance contributions (or their equivalents in any jurisdiction) for which the Option Holder's Employer may be liable to account (or reasonably believes it is or may be liable to account) as a result of any Taxable Event; and (b) any Employer National Insurance contributions that any employer (or former employer) of the Option Holder is or may be liable to pay (or reasonably believes it is or may be liable to pay) as a result of any Taxable Event which can be recovered lawfully from the Option Holder;

"Vested Shares"	Shares which, subject to the following rules of this Scheme, may at the relevant time be acquired by the exercise of an Option in accordance with these Rules in consequence of the conditions set out in any applicable Vesting Schedule or Performance Targets being met.
"Vesting Schedule"	such one or more time-based conditions as may be specified by the Board in the Option Agreement or Deed of Grant as mentioned in Rules 5.1 and 5.2.

1.2 Where the context so admits or requires, the singular includes the plural and the masculine includes the feminine and neuter and vice versa.

1.3 References to Rules are to Rules of this Scheme as from time to time amended in accordance with their provisions.

1.4 A reference to a statute or statutory provision is a reference to it as in force at the relevant time, taking account of any amendment, extension or re-enactment and includes any subordinate legislation in force and made under it.

1.5 References to "**writing**" and "**written**" includes faxes, email and other forms of electronic communication which can be read.

1.6 A reference to a "person" includes any individual, firm, body corporate, unincorporated association, partnership, joint venture, government or state or agency of state (whether or not having a separate legal personality).

1.7 Headings shall not affect the interpretation of these Rules.

2. ELIGIBILITY FOR EMI OPTIONS

2.1 A person is eligible to be granted an EMI Option if (and only if) he is an employee of the Company or a Qualifying Subsidiary and his committed time to the relevant company amounts to at least 25 hours a week, or if less, 75% of his "working time" (as that expression is defined by paragraph 27(1) of Schedule 5 to ITEPA 2003), and which includes time which the employee would have been required to so spend but for injury, ill health, disability, pregnancy, childbirth, maternity, paternity or parental leave, reasonable holiday entitlement or not being required to work during a period of notice of termination, in compliance with paragraph 26 of Schedule 5 to ITEPA 2003.

2.2 A person is not eligible to be granted an EMI Option at any time when he is not eligible to participate in the Scheme by virtue of paragraph 28 of Schedule 5 to ITEPA 2003 *(no material interest requirement).*

3. GRANT OF OPTIONS

3.1 Subject to the limitations and conditions of this Scheme, in its absolute discretion, any Grantor may, on such dates as it shall determine, grant Options (whether or not intended to be EMI Options) to such Eligible Persons as it may in its absolute discretion select.

3.2 Options:

3.2.1 may not be granted at any time when such grant would be prohibited by, or in breach of, any law or regulation with the force of law; or

3.2.2 which are intended to be EMI Options shall only be granted when the Company is a qualifying company as defined in paragraph 8 of Schedule 5 to ITEPA 2003.

3.3 The Grantor may impose a condition preventing the exercise of an Option unless the Option Holder shall have entered into a Deed of Adherence (in such form as may be required by the Company) with the Company and all persons who at the date of exercise of the Option are holders of shares in the capital of the Company whereby the Option Holder becomes a party to any Shareholders' Agreement or other document having a similar effect which is in force between the Company and all persons who at the date of exercise of the Option are holders of shares in the capital of the Company.

3.4 Subject to Rule 3.4A, an Option shall be granted by the Grantor and the Option Holder executing as a deed an agreement, in such form as the Board may from time to time determine. Each Option Agreement shall:

3.4.1 if such be the case, specify that the Option is intended to be an EMI Option and is granted in accordance with the provisions of Chapter 9 of Part 7 of and Schedule 5 to ITEPA 2003;

3.4.2 specify the Date of Grant;

3.4.3 identify the Grantor;

3.4.4 specify the number of Shares over which the Option is granted;

3.4.5 (in relation to Options granted after 1 January 2018) specify whether the Option is granted over Ordinary Shares or ADSs;

3.4.6 specify the Option Price;

3.4.7 specify any Performance Target and Performance Period imposed pursuant to Rule 5 (and any restrictions that apply to the variation or waiver of any such Performance Target) and any condition imposed under Rule 3.3;

3.4.8 specify the Vesting Schedule applicable to the Option;

3.4.9 specify if the Option is either a Nominal-Cost Option or an RSU-style Option;

3.4.10 for a Regular Option, specify the last date on which the Option may be exercised (subject to Rule 7.1) and assuming that the Option is not exercised earlier and no event occurs to cause the Option to lapse earlier;

3.4.11 specify the extent to which Rule 7.7 or Rule 8.5 applies to the Option, if applicable

3.4.12 specify how the Option may be exercised;

3.4.13 specify details of any Relevant Restrictions attaching to the Option Shares;

3.4.14 specify that the Option is subject to these Rules;

3.4.15 include the terms required by Rule 9.1, Rule 9.2 and Rule 9.6;

3.4.16 include the power of attorney required by Rule 9.7; and

3.4.17 include a term giving effect to Rule 3.9.

3.4A Notwithstanding Rule 3.4, in relation to Options other than EMI Options, Options may be granted by the Grantor executing a deed poll (a **"Deed of Grant"**), which may cover a number of Options. A Deed of Grant shall specify the information set out in Rule 3.4.2 to 3.4.11, together with any other terms of the Option not inconsistent with these Rules, in relation to each Option granted by it. Where an Option is granted by way of a Deed of Grant:

3.4A.1 the information set out in Rule 3.4.2 to 3.4.14 (and any other terms of the Option contained in the Deed of Grant) shall be provided to the Option Holder (and may be provided in an electronic manner); and

3.4A.2 a Nominal-Cost Option or an RSU-style Option shall, and any other Option may, be subject to a condition that if the terms of the Option are not accepted by the Option Holder in such manner as the Board may specify within a period of 30 days (or such other period as the Board considers appropriate) from the Date of Grant, the Option shall lapse.

3.4B By accepting the terms of a Nominal-Cost Option or an RSU-style Option, whether by entering into the Option Agreement or in accordance with Rule 3.4A.2, in addition to the other terms of the Option as set out in the Rules and the Option Agreement or Deed of Grant, the Option Holder agrees to the following in relation to any automatic exercise of the Option as provided in Rule 8.4 or 8.6:

3.4B.1 the Option Holder undertakes to pay the Option Price to the Company upon the exercise of the Option;

3.4B.2 the Option Holder authorises the Company to allot and/or issue the Shares resulting from the exercise to the Option Holder or to a nominee for the Option Holder (chosen by the Company), and if the Shares are in the form of Ordinary Shares take all steps necessary in the name of the Option Holder (or authorise others to take those steps) to transfer the Ordinary Shares into a depositary system for the creation of ADSs in relation to those Ordinary Shares;

3.4B.3 the Option Holder authorises the Company to sell or procure the sale of sufficient Vested Shares (or ADSs derived from those Shares) on or following

exercise of his Option on his behalf to ensure that the Company receives:

(a) the amount required to discharge the undertaking to pay referred to in Rule 3.4B.1 (and authorises the Company to apply that amount in discharging the undertaking);

(b) the amount required to pay to the Option Holder's Employer the amount of any Tax Liability arising from the exercise of the Option (and authorises the Company to pay that amount to the Option Holder's Employer); and

(c) the amount of any costs, stamp duty or stamp duty reserve tax or similar duties, taxes or other expenses incurred in relation to the creation of ADSs, the sale of the Vested Shares or the sale of ADSs derived from the Vested Shares (and authorises the Company to apply that amount in the payment of those costs etc); and

3.4B.4 the Option Holder authorises the Company or any person appointed by the Company to take any such further acts on behalf of and in the name of the Option Holder as may be necessary or desirable to effect the automatic exercise of the Option.

3.5 No amount shall be paid by an Eligible Person for the grant of an Option.

3.6 The date of the agreement executed pursuant to Rule 3.4, or the date of execution of the deed poll referred to in Rule 3.4A, shall be taken for all purposes of this Scheme as the Date of Grant in respect of the relevant Option.

3.7 An Option shall not be granted by any person other than the Company without the prior approval of the Board and such person will only be authorised to grant Options after it has entered into an irrevocable undertaking to the Company for the benefit of the Company and an Option Holder's Employer that such person will fulfil its obligations as Grantor under these Rules.

3.8 In the case of an EMI Option, within 30 days after the Date of Grant, the Option Holder shall correctly complete, sign and date the relevant EMI Notice and return it to the Option Holder's Employer.

3.9 If an Option Holder granted an EMI Option does not correctly complete, sign and date the relevant EMI Notice and return it to the Option Holder's Employer within 60 days after the Date of Grant the relevant Option shall automatically lapse at the end of that period.

3.10 The Option Holder's Employer shall, in respect of any Option intended to be an EMI Option:

3.10.1 send an original of the duly completed EMI Notice so as to be received by the Small Company Enterprise Centre of HMRC within the period of 92 days after the relevant Date of Grant (or such other period as may be specified by paragraph 44 of Schedule 5 to ITEPA 2003 at the relevant time); and

3.10.2 keep each Option Agreement available for inspection by HMRC at any time.

3.11 The Option Agreement, or the information provided in accordance with Rule 3.4A.1, shall serve as evidence of the grant of the Option and accordingly no certificates shall be issued to the Option Holder.

3A. SCHEME LIMIT

3A.1 In the event of a Listing, no Option may be granted if, immediately following the grant, it would make the aggregate number of Ordinary Shares subject to awards made following the Listing under the Scheme and any other incentive plans for

Connected individuals adopted by a Group Company exceed the Scheme Limit at that time. For these purposes, if awards (including Options) are granted over ADSs, the reference in this Rule 3A to Ordinary Shares subject to awards shall be taken to include the Ordinary Shares underlying the ADSs subject to those awards.

3A.2 The **"Scheme Limit"** at any time shall be 8% of the number of Ordinary Shares comprised in the Initial Fully Diluted Share Capital plus any Annual Increments by which the Scheme Limit has increased prior to that time in accordance with Rule 3A.4.

3A.3 The **"Initial Fully Diluted Share Capital"** shall be the issued share capital of the Company immediately following the Listing plus the number of Ordinary Shares which would be issued if all options to acquire Ordinary Shares granted by the Company to Connected individuals (whether or not still Connected at the time of the Listing) which were outstanding at the time of the Listing were exercised in full and satisfied by the issue of new Ordinary Shares by the Company.

3A.4 On 1 July in each year, commencing with 1 July 2016, the Scheme Limit shall automatically increase by 4% of the number of Ordinary Shares comprised in the issued share capital of the Company at the end of the immediately preceding 30 June, or, in each case, such lower number as the Board may prior to that 1 July determine. Each such increase shall be an **"Annual Increment"**.

3A.5 For the purposes of Rule 3A.1, Ordinary Shares subject to awards which have been satisfied (in whole or in part) shall be included (to the extent that the relevant award has been satisfied), and Ordinary Shares subject to awards which (in whole or in part) have lapsed or otherwise become incapable of exercise (other than by reason of the satisfaction thereof) shall not be included (to the extent that the relevant award has lapsed or otherwise become incapable of exercise).

3A.6 In the event that there is more than one Listing in relation to the Company, the term "Listing" in Rules 3A.1 and 3A.3 shall be interpreted as a reference to the first such Listing.

4. OPTION PRICE

4.1 Subject to Rules 4.2 and 4.3 and any adjustment being made pursuant to Rule 15, the Option Price shall be determined by the Board (with the prior consent of the Grantor, where appropriate).

4.2 Save where the Company intends that the Option be satisfied by the transfer of existing Shares, the Option Price shall not be less than the nominal value of a Share.

4.3 The Option Price for a Nominal-Cost Option and an RSU-style Option shall be the nominal value of a Share.

5. VESTING SCHEDULE AND PERFORMANCE TARGETS

5.1 An Option may be granted subject to either, or both, a Vesting Schedule and Performance Targets as the Board shall determine.

5.2 An Option may be granted on terms that different proportions of the Option Shares shall respectively become Vested Shares if the Option Holder is continuously Connected throughout such different periods, beginning with the Date of Grant, as the Board shall specify in the Option Agreement or the Deed of Grant.

5.3 An Option may be granted on terms that the extent to which the Option Shares become Vested Shares shall depend upon the extent to which one or more Performance Targets specified in the Option Agreement or Deed of Grant is attained (so that if and insofar as any such Performance Target is not attained, the Option shall then lapse and cease to be exercisable in respect of the proportion of Option Shares which does not then become Vested Shares).

5.4 A Performance Target may be specified to apply to the whole or part only of an Option.

5.5 After an Option has been granted the Board may (with the consent of the Grantor, where appropriate) amend a Vesting Schedule so as to bring forward the time at which any Option Shares shall become Vested Shares or vary any Performance Target imposed pursuant to Rule 5.1 PROVIDED THAT no such variation shall be made unless an event has occurred or events have occurred in consequence of which the Board reasonably considers that the terms of the existing Performance Targets should be so varied for the purpose of ensuring that either the objective criteria against which the performance of the Group and/or any Group Company and/or any division and/or the Option Holder will then be measured will be, in the reasonable opinion of the Board, a fairer measure of such performance or that any varied Performance Target will afford a more effective incentive to Option Holders and will be no more difficult to satisfy than was the Performance Target when first set.

5.6 After an Option has been granted the Board may (with the consent of the Grantor, where appropriate), waive in whole or in part any requirement that a Performance Target be met as a condition of exercise of an Option PROVIDED THAT no such waiver shall be made unless an event or events have occurred in consequence of which the Board reasonably considers that the terms of the existing Performance Target no longer afford an effective incentive to the Option Holder.

5.7 The Board shall determine whether, and to what extent, any Performance Targets have been satisfied.

5.8 If an Option is subject to any Performance Target, the Board shall notify the Option Holder (and the Grantor, if not the Company) within a reasonable time after the Board becomes aware of the relevant information:

5.8.1 whether (and, if relevant, to what extent) the Performance Target has been satisfied and the relevant Option has therefore vested;

5.8.2 of any subsequent change in whether, or the extent to which, the Performance Target has been satisfied;

5.8.3 when that Performance Target has become incapable of being satisfied, in whole or in part; and

5.8.4 of any waiver or variation of that Performance Target under Rule 5.5 or 5.6.

5.9 The number of Shares in respect of which an Option shall become vested on any occasion shall be rounded to the nearest whole number.

5.10 If, in consequence of a Performance Target being met, an Option becomes vested in respect of some but not all of the Option Shares, it shall thereupon lapse and cease to be exercisable in respect of the balance of the Option Shares if such Performance Target is incapable of being met in respect of the balance of such Option Shares.

6. LIMITS

6.1 Unless permitted by Schedule 5 to ITEPA 2003 or such other legislation as may from time to time govern the granting of EMI Options, no person shall be granted EMI Options which would, at the time they are granted, result in that person exceeding the £250,000 maximum entitlement as prescribed in paragraph 5 of Schedule 5 to ITEPA 2003 (or such other amount as may be specified by Schedule 5 to ITEPA 2003 at the relevant time).

6.2 Unless permitted by Schedule 5 to ITEPA 2003 or such other legislation as may from time to time govern the granting of EMI Options, no person shall be granted EMI Options which would, at the time that they are granted, result in the Company exceeding the £3,000,000 maximum value of shares prescribed in paragraph 7 of Schedule 5 to ITEPA 2003 (or such other amount as may be specified by Schedule 5 to ITEPA 2003 at the relevant time).

6.3 A Grantor may only grant EMI Options whilst the requirements of Schedule 5 to ITEPA 2003 are met and if any of the requirements are not met, the Option shall continue to subsist but not as an EMI Option.

6.4 For the avoidance of doubt, the limitations under this Rule 6 do not apply to Options which are not EMI Options.

7. EXERCISE AND LAPSE OF OPTIONS

7.1 A Regular Option shall not in any event be exercised later than 5.00 pm GMT on the day immediately preceding the tenth anniversary of the Date of Grant or such earlier date as may be specified in the relevant Option Agreement or Deed of Grant and shall lapse if not exercised by such date.

7.2 A part of an RSU-style Option shall not in any event be exercised later than 5.00 pm GMT on the last day of the Short-Term Deferral Period applicable to that part of the Option and shall lapse if not exercised by that time.

7.3 Subject to Rules 11.2 and 13.2 an Option may only ever be exercised in respect of Vested Shares or such greater proportion of the Option Shares as may be notified in writing to the Option Holder by the Board.

7.4 Except as mentioned in Rules 7.5, 7.6, 11 and 13 or as otherwise provided in the relevant Option Agreement or Deed of Grant an Option may not be exercised unless the Option Holder is at the time of exercise Connected.

7.5 Subject to Rule 7.6, if an Option Holder ceases to be Connected then an Option granted to him may only be exercised (if at all) in relation to such proportion of the Option Shares, and (subject to Rule 7.1) within such period, as the Board shall (with the consent of the Grantor, where appropriate) determine and notify to the Option Holder (or, where appropriate, his Personal Representatives) and shall otherwise lapse and cease to be exercisable on the date of cessation **PROVIDED THAT** unless such determinations are made by the Board prior to the expiry of the period of three months beginning with the date on which the Option Holder ceases to be so Connected then such Option may not be exercised and shall be deemed to have lapsed and ceased to be exercisable as from the date of such cessation. Where the Board allows the exercise of an RSU-style Option under this Rule 7.5, the period for the exercise of the Option shall not exceed the Short-Term Deferral Period in

relation to the part of the Option being exercised.

7.6 Subject to Rule 7.7, where an Option Holder holding a Nominal-Cost Option ceases to be Connected for one of the following reasons:

7.6.1 death;

7.6.2 disability, injury or ill health (evidenced to the satisfaction of the Board);

7.6.3 redundancy (within the meaning of the Employment Rights Act 1996);

7.6.4 the company in relation to which the Option Holder is Connected ceasing to be a Group Company; or

7.6.5 the business in relation to which the Option Holder is Connected being transferred to a person that is not a Group Company,

the Nominal-Cost Option may be exercised (in accordance with Rule 8.1) to the extent of the Vested Shares following the Option Holder ceasing to be Connected. The Option shall be automatically exercised to the extent of those Vested Shares in accordance with Rule 8.6 (subject to Rules 7.7 and 8.7) on the last Tuesday that is a dealing day on NASDAQ of the month following the month in which the date of cessation falls, if not already exercised. If Rule 7.7 or 8.7 applies so that the Nominal-Cost Option is not automatically exercised on that date, the Option shall remain exercisable in relation to those Vested Shares for the period of three months from the date the Option Holder ceases to be Connected (or such longer period as the Board may specify before the end of that three-month period). For the avoidance of doubt, automatic exercise pursuant to this Rule 7.6 shall not apply to any portion of the Nominal-Cost Option which pursuant to Rule 7.5 becomes exercisable in addition to the Vested Shares.

7.7 A Nominal-Cost Option may be granted on terms that either the whole of Rule 7.6 does not apply to it, or that automatic exercise pursuant to Rules 7.6 and 8.6 does not apply to it, or that automatic exercise pursuant to Rule 7.6 shall occur on a day other than the day specified in Rule 7.6.

7.8 Save for the express requirements of Rule 7.5 there are absolutely no restrictions (or implied restrictions) under these Rules or otherwise on the Board's freedom to make whatever decision it wishes (or no decision at all) under Rule 7.5. In doing so, the Board may take into account (or disregard) whatever factors it wishes. An Option Holder shall have no entitlement to, and may not claim, compensation or damages (or any other remedy) from any Group Company or any former Group Company in respect of any Board decision under Rule 7.5 (or any failure by the Board to consider making a decision).

7.9 An Option (or part of an Option, with references to "Option" in this Rule 7.9 including a reference to part of an Option where the context so permits) shall immediately lapse and cease to be exercisable on the earliest to occur of the following:

7.9.1 if, in the case of an EMI Option, within the period of 60 days commencing on the Date of Grant, the Option Holder does not correctly complete, sign and return the relevant EMI Notice and return it to the Option Holder's Employer;

7.9.2 subject to Rules 7.5, 7.6, 11 and 13, if the Option Holder ceases to be Connected for any reason (including death);

7.9.3 if the Board shall have exercised its discretion pursuant to Rule 7.5 and the relevant Option shall not have been validly exercised within the period allowed for exercise and specified by the Board pursuant to Rule 7.5 at the end of that period;

7.9.4 if a Nominal-Cost Option (or part of a Nominal-Cost Option) is exercisable pursuant to Rule 7.6 and shall not have been validly exercised within the period allowed for exercise pursuant to that Rule, at the end of that period.

7.9.5 at 5.00pm GMT on the day preceding the tenth anniversary of the Date of Grant;

7.9.6 in relation to part of an RSU-style Option to which Rule 8.5 applies, at the end of any period for exercise specified pursuant to that Rule;

7.9.7 in relation to part of an RSU-style Option, at 5.00 pm GMT on the last day of the Short-Term Deferral Period applicable to that part of the Option;

7.9.8 if the Option (or any rights under it) is transferred or assigned (other than to the Personal Representatives of the Option Holder on the death of the Option Holder), mortgaged, charged or any other security interest created over it or otherwise disposed of by the Option Holder or the Option Holder attempts to do any such thing;

7.9.9 if the Option Holder is adjudged bankrupt under Part IX of the Insolvency Act 1986, or applies for an interim order under Part VIII of the Insolvency Act 1986, or proposes or makes a voluntary arrangement under Part VIII of the Insolvency Act 1986, or takes similar steps, or is similarly affected under the laws of any jurisdiction that correspond to those provisions of the Insolvency Act 1986;

7.9.10 at the end of the 40 day period referred to in Rule 11.1 or, if earlier, at the end of any period specified by the Board pursuant to Rule 11.2;

7.9.11 at the end of the 40 day period referred to in Rule 13.1 or, if earlier, at the end of any period specified by the Board pursuant to Rule 13.2;

7.9.12 if any Performance Target to which the Option is subject becomes incapable of being attained by the end of the relevant Performance Period.

8. MANNER OF EXERCISE OF OPTIONS

8.1 Save where an Option is automatically exercised in accordance with Rules 8.4 or 8.6, an Option shall be exercised in whole or in part by the Option Holder (or, as the case may be, his Personal Representatives) delivering to the Company (acting as agent of the Grantor) a written exercise notice (in such form prescribed by the Board from time to time, which can, without limitation, be in electronic form) specifying the number of Shares in respect of which the Option is being exercised. Such notice shall be accompanied by the payment of an amount equal to the Option Price multiplied by the number of Shares specified in the exercise notice in respect of which the Option is exercised and by any payment required under Rule 9 and/or any documentation relating to arrangements or agreements required under Rule 9 (save to the extent the Option Holder enters into other arrangements satisfactory to the Company for the payment of any such sum in relation to the Exercise Price and/or any sum required to be paid under Rule 9).

8.2 Where an Option is exercised in part only the balance of the Option not thereby exercised shall continue to be exercisable in accordance with these Rules and the relevant Option Agreement or Deed of Grant.

8.3 Any exercise notice shall be invalid:

8.3.1 to the extent that it is inconsistent with the Option Holder's rights under these Rules and/or the Option Agreement or Deed of Grant; and

8.3.2 if any of the requirements of Rule 8.1 are not met; or

8.3.3 if any payment referred to in Rule 8.1 is made by a cheque that is not honoured on first presentation or in any other manner which fails to transfer the expected value to the Company.

8.4 Subject to Rule 8.5, an RSU-style Option shall be automatically exercised to the full extent of the Vested Shares on the day it first becomes exercisable in relation to those Vested Shares by reason of the conditions set out in any applicable Vesting Schedule or Performance Targets being met (or if that day is not a dealing day on NASDAQ, the next day that is a dealing day), subject to and in accordance with the provisions of Rule 8.7 and 8.8. For the avoidance of doubt this Rule 8.4 shall not apply to any part of the RSU-style Option that becomes exercisable in accordance with Rule 7.5, Rule 11 or Rule 13.

8.5 An RSU-style Option may be granted on terms that Rule 8.4 does not apply to it. In such cases, the Board may specify a period for the exercise of each part of the RSU-style Option following the Shares in that part becoming Vested Shares (such period not to exceed the Short-Term Deferral Period applicable to that part), and if not exercised by the end of that period that part of the Option shall lapse.

8.6 A Nominal-Cost Option shall be automatically exercised to the full extent of the Vested Shares in the circumstances set out in Rule 7.6 (save where Rule 7.7 applies to that Nominal-Cost Option), subject to and in accordance with the provisions of Rule 8.7 and 8.8.

8.7 No Option shall be automatically exercised at any time when a notice to exercise the Option would be invalid under Rule 8.9.1 or 8.9.2, or at any time when the exercise of the Option, or any sale of Shares or ADSs derived from Shares necessary to effect the automatic exercise of the Option, would be prohibited by applicable law or regulation or the Company's Insider Trading Policy from time to time, or at a time when ADSs are not listed on NASDAQ. In any case where the automatic exercise of the Option is prevented by this Rule 8.7, the Option may be exercised in accordance with the provisions of Rule 8.1 at any time the exercise of the Option is not otherwise prevented by these Rules.

8.8 Where an Option is automatically exercised the Company shall take such steps as it considers necessary in relation to the exercise of the Option and to allot and/or issue the relevant Shares to the Option Holder or to a nominee for him sell or procure the sale of sufficient Vested Shares or ADSs derived from those Vested Shares on or following exercise of the Option on his behalf to ensure that the Company receives the amount required to meet the Option Price and any Tax Liability and any associated costs, taxes, duties and other expenses associated with the sale of the Shares, the creation of ADSs from the Shares and/or the sale of ADSs created from the Shares as authorised by the Option Holder in accordance with Rule 3.4B. The balance of the Shares and/or ADSs not sold in accordance with these provisions shall be held in an account in the name of the Option Holder or of a nominee for the Option Holder.

8.9 A notice to exercise an Option by an Option Holder will be invalid:

8.9.1 when any Group Company has begun disciplinary proceedings against the relevant Option Holder which have not been concluded; or

8.9.2 while any Group Company is investigating the relevant Option Holder's conduct and may as a result begin disciplinary proceedings; or

8.9.3 while there is a breach of the relevant Option Holder's contract of employment which entitles any Group Company to dismiss the Option Holder (whether or not the Group Company is aware of that breach); or

8.9.4 at any time when the relevant Option Holder is no longer employed by a Group Company but the Option remains capable of exercise, if there was a material breach of the Option Holder's employment contract:

(a) of which no Group Company was aware (or not fully aware) until after:

(i) the time when the Option Holder ceased employment; and

(ii) the time when the Board decided to permit the exercise of the Option following the Option Holder's cessation of employment (if such permission has been granted); and

(b) which would have prevented the grant or exercise of the Option, had any Group Company been aware (or fully aware) of that breach at the relevant time.

8.10 The Board shall treat Option Holders fairly and reasonably when making decisions or taking steps under Rule 8.9.

8.11 The Company may permit the Option Holder to correct any defect referred to in Rule 8.3.2 or 8.3.3 (but shall not be obliged to do so). The date of any corrected exercise notice shall be the date of the correction rather than the original notice date for all other purposes of the Scheme.

8.12 Subject to the other Rules of this Scheme, as soon as practicable and in any event not more than 30 days after receipt by the Company of a valid notice exercising an Option or the automatic exercise of an Option, the Shares in respect of which the Option has been exercised shall be allotted and/or issued by the Company to the Option Holder (or a nominee for the Option Holder), or shall be transferred to the Option Holder (or a nominee for the Option Holder). In the case of a New Share Option, it shall only be satisfied by the allotment and/or issue of new Shares to the Option Holder, not the transfer of existing Shares.

8.13 The Company shall be responsible for any stamp duty payable by an Option Holder in respect of the transfer of any Shares to him pursuant to the exercise of an Option.

8.14 Except for any rights determined by reference to a date before the date of allotment, Shares allotted and issued in satisfaction of the exercise of an Option shall rank equally in all respects with the other shares of the same class in issue at the date of allotment.

9. TAX LIABILITIES

9.1 Each Option Agreement shall include the Option Holder's irrevocable agreement to:

(a) pay to the Option Holder's Employer the amount of any Tax Liability; or

(b) enter into arrangements to the satisfaction of the Option Holder's Employer for payment of any Tax Liability.

Where an Option is granted by Deed of Grant, the acceptance of the terms of the Option in accordance with Rule 3.4A.2 shall constitute the Option Holder's irrevocable agreement to these terms.

9.2 Unless the Option Holder's Employer directs that it shall not, each Option Agreement shall include the Option Holder's irrevocable agreement that:

(a) the Option Holder's Employer may recover the whole or any part of any Employer NICs from the Option Holder; and

(b) at the request of the Option Holder's Employer, the Option Holder shall elect (using a form approved by HMRC) that the whole or any part of the liability for Employer NICs shall be transferred to the Option Holder.

Where an Option is granted by Deed of Grant, the acceptance of the terms of the Option in accordance with Rule 3.4A.2 shall constitute the Option Holder's irrevocable agreement to these terms (unless the Option Holder's Employer directs that it shall not).

9.3 The Option Holder's Employer may decide to release the Option Holder from, or not to enforce, any part of the Option Holder's obligations in respect of Employer NICs under Rule 9.1 and 9.2.

9.4 If an Option Holder does not fulfil his obligations under either Rule 9.1(a) or Rule 9.1(b) in respect of any Tax Liability arising from the exercise of an Option within seven days after the date of exercise and Shares are readily saleable at that time, the Grantor shall withhold Sufficient Shares from the Shares which would otherwise be delivered to the Option Holder. From the net proceeds of sale of those withheld Shares, the Granter shall pay to the Option Holder's Employer an amount equal to the Tax Liability and shall pay any balance to the Option Holder. The Option Holder's obligations under Rule 9.1(a) and Rule 9.1(b) shall not be affected by any failure of the Company to withhold Shares under this Rule 9.4.

9.5 Option Holders shall have no rights to compensation or damages on account of any tax or National Insurance contributions liability which arises or is increased (or is claimed to arise or be increased) in whole or in part because of:

(a) any decision of HMRC that an Option does not meet the requirements of Schedule 5 ITEPA 2003 and is therefore not an EMI Option, however that decision may arise;

(b) any Disqualifying Event, however that event may be caused; or

(c) the timing of any decision by the Board to permit the exercise of an Option under Rule 7.5.

9.6 Each Option Agreement shall include the Option Holder's irrevocable agreement to enter into a joint election, under section 431(1) or section 431(2) of ITEPA 2003, in respect of the Shares to be acquired on exercise of the relevant Option, if required to do so by the Company or Option Holder's Employer, on or before any date of exercise of the Option. Where an Option is granted by Deed of Grant, the acceptance of the terms of the Option in accordance with Rule 3.4A.2 shall constitute the Option Holder's irrevocable agreement to enter into such an election if so required.

9.7 Each Option Agreement shall include a power of attorney appointing the Company as the Option Holder's agent and attorney for the purposes of Rule 9.4 and Rule 9.6. Where an Option is granted by way of Deed of Grant, the acceptance of the terms of the Option in accordance with Rule 3.4A.2 shall constitute the Option Holder's appointment of the Company as the Option Holder's agent for the purposes of Rule 9.4 and Rule 9.6.

10. NON-TRANSFERABILITY OF OPTIONS

10.1 During his lifetime, only the individual to whom an Option is granted may exercise that Option. Options (and any rights arising under them) may not be transferred or assigned or have any charge or other security interest created over them.

11. TAKEOVERS

11.1 Subject to Rules 7.1, 11.2, and 12, if any person ("**the Controller**") acquires control of the Company as a result of:

11.1.1 making an offer to acquire the whole of the issued share capital of the Company which is made on a condition such that, if it is satisfied, the Controller will (on its own account or acting together with others) have control of the Company; or

11.1.2 making an offer to acquire all the shares in the Company which are of the same class as the Shares (on its own account or acting together with others); or

11.1.3 entering into a share sale and purchase agreement which will result in the Controller obtaining Control of the Company upon completion (on its own account or acting together with others);

the Option Holder shall, whether or not he subsequently or in consequence of the change in control ceases to be Connected for any reason but subject to the provisions of Rules 7.1, 7.2 and 7.3, be entitled to exercise his Option in whole or in part within the period of 40 days beginning with the date when the Controller has obtained control of the Company and (if relevant) any condition subject to which the offer is made has been satisfied and to the extent that the Option is not exercised within such period it shall lapse and cease to be exercisable.

11.2 Notwithstanding Rule 11.1, if a person makes such an offer as is referred to in Rule 11.1.1 or 11.1.2 or negotiates a share sale and purchase agreement with the shareholders of the Company which will result in a change in control, the Board may, in its absolute discretion and by notice in writing to all Option Holders, declare all outstanding Options to be exercisable in respect of all Option Shares which would become Vested Shares upon such change of control in anticipation of the change in control during a reasonable limited period specified by the Board in the notice (which period shall end immediately before the Controller obtains control of the

Company, if it has not already ended). If the Board so declares, all outstanding Options may be exercised at any time during such period. If not exercised, the Options shall lapse immediately upon the expiry of such period.

12. QUALIFYING EXCHANGE OF SHARES

12.1 The provisions of Rule 12.2 shall have effect, and Rule 11.1 shall not apply if another company obtains all the shares of the Company as a result of a "qualifying exchange of shares" (falling within paragraph 40 of Schedule 5 to ITEPA 2003) and the Option Holder is invited to release his rights under his Option in consideration of the grant to him of rights (the "**Replacement Option**") which are equivalent but relate to shares in the acquiring company and the requirements of paragraphs 42 and 43 of Schedule 5 to ITEPA 2003 would be met in relation to the Replacement Option.

12.2 If the Option Holder does not agree to release his rights under his Option in consideration of the grant to him of such Replacement Option then his Option shall lapse and cease to be exercisable at the end of the period within which the Option Holder could have accepted such invitation.

13. SALE

13.1 In the event of a Sale, Options may be exercised in respect of Vested Shares whether or not the relevant Option Holder shall have ceased to be Connected subsequently to or in consequence of that Sale within the period of 40 days beginning with the date of the Sale and shall lapse and cease to be exercisable at the end of that period.

13.2 If the Board anticipates that a Sale may occur, the Board may invite Option Holders to exercise Options in respect of Option Shares which would become Vested Shares upon such Sale within such period preceding such Sale as the Board may specify and, if an Option is not then exercised, it shall, unless the Board otherwise determines, lapse and cease to be exercisable at the end of that period.

14. LISTING

14.1 In the event of a Listing, Options may be exercised in respect of Vested Shares within such one or more periods after the Listing as the Board shall determine and notify to Option Holders before the Listing PROVIDED THAT:

14.1.1 no such period shall be less than 7 days long; and

14.1.2 the first such period shall begin within the period of 14 days beginning with the date of Listing; and

14.1.3 if no exercise period has been specified by the Board, Options may be exercised after the Listing; and

14.1.4 if more than one exercise period has been specified by the Board, Options shall in any event be exercisable in respect of not less than one-third of the Vested Shares at any time within the first such period; and

14.1.5 the Board shall specify in writing to the Option Holders, at the same time as issuing notice of the first exercise period, the number and dates of any further exercise periods.

14.2 Subject to Rule 14.3 if, pursuant to Rule 14.1 an Option becomes exercisable in consequence of a Listing, then the Company shall have the right not to issue and allot Shares upon the exercise of such Option unless the Option Holder has first agreed with the Company (in such form as the Board shall determine) that the Option Holder shall not sell or otherwise dispose of the Shares acquired upon the exercise of such Option within such period or periods (not extending beyond the second anniversary of the date of Listing) as the Board may specify in a notice in writing to the Option Holder.

14.3 No such agreement as is mentioned in Rule 14.2 shall prevent an Option Holder from immediately disposing of such number of the Shares so acquired (by way of sale for a consideration in cash which is not less than the best consideration which may be obtained at the time of sale) as is sufficient to enable the Option Holder (after deduction of costs and expenses of sale) to recover the cost of the aggregate Option Price paid and any income tax and National Insurance contributions due in consequence of such exercise of such Option.

15. VARIATION OF SHARE CAPITAL

15.1 If there is any variation of the share capital of the Company (whether that variation is a capitalisation issue (other than a scrip dividend), rights issue, consolidation, subdivision or reduction of capital or otherwise) which affects (or may affect) the value of Options to Option Holders, the Board may adjust the number and description of Shares subject to each Option and/or the Option Price of each Option in a manner which the Board, in its reasonable opinion, considers to be fair and appropriate. However:

15.1.1 the amendment of any Option granted by a Grantor other than the Company shall require the consent of that Grantor (which shall not be unreasonably withheld);

the Board should note that the amendment of an EMI Option:

(a) may be a Disqualifying Event;

(b) may be regarded by HMRC as the release of the Option and the grant of a replacement share option which lacks EMI tax advantages; and

(c) it is possible to consult the Small Company Enterprise Centre of HMRC before any amendment proposed to be made under this Rule 15 and obtain their informal confirmation that they do not consider that the amendment would fall within either (i) or (ii) above;

15.1.2 the total amount payable on the exercise of any Option in full shall not be increased; and

15.1.3 the Option Price for a Share to be newly issued on the exercise of any Option shall not be reduced below its nominal value (unless the Board resolves to capitalise, from reserves, an amount equal to the amount by which the total nominal value of the relevant Shares exceeds the total adjusted Option Price, and to apply such amount to pay-up the relevant Shares in full).

16. RELATIONSHIP WITH EMPLOYMENT CONTRACT

16.1 This Scheme shall not form part of any contract of employment or letter of appointment between any Eligible Person and any Group Company and shall not confer on any Eligible Person any legal or equitable rights whatsoever against any such company nor give rise to any claim or cause of action at common law under statute or in equity.

16.2 The grant of an option shall not form part of the Option Holder's entitlement to remuneration or benefits pursuant to his contract of employment or letter of appointment or count as wages or remuneration for pension purposes nor does the existence of a contract of employment or a letter of appointment between any person and any Group Company give such person any right or entitlement to have an Option granted to him in respect of any number of Shares or any expectation that an Option might be granted to him whether subject to any conditions or at all.

16.3 The rights and obligations of an Option Holder under the terms of his contract of employment or letter of appointment shall not be affected by the grant of an Option or his participation in this Scheme.

16.4 The rights granted to an Option Holder upon the grant of an Option shall not afford the Option Holder any rights or additional rights to compensation or damages in consequence of the loss or termination of his office or employment with any Group Company for any reason whatsoever (whether or not in circumstances giving rise to a claim for wrongful or unfair dismissal).

17. VARIATIONS AND TERMINATION

17.1 The Board may from time to time in its absolute discretion, subject to Rules 17.2 and 17.3, amend, delete or add to the Rules of this Scheme in any respect as they deem desirable.

17.2 No amendment, deletion or addition shall be made which would adversely affect in any way any subsisting rights of Option Holders under the Scheme unless it is made:

17.2.1 with the prior written consent of such number of Option Holders as hold Options under the Scheme to acquire 75 per cent of the Shares which would be issued or transferred if all Options granted and subsisting under the Scheme were at that time exercised; or

17.2.2 by a resolution at a meeting of Option Holders passed by not less than 75 per cent of the Option Holders who attend and vote either in person or by proxy, and for the purposes of this Rule 17.2 the Option Holders shall be treated as a separate class of share capital and the provisions of the Articles of Association of the Company relating to class meetings shall apply mutatis mutandis.

17.3 This Scheme may be terminated at any time by a resolution of the Board or of the Company in general meeting, but if not terminated before then shall terminate on 15 March 2025. On termination, no further Options shall be granted, but Options granted prior to such termination shall continue to be valid and exercisable in accordance with these Rules.

18. HMRC REQUESTS

18.1 The Company shall provide to HMRC (within such time limit as the HMRC directs) any information in relation to this Scheme or the grant of Options under it and an Option Holder shall:

18.1.1 promptly provide to the Company such information as it may reasonably request; and

18.1.2 consent to the Company providing such information concerning him to HMRC for the purpose of complying with such request from HMRC.

19. EMI

19.1 Except as described in this Rule, the Rules of this Scheme shall apply to EMI Options in exactly the same way as they apply to other Options.

19.2 No warranty, representation or undertaking of any nature is given to the holder of an EMI Option that the EMI Option is a qualifying option for the purposes of ITEPA 2003 or that a disqualifying event will not occur in relation to an EMI Option. Neither the Board, the Company nor any other person shall be liable to the Option Holder for any loss of whatsoever nature resulting from the failure for any reason of an Option granted as an EMI Option to meet the conditions of Schedule 5 to ITEPA 2003, whether such failure results from the inadvertent or deliberate act of the Board, the Company or any other person or for any other reason whatsoever.

20. GENERAL

20.1 Any notice or other communication under or in connection with this Scheme may be given in such manner as the Board determines to be appropriate. Items sent by post shall be sent by pre-paid first-class post and shall be deemed to have been received at 12 noon on the second business day after posting. This Rule 20.1 shall not apply to the service of any proceedings or other documents in any legal action.

20.2 The Company shall at all times ensure that the Board is authorised to satisfy all rights from time to time subsisting under Options granted pursuant to this Scheme, taking account of any other obligations of the Company to allot and issue unissued Shares.

20.3 The Board's decision on any matter relating to this Scheme including any disputes relating to an Option shall be final and binding.

20.4 The costs of introducing and administering this Scheme shall be borne by the Company.

20.5 The Scheme shall be administered by the Board and the Board shall have power from time to time to make or vary regulations for the administration and operation of this Scheme provided that such regulations are not inconsistent with these Rules.

20.6 Notwithstanding Rule 20.5, or anything else to the contrary in these Rules, any matter to be determined in relation to an Option granted or to be granted to, or held by, the Company's chief executive officer or its other executive officers must be determined or recommended to the full board of the Company for determination either by:

20.6.1 independent directors constituting a majority of the board's independent directors in a vote in which only independent directors participate; or

20.6.2 a compensation committee comprised solely of independent directors.

This Rule 20.6 shall be interpreted in accordance with the NASDAQ Listing Rules, save that "independent director" shall mean a person who is both an independent director within the meaning of the NASDAQ Listing Rules and a non-employee director within the meaning of Rule16b-3 under the Securities Exchange Act of 1934 of the United States (the "Exchange Act").

20.7 Subject always to Rule 20.6, the Board may delegate its powers to such person or persons as it determines, and on such terms as it determines, provided that the Board may not delegate its power and authority to the Chief Executive Officer or other executive officer of the Company with regard to the selection for participation in this Plan of an officer, director or other person subject to Section 16 of the Exchange Act or decisions concerning the timing, pricing or amount of an Option granted to such an officer, director or other person.

20.8 The Company and any other Grantor shall not be obliged to provide Option Holders with copies of any materials sent to the holders of Shares.

20.9 The Contracts (Rights of Third Parties) Act 1999 shall not apply to this Scheme nor to any Option granted under it and no person other than the parties referred to in these Rules including, without prejudice to the generality of the foregoing, the relevant Option Holder's Employer and the parties to an Option shall have any rights under it nor shall it be enforceable under that Act by any person other than the parties to it.

20.10 No individual shall have any claim against any member of the Group arising out of his not being admitted to participation in the Scheme which is entirely within the discretion of the Board.

20.11 In the case of the partial exercise of an Option, the Board may call in or endorse or cancel and reissue as it thinks fit, any certificate for the balance of Shares over which the Option was granted.

20.12 Neither the Company nor any Grantor shall be obliged to notify any Option Holder if an Option is due to lapse.

21. GOVERNING LAW AND JURISDICTION

21.1 These Rules and all Options granted hereunder shall be governed by and construed in accordance with English law.

21.2 The courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim (including a non-contractual dispute or claim) that arises out of or in connection with these Rules, the Scheme or its subject matter and any Option or its subject matter or formation.

RULES of the
ADAPTIMMUNE THERAPEUTICS PLC 2016 EMPLOYEE SHARE OPTION SCHEME

Adopted by the Company on 14 January 2016

and amended on 18 December 2017

CONTENTS

RULES OF THE ADAPTIMMUNE THERAPEUTICS PLC 2016 EMPLOYEE SHARE OPTION SCHEME

1. DEFINITIONS

1.1 In these Rules, unless the context otherwise requires, the following words and expressions have the meanings set opposite them:

"ADS"	an American Depositary Share of the Company (also known as an American Depositary Receipt or ADR), each of which represents 6 Ordinary Shares (the underlying Ordinary Shares)
"Auditors"	the auditors for the time being of the Company or in the event of there being joint auditors such one of them as the Board shall select;
"Board"	the board of directors from time to time of the Company (or the directors present at a duly convened meeting of such board) or a duly authorised committee of directors appointed by that board of directors to carry out any of its functions under this Scheme;
"Company"	Adaptimmune Therapeutics plc, a company incorporated and registered in England with number 9338148;
"Connected"	means that the relevant individual is an employee or a director of, or a Consultant to, a Group Company;
"Consultant"	means any person who is providing consultancy services to a Group Company including, without prejudice to the generality of the foregoing, any member of any Scientific Advisory Board that may from time to time be established by the Company;
"control"	except as otherwise provided, has the meaning given in Section 719 of ITEPA 2003;
"Date of Grant"	the date on which an Option is granted as provided in Rule 3.6;
"Deed of Grant"	has the meaning given in Rule 3.4A;
"Disqualifying Event"	has the meaning given in sections 533 to 539 of ITEPA 2003;
"Eligible Person"	in relation to the grant of an Option which is not an EMI Option, any bona fide employee of the Company or any subsidiary of the Company, and in relation to the grant of an EMI Option, any bona fide employee of the Company or any subsidiary of the Company who satisfies the eligibility criteria set out in Rule 2, and for the purposes of this definition

	"subsidiary" shall have the meaning given in Section 1159 of the Companies Act 2006;
"EMI Notice"	a notice of an option which must be given to HMRC for that Option to be an EMI Option and which complies with the requirements of paragraph 44 of Schedule 5 to ITEPA 2003;
"EMI Option"	an Option which is a **"qualifying option"** as defined in paragraph 1(2) of Schedule 5 to ITEPA 2003;
"Employer NICs"	any secondary class 1 (employer) National Insurance contributions (or any similar liability for social security contribution in any jurisdiction) that the Option Holder's Employer is liable to pay as a result of any Taxable Event (or which such person would be liable to pay in the absence of an election of the type referred to in Rule 9.2(b)) and which may be lawfully recovered from the Option Holder.
"Grantor"	the person granting an Option pursuant to the Rules of this Scheme which may be: (a) the Company; or (b) the trustees of an employee benefit trust authorised by the Board to grant Options at the relevant time, subject to Rule 3.7; or (c) any other person authorised by the Board to grant Options at the relevant time, subject to Rule 3.7;
"the Group"	the Company and its subsidiaries from time to time;
"Group Company"	a company which is a member of the Group and includes the Company, whether or not it has any subsidiaries at the relevant time;
"HMRC"	HM Revenue & Customs;
"ITEPA 2003"	the Income Tax (Earnings and Pensions) Act 2003;
"Listing"	the listing of ADSs on NASDAQ, which for the purposes of these Rules shall be treated as occurring on the day on which trading in the American Depositary Shares of the Company began, namely 6 May 2015;
"N.I. Regulations"	the laws, regulations and practices from time to time in force relating to liability for and the collection of National Insurance contributions;
"Nominal Cost Option"	an Option (other than an RSU-style Option) with an Option Price equal to the nominal value of an Ordinary Share (being £0.001 per Ordinary Share), if it is an option to acquire Ordinary Shares, or six times the nominal value of an Ordinary Share (being £0.006 per ADS), if it is an option to acquire ADSs, which is identified as such in the Option Agreement or Deed of Grant;

"Option"	a right to acquire Shares at the Option Price pursuant to and in accordance with these Rules;
"Option Agreement"	a written agreement executed in respect of the grant of an Option pursuant to Rule 3.4;
"Option Holder"	a person holding an Option, including, where applicable, his Personal Representatives;
"Option Holder's Employer"	such Group Company as is the Option Holder's employer or, if he has ceased to be employed within the Group, was his employer or such other Group Company, or other person as, under the PAYE Regulations or, as the case may be, the N.I. Regulations, or any other statutory or regulatory enactment (whether in the United Kingdom or otherwise), is obliged to account for any Tax Liability;
"Option Price"	the price, as from time to time determined by the Board (with the prior consent of the Grantor, where appropriate), at which each Share subject to an Option may be acquired on the exercise of that Option which, if Shares are to be newly issued to satisfy the exercise of the Option, shall not be less than the nominal value of a Share;
"Option Shares"	the Shares over which an Option subsists;
"ordinary share capital"	all the issued share capital (by whatever name called) of the Company other than capital the holders whereof have a right to a dividend at a fixed rate but have no other right to share in the profits of the Company;
"Ordinary Shares"	fully paid irredeemable shares with a nominal value of £0.001 each in the ordinary share capital of the Company. For these purposes, in relation to an EMI Option, shares: (a) will not be fully paid-up if there is any undertaking to pay cash to the Company at a future date for those Shares; and (b) shall be treated as redeemable if they may become so at a future date;
"PAYE Regulations"	the regulations made under section 684 of ITEPA 2003;

"Performance Option"	an Option the exercise of which is subject to attainment of a Performance Target;

"Performance Period" in relation to a Performance Option, the period (as determined by the Board) over which the performance of the Company and/or any other condition is to be measured for the purposes of determining whether and to what extent the Performance Target is met;

"Performance Target" the condition or conditions imposed on the exercise of an Option pursuant to Rule 5 as amended and varied from time to time in accordance with these Rules;

"Personal Data" any personal information which could identify an Option Holder, including but not limited to, the Option Holder's:

(a) date of birth;

(b) home address;

(c) telephone number;

(d) e-mail address;

(e) National Insurance number (or equivalent); or

(f) Options under the Scheme or any other employee share scheme operated by the Company.

"Personal Representatives" in relation to an Option Holder, the personal representatives of the Option Holder (being either the executors of his will to whom a valid grant of probate has been made or, if he dies intestate, the duly appointed administrator(s) of his estate) who have produced to the Company evidence of their appointment as such;

"Qualifying Subsidiary" a subsidiary which satisfies the conditions of paragraph 11 of Schedule 5 to ITEPA 2003;

"Regular Option" an Option other than an RSU-style Option;

"Relevant Restriction" a provision included in any contract, agreement, arrangement or condition (including the articles of association of the Company) to which any of sections 423(2), 423(3) or 423(4) of ITEPA 2003 would apply if references in them to employment related securities were references to Shares;

"RSU-style Option" an Option (other than a Nominal-Cost Option) with an Option Price equal to the nominal value of an Ordinary Share (being £0.001 per Ordinary Share), if it is an option to acquire Ordinary Shares, or six times the nominal value of an Ordinary Share (being £0.006 per ADS), if it is an option to acquire ADSs, and which is identified as such in the Option Agreement or Deed of Grant;

"Sale" an unconditional agreement being entered into for the sale to a person other than a Group Company of the whole, or substantially the whole, of the business and assets of the Company;

"Scheme" this share option scheme as constituted and governed by these Rules, as from time to time amended in accordance with these Rules;

"Shares" Ordinary Shares or ADSs, as the context so admits

"Short-Term Deferral Period" the short-term deferral period (within the meaning of Section 409A of the United States Internal Revenue Code and §1.409A-1(b)(4) of the United States Treasury Regulations);

"subsidiary" save where the contrary is indicated, a company which is a subsidiary of the Company within the meaning of Section 1159 of the Companies Act 2006, except that any company that is a subsidiary under section 1159(1)(b) or section 1159(c) shall not cease to be a subsidiary for the purposes of these Rules (in particular, the definitions of Group, Group Company and Qualifying Subsidiary) when shares in that subsidiary held by the Company (or by another subsidiary) are registered in the name of:

(a) another person (or its nominee) solely by way of security or in connection with the taking of security; or

(b) the Company's (or another subsidiary's) nominee;

"Sufficient Shares" the smallest number of Shares which, when sold at the best price which can reasonably be expected to be obtained at the time of sale, will produce an amount at least equal to the relevant Tax Liability (after deduction of brokerage and any other charges or taxes on the sale);

"Takeover" the Company coming under the control of a person or persons as mentioned in Rule 11;

"Taxable Event" any event or circumstance that gives rise to a liability for the Option Holder to pay income tax and National Insurance contributions or either of them (or their equivalents in any jurisdiction) in respect of:

(a) the Option, including its exercise, its assignment or surrender for consideration, or the receipt of any benefit in connection with it;

(b) any Shares (or other securities or assets):

(i) earmarked or held to satisfy the Option;

(ii) acquired on exercise of the Option;

(iii) acquired as a result of holding the Option; or

(iv) acquired in consideration of the assignment or surrender of the Option; or

(c) any securities (or other assets) acquired or earmarked as a result of holding Shares (or other securities or assets) mentioned in (b); or

(d) any amount due under PAYE in respect of securities or assets within (a) to (c) above, including any failure by the Option Holder to make good such an amount within the time limit specified in section 222 of ITEPA 2003.

"Tax Liability" the total of:

(a) any income tax and primary class 1 (employee) National Insurance contributions (or their equivalents in any jurisdiction) for which the Option Holder's Employer may be liable to account (or reasonably believes it is or may be liable to account) as a result of any Taxable Event; and

(b) any Employer National Insurance contributions that any employer (or former employer) of the Option Holder is or may be liable to pay (or reasonably believes it is or may be liable to pay) as a result of any Taxable Event which can be recovered lawfully from the Option Holder;

"Vested Shares" Shares which, subject to the following rules of this Scheme, may at the relevant time be acquired by the exercise of an Option in accordance with these Rules in consequence of the conditions set out in any applicable Vesting Schedule or Performance Targets being met.

"Vesting Schedule" such one or more time-based conditions as may be specified by the Board in the Option Agreement or Deed of Grant as mentioned in Rules 5.1 and 5.2.

1.2 Where the context so admits or requires, the singular includes the plural and the masculine includes the feminine and neuter and vice versa.

1.3 References to Rules are to Rules of this Scheme as from time to time amended in accordance with their provisions.

1.4 A reference to a statute or statutory provision is a reference to it as in force at the relevant time, taking account of any amendment, extension or re-enactment and includes any subordinate legislation in force and made under it.

1.5 References to "**writing**" and "**written**" includes faxes, email and other forms of electronic communication which can be read.

1.6 A reference to a "person" includes any individual, firm, body corporate, unincorporated association, partnership, joint venture, government or state or agency of state (whether or not having a separate legal personality).

1.7 Headings shall not affect the interpretation of these Rules.

2. ELIGIBILITY FOR EMI OPTIONS

2.1 A person is eligible to be granted an EMI Option if (and only if) he is an employee of the Company or a Qualifying Subsidiary and his committed time to the relevant company amounts to at least 25 hours a week, or if less, 75% of his "working time" (as that expression is defined by paragraph 27(1) of Schedule 5 to ITEPA 2003), and which includes time which the employee would have been required to so spend but for injury, ill health, disability, pregnancy, childbirth, maternity, paternity or parental leave, reasonable holiday entitlement or not being required to work during a period of notice of termination, in compliance with paragraph 26 of Schedule 5 to ITEPA 2003.

2.2 A person is not eligible to be granted an EMI Option at any time when he is not eligible to participate in the Scheme by virtue of paragraph 28 of Schedule 5 to ITEPA 2003 *(no material interest requirement).*

3. GRANT OF OPTIONS

3.1 Subject to the limitations and conditions of this Scheme, in its absolute discretion, any Grantor may, on such dates as it shall determine, grant Options (whether or not intended to be EMI Options) to such Eligible Persons as it may in its absolute discretion select.

3.2 Options:

3.2.1 may not be granted at any time when such grant would be prohibited by, or in breach of, any law or regulation with the force of law; or

3.2.2 which are intended to be EMI Options shall only be granted when the Company is a qualifying company as defined in paragraph 8 of Schedule 5 to ITEPA 2003.

3.3 The Grantor may impose a condition preventing the exercise of an Option unless the Option Holder shall have entered into a Deed of Adherence (in such form as may

be required by the Company) with the Company and all persons who at the date of exercise of the Option are holders of shares in the capital of the Company whereby the Option Holder becomes a party to any Shareholders' Agreement or other document having a similar effect which is in force between the Company and all persons who at the date of exercise of the Option are holders of shares in the capital of the Company.

3.4 Subject to Rule 3.4A, an Option shall be granted by the Grantor and the Option Holder executing as a deed an agreement, in such form as the Board may from time to time determine. Each Option Agreement shall:

3.4.1 if such be the case, specify that the Option is intended to be an EMI Option and is granted in accordance with the provisions of Chapter 9 of Part 7 of and Schedule 5 to ITEPA 2003;

3.4.2 specify the Date of Grant;

3.4.3 identify the Grantor;

3.4.4 specify the number of Shares over which the Option is granted;

3.4.5 (in relation to Options granted after 1 January 2018) specify whether the Option is granted over Ordinary Shares or ADSs;

3.4.6 specify the Option Price;

3.4.7 specify any Performance Target and Performance Period imposed pursuant to Rule 5 (and any restrictions that apply to the variation or waiver of any such Performance Target) and any condition imposed under Rule 3.3;

3.4.8 specify the Vesting Schedule applicable to the Option;

3.4.9 specify if the Option is either a Nominal-Cost Option or an RSU-style Option;

3.4.10 for a Regular Option, specify the last date on which the Option may be exercised (subject to Rule 7.1) and assuming that the Option is not exercised earlier and no event occurs to cause the Option to lapse earlier;

3.4.11 specify the extent to which Rule 7.7 or Rule 8.5 applies to the Option, if applicable;

3.4.12 specify how the Option may be exercised;

3.4.13 specify details of any Relevant Restrictions attaching to the Option Shares;

3.4.14 specify that the Option is subject to these Rules;

3.4.15 include the terms required by Rule 9.1, Rule 9.2 and Rule 9.6;

3.4.16 include the power of attorney required by Rule 9.7; and

3.4.17 include a term giving effect to Rule 3.9.

3.4A Notwithstanding Rule 3.4, in relation to Options other than EMI Options, Options may be granted by the Grantor executing a deed poll (a **"Deed of Grant"**), which may cover a number of Options. A Deed of Grant shall specify the information set out in Rule 3.4.2 to 3.4.11, together with any other terms of the Option not inconsistent with these Rules, in relation to each Option granted by it. Where an Option is granted by way of a Deed of Grant:

3.4A.1 the information set out in Rule 3.4.2 to 3.4.14 (and any other terms of the Option contained in the Deed of Grant) shall be provided to the Option Holder (and may be provided in an electronic manner); and

3.4A.2 a Nominal-Cost Option or an RSU-style Option shall, and any other Option may, be subject to a condition that if the terms of the Option are not accepted by the Option Holder in such manner as the Board may specify within a period of 30 days (or such other period as the Board considers appropriate) from the Date of Grant, the Option shall lapse.

3.4B By accepting the terms of a Nominal-Cost Option or an RSU-style Option, whether by entering into the Option Agreement or in accordance with Rule 3.4A.2, in addition to the other terms of the Option as set out in the Rules and the Option Agreement or Deed of Grant, the Option Holder agrees to the following in relation to any automatic exercise of the Option as provided in Rule 8.4 or 8.6:

3.4B.1 the Option Holder undertakes to pay the Option Price to the Company upon the exercise of the Option;

3.4B.2 the Option Holder authorises the Company to allot and/or issue the Shares resulting from the exercise to the Option Holder or to a nominee for the Option Holder (chosen by the Company), and if the Shares are in the form of Ordinary Shares take all steps necessary in the name of the Option Holder (or authorise others to take those steps) to transfer the Ordinary Shares into a depositary system for the creation of ADSs in relation to those Ordinary Shares;

3.4B.3 the Option Holder authorises the Company to sell or procure the sale of sufficient Vested Shares (or ADSs derived from those Shares) on or following exercise of his Option on his behalf to ensure that the Company receives:

(a) the amount required to discharge the undertaking to pay referred to in Rule 3.4B.1 (and authorises the Company to apply that amount in discharging the undertaking);

(b) the amount required to pay to the Option Holder's Employer the amount of any Tax Liability arising from the exercise of the Option (and authorises the Company to pay that amount to the Option Holder's Employer); and

(c) the amount of any costs, stamp duty or stamp duty reserve tax or similar duties, taxes or other expenses incurred in relation to the creation of ADSs, the sale of the Vested Shares or the sale of ADSs derived from the Vested Shares (and authorises the Company to apply that amount in the payment of those costs etc); and

3.4B.4 the Option Holder authorises the Company or any person appointed by the Company to take any such further acts on behalf of and in the name of the Option Holder as may be necessary or desirable to effect the automatic exercise of the Option.

3.5 No amount shall be paid by an Eligible Person for the grant of an Option.

3.6 The date of the agreement executed pursuant to Rule 3.4, or the date of execution of the deed poll referred to in Rule 3.4A, shall be taken for all purposes of this Scheme as the Date of Grant in respect of the relevant Option.

3.7 An Option shall not be granted by any person other than the Company without the prior approval of the Board and such person will only be authorised to grant Options after it has entered into an irrevocable undertaking to the Company for the benefit of the Company and an Option Holder's Employer that such person will fulfil its obligations as Grantor under these Rules.

3.8 In the case of an EMI Option, within 30 days after the Date of Grant, the Option Holder shall correctly complete, sign and date the relevant EMI Notice and return it to the Option Holder's Employer.

3.9 If an Option Holder granted an EMI Option does not correctly complete, sign and date the relevant EMI Notice and return it to the Option Holder's Employer within 60 days after the Date of Grant the relevant Option shall automatically lapse at the end of that period.

3.10 The Option Holder's Employer shall, in respect of any Option intended to be an EMI Option:

3.10.1 send an original of the duly completed EMI Notice so as to be received by the Small Company Enterprise Centre of HMRC within the period of 92 days after the relevant Date of Grant (or such other period as may be specified by paragraph 44 of Schedule 5 to ITEPA 2003 at the relevant time); and

3.10.2 keep each Option Agreement available for inspection by HMRC at any time.

3.11 The Option Agreement, or the information provided in accordance with Rule 3.4A.1, shall serve as evidence of the grant of the Option and accordingly no certificates shall be issued to the Option Holder.

3A. **SCHEME LIMIT**

3A.1 No Option may be granted if, immediately following the grant, it would make the aggregate number of Ordinary Shares subject to awards made following the Listing under the Scheme and any other incentive plans for Connected individuals adopted by a Group Company exceed the Scheme Limit at that time. For these purposes, if awards (including Options) are granted over ADSs, the reference in this Rule 3A to Ordinary Shares subject to awards shall be taken to include the Ordinary Shares underlying the ADSs subject to those awards.

3A.2 The **"Scheme Limit"** at any time shall be 8% of the number of Ordinary Shares comprised in the Initial Fully Diluted Share Capital plus any Annual Increments by which the Scheme Limit has increased prior to that time in accordance with Rule 3A.4.

3A.3 The **"Initial Fully Diluted Share Capital"** shall be the issued share capital of the Company immediately following the Listing plus the number of Ordinary Shares which would be issued if all options to acquire Ordinary Shares granted by the Company to Connected individuals (whether or not still Connected at the time of the Listing) which were outstanding at the time of the Listing were exercised in full and satisfied by the issue of new Ordinary Shares by the Company.

3A.4 On 1 July in each year, commencing with 1 July 2016, the Scheme Limit shall automatically increase by 4% of the number of Ordinary Shares comprised in the issued share capital of the Company at the end of the immediately preceding 30 June, or, in each case, such lower number as the Board may prior to that 1 July determine. Each such increase shall be an **"Annual Increment"**.

3A.5 For the purposes of Rule 3A.1, Ordinary Shares subject to awards which have been satisfied (in whole or in part) shall be included (to the extent that the relevant award has been satisfied), and Ordinary Shares subject to awards which (in whole or in part) have lapsed or otherwise become incapable of exercise (other than by reason of the satisfaction thereof) shall not be included (to the extent that the relevant award has lapsed or otherwise become incapable of exercise).

4. OPTION PRICE

4.1 Subject to Rules 4.2 and 4.3 and any adjustment being made pursuant to Rule 15, the Option Price shall be determined by the Board (with the prior consent of the Grantor, where appropriate).

4.2 Save where the Company intends that the Option be satisfied by the transfer of existing Shares, the Option Price shall not be less than the nominal value of a Share.

4.3 The Option Price for a Nominal-Cost Option and an RSU-style Option shall be the nominal value of a Share.

5. VESTING SCHEDULE AND PERFORMANCE TARGETS

5.1 An Option may be granted subject to either, or both, a Vesting Schedule and Performance Targets as the Board shall determine.

5.2 An Option may be granted on terms that different proportions of the Option Shares shall respectively become Vested Shares if the Option Holder is continuously Connected throughout such different periods, beginning with the Date of Grant, as the Board shall specify in the Option Agreement or the Deed of Grant.

5.3 An Option may be granted on terms that the extent to which the Option Shares become Vested Shares shall depend upon the extent to which one or more Performance Targets specified in the Option Agreement or Deed of Grant is attained (so that if and insofar as any such Performance Target is not attained, the Option shall then lapse and cease to be exercisable in respect of the proportion of Option Shares which does not then become Vested Shares).

5.4 A Performance Target may be specified to apply to the whole or part only of an Option.

5.5 After an Option has been granted the Board may (with the consent of the Grantor, where appropriate) amend a Vesting Schedule so as to bring forward the time at which any Option Shares shall become Vested Shares or vary any Performance Target imposed pursuant to Rule 5.1 PROVIDED THAT no such variation shall be made unless an event has occurred or events have occurred in consequence of which the Board reasonably considers that the terms of the existing Performance Targets should be so varied for the purpose of ensuring that either the objective criteria against which the performance of the Group and/or any Group Company and/or any division and/or the Option Holder will then be measured will be, in the reasonable opinion of the Board, a fairer measure of such performance or that any varied

Performance Target will afford a more effective incentive to Option Holders and will be no more difficult to satisfy than was the Performance Target when first set.

5.6 After an Option has been granted the Board may (with the consent of the Grantor, where appropriate), waive in whole or in part any requirement that a Performance Target be met as a condition of exercise of an Option PROVIDED THAT no such waiver shall be made unless an event or events have occurred in consequence of which the Board reasonably considers that the terms of the existing Performance Target no longer afford an effective incentive to the Option Holder.

5.7 The Board shall determine whether, and to what extent, any Performance Targets have been satisfied.

5.8 If an Option is subject to any Performance Target, the Board shall notify the Option Holder (and the Grantor, if not the Company) within a reasonable time after the Board becomes aware of the relevant information:

5.8.1 whether (and, if relevant, to what extent) the Performance Target has been satisfied and the relevant Option has therefore vested;

5.8.2 of any subsequent change in whether, or the extent to which, the Performance Target has been satisfied;

5.8.3 when that Performance Target has become incapable of being satisfied, in whole or in part; and

5.8.4 of any waiver or variation of that Performance Target under Rule 5.5 or 5.6.

5.9 The number of Shares in respect of which an Option shall become vested on any occasion shall be rounded to the nearest whole number.

5.10 If, in consequence of a Performance Target being met, an Option becomes vested in respect of some but not all of the Option Shares, it shall thereupon lapse and cease to be exercisable in respect of the balance of the Option Shares if such Performance Target is incapable of being met in respect of the balance of such Option Shares.

6. LIMITS

6.1 Unless permitted by Schedule 5 to ITEPA 2003 or such other legislation as may from time to time govern the granting of EMI Options, no person shall be granted EMI Options which would, at the time they are granted, result in that person exceeding the £250,000 maximum entitlement as prescribed in paragraph 5 of Schedule 5 to ITEPA 2003 (or such other amount as may be specified by Schedule 5 to ITEPA 2003 at the relevant time).

6.2 Unless permitted by Schedule 5 to ITEPA 2003 or such other legislation as may from time to time govern the granting of EMI Options, no person shall be granted EMI Options which would, at the time that they are granted, result in the Company exceeding the £3,000,000 maximum value of shares prescribed in paragraph 7 of Schedule 5 to ITEPA 2003 (or such other amount as may be specified by Schedule 5 to ITEPA 2003 at the relevant time).

6.3 A Grantor may only grant EMI Options whilst the requirements of Schedule 5 to ITEPA 2003 are met and if any of the requirements are not met, the Option shall continue to subsist but not as an EMI Option.

6.4 For the avoidance of doubt, the limitations under this Rule 6 do not apply to Options which are not EMI Options.

7. EXERCISE AND LAPSE OF OPTIONS

7.1 A Regular Option shall not in any event be exercised later than 5.00 pm GMT on the day immediately preceding the tenth anniversary of the Date of Grant or such earlier date as may be specified in the relevant Option Agreement or Deed of Grant and shall lapse if not exercised by such date.

7.2 A part of an RSU-style Option shall not in any event be exercised later than 5.00 pm GMT on the last day of the Short-Term Deferral Period applicable to that part of the Option and shall lapse if not exercised by that time.

7.3 Subject to Rules 11.2 and 13.2 an Option may only ever be exercised in respect of Vested Shares or such greater proportion of the Option Shares as may be notified in writing to the Option Holder by the Board.

7.4 Except as mentioned in Rules 7.5, 7.6, 11 and 13 or as otherwise provided in the relevant Option Agreement or Deed of Grant an Option may not be exercised unless the Option Holder is at the time of exercise Connected.

7.5 Subject to Rule 7.6, if an Option Holder ceases to be Connected then an Option granted to him may only be exercised (if at all) in relation to such proportion of the Option Shares, and (subject to Rule 7.1) within such period, as the Board shall (with the consent of the Grantor, where appropriate) determine and notify to the Option Holder (or, where appropriate, his Personal Representatives) and shall otherwise lapse and cease to be exercisable on the date of cessation **PROVIDED THAT** unless such determinations are made by the Board prior to the expiry of the period of three months beginning with the date on which the Option Holder ceases to be so Connected then such Option may not be exercised and shall be deemed to have lapsed and ceased to be exercisable as from the date of such cessation. Where the Board allows the exercise of an RSU-style Option under this Rule 7.5, the period for the exercise of the Option shall not exceed the Short-Term Deferral Period in relation to the part of the Option being exercised.

7.6 Subject to Rule 7.7, where an Option Holder holding a Nominal-Cost Option ceases to be Connected for one of the following reasons:

7.6.1 death;

7.6.2 disability, injury or ill health (evidenced to the satisfaction of the Board);

7.6.3 redundancy (within the meaning of the Employment Rights Act 1996);

7.6.4 the Option Holder's Employer ceasing to be a Group Company; or

7.6.5 the business in which the Option Holder is employed being transferred to a person that is not a Group Company,

the Nominal-Cost Option may be exercised (in accordance with Rule 8.1) to the extent of the Vested Shares following the Option Holder ceasing to be Connected. The Option shall be automatically exercised to the extent of those Vested Shares in accordance with Rule 8.6 (subject to Rules 7.7 and 8.7) on the last Tuesday that is a dealing day on NASDAQ of the month following the month in which the date of cessation falls, if not already exercised. If Rule 7.7 or 8.7 applies so that the Nominal-Cost Option is not automatically exercised on that date, the Option shall remain exercisable in relation to those Vested Shares for the period of three months from the date the Option Holder ceases to be Connected (or such longer period as the Board may specify before the end of that three-month period). For the avoidance of doubt, automatic exercise pursuant to this Rule 7.6 shall not apply to any portion of the Nominal-Cost Option which pursuant to Rule 7.5 becomes exercisable in addition to the Vested Shares.

7.7 A Nominal-Cost Option may be granted on terms that either the whole of Rule 7.6 does not apply to it, or that automatic exercise pursuant to Rules 7.6 and 8.6 does not apply to it, or that automatic exercise pursuant to Rule 7.6 shall occur on a day other than the day specified in Rule 7.6.

7.8 Save for the express requirements of Rule 7.5 there are absolutely no restrictions (or implied restrictions) under these Rules or otherwise on the Board's freedom to make whatever decision it wishes (or no decision at all) under Rule 7.5. In doing so, the Board may take into account (or disregard) whatever factors it wishes. An Option Holder shall have no entitlement to, and may not claim, compensation or damages (or any other remedy) from any Group Company or any former Group Company in respect of any Board decision under Rule 7.5 (or any failure by the Board to consider making a decision).

7.9 An Option (or part of an Option, with references to "Option" in this Rule 7.9 including a reference to part of an Option where the context so permits) shall immediately lapse and cease to be exercisable on the earliest to occur of the following:

7.9.1 if, in the case of an EMI Option, within the period of 60 days commencing on the Date of Grant, the Option Holder does not correctly complete, sign and return the relevant EMI Notice and return it to the Option Holder's Employer;

7.9.2 subject to Rules 7.5, 7.6, 11 and 13, if the Option Holder ceases to be Connected for any reason (including death);

7.9.3 if the Board shall have exercised its discretion pursuant to Rule 7.5 and the relevant Option shall not have been validly exercised within the period allowed for exercise and specified by the Board pursuant to Rule 7.5, at the end of that period;

7.9.4 if a Nominal-Cost Option (or part of a Nominal-Cost Option) is exercisable pursuant to Rule 7.6 and shall not have been validly exercised within the period allowed for exercise pursuant to that Rule, at the end of that period.

7.9.5 at 5.00pm GMT on the day preceding the tenth anniversary of the Date of Grant;

7.9.6 in relation to part of an RSU-style Option to which Rule 8.5 applies, at the end of any period for exercise specified pursuant to that Rule;

7.9.7 in relation to part of an RSU-style Option, at 5.00 pm GMT on the last day of the Short-Term Deferral Period applicable to that part of the Option;

7.9.8 if the Option (or any rights under it) is transferred or assigned (other than to the Personal Representatives of the Option Holder on the death of the Option Holder), mortgaged, charged or any other security interest created over it or otherwise disposed of by the Option Holder or the Option Holder attempts to do any such thing;

7.9.9 if the Option Holder is adjudged bankrupt under Part IX of the Insolvency Act 1986, or applies for an interim order under Part VIII of the Insolvency Act 1986, or proposes or makes a voluntary arrangement under Part VIII of the Insolvency Act 1986, or takes similar steps, or is similarly affected under the laws of any jurisdiction that correspond to those provisions of the Insolvency Act 1986;

7.9.10 at the end of the 40 day period referred to in Rule 11.1 or, if earlier, at the end of any period specified by the Board pursuant to Rule 11.2;

7.9.11 at the end of the 40 day period referred to in Rule 13.1 or, if earlier, at the end of any period specified by the Board pursuant to Rule 13.2;

7.9.12 if any Performance Target to which the Option is subject becomes incapable of being attained by the end of the relevant Performance Period.

8. MANNER OF EXERCISE OF OPTIONS

8.1 Save where an Option is automatically exercised in accordance with Rules 8.4 or 8.6, an Option shall be exercised in whole or in part by the Option Holder (or, as the case may be, his Personal Representatives) delivering to the Company (acting as agent of the Grantor) a written exercise notice (in such form prescribed by the Board from time to time, which can, without limitation, be in electronic form) specifying the number of Shares in respect of which the Option is being exercised. Such notice shall be accompanied by the payment of an amount equal to the Option Price multiplied by the number of Shares specified in the exercise notice in respect of which the Option is exercised and by any payment required under Rule 9 and/or any documentation relating to arrangements or agreements required under Rule 9 (save to the extent the Option Holder enters into other arrangements satisfactory to the Company for the payment of any such sum in relation to the Exercise Price and/or any sum required to be paid under Rule 9).

8.2 Where an Option is exercised in part only the balance of the Option not thereby exercised shall continue to be exercisable in accordance with these Rules and the relevant Option Agreement or Deed of Grant.

8.3 Any exercise notice shall be invalid:

8.3.1 to the extent that it is inconsistent with the Option Holder's rights under these Rules and/or the Option Agreement or Deed of Grant; and

8.3.2 if any of the requirements of Rule 8.1 are not met; or

8.3.3 if any payment referred to in Rule 8.1 is made by a cheque that is not honoured on first presentation or in any other manner which fails to transfer the expected value to the Company.

8.4 Subject to Rule 8.5, an RSU-style Option shall be automatically exercised to the full extent of the Vested Shares on the day it first becomes exercisable in relation to those Vested Shares by reason of the conditions set out in any applicable Vesting Schedule or Performance Targets being met (or if that day is not a dealing day on

NASDAQ, the next day that is a dealing day), subject to and in accordance with the provisions of Rule 8.7 and 8.8. For the avoidance of doubt this Rule 8.4 shall not apply to any part of the RSU-style Option that becomes exercisable in accordance with Rule 7.5, Rule 11 or Rule 13.

8.5 An RSU-style Option may be granted on terms that Rule 8.4 does not apply to it. In such cases, the Board may specify a period for the exercise of each part of the RSU-style Option following the Shares in that part becoming Vested Shares (such period not to exceed the Short-Term Deferral Period applicable to that part), and if not exercised by the end of that period that part of the Option shall lapse.

8.6 A Nominal-Cost Option shall be automatically exercised to the full extent of the Vested Shares in the circumstances set out in Rule 7.6 (save where Rule 7.7 applies to that Nominal-Cost Option), subject to and in accordance with the provisions of Rule 8.7 and 8.8.

8.7 No Option shall be automatically exercised at any time when a notice to exercise the Option would be invalid under Rule 8.9.1 or 8.9.2, or at any time when the exercise of the Option, or any sale of Shares or ADSs derived from Shares necessary to effect the automatic exercise of the Option, would be prohibited by applicable law or regulation or the Company's Insider Trading Policy from time to time, or at a time when ADSs are not listed on NASDAQ. In any case where the automatic exercise of the Option is prevented by this Rule 8.7, the Option may be exercised in accordance with the provisions of Rule 8.1 at any time the exercise of the Option is not otherwise prevented by these Rules.

8.8 Where an Option is automatically exercised the Company shall take such steps as it considers necessary in relation to the exercise of the Option and to allot and/or issue the relevant Shares to the Option Holder or to a nominee for him sell or procure the sale of sufficient Vested Shares or ADSs derived from those Vested Shares on or following exercise of the Option on his behalf to ensure that the Company receives the amount required to meet the Option Price and any Tax Liability and any associated costs, taxes, duties and other expenses associated with the sale of the Shares, the creation of ADSs from the Shares and/or the sale of ADSs created from the Shares as authorised by the Option Holder in accordance with Rule 3.4B. The balance of the Shares and/or ADSs not sold in accordance with these provisions shall be held in an account in the name of the Option Holder or of a nominee for the Option Holder.

8.9 A notice to exercise an Option by an Option Holder will be invalid:

8.9.1 when any Group Company has begun disciplinary proceedings against the relevant Option Holder which have not been concluded; or

8.9.2 while any Group Company is investigating the relevant Option Holder's conduct and may as a result begin disciplinary proceedings; or

8.9.3 while there is a breach of the relevant Option Holder's contract of employment which entitles any Group Company to dismiss the Option Holder (whether or not the Group Company is aware of that breach); or

8.9.4 at any time when the relevant Option Holder is no longer employed by a Group Company but the Option remains capable of exercise, if there was a material breach of the Option Holder's employment contract:

(a) of which no Group Company was aware (or not fully aware) until after:

(i) the time when the Option Holder ceased employment; and

(ii) the time when the Board decided to permit the exercise of the Option following the Option Holder's cessation of employment (if such permission has been granted); and

(b) which would have prevented the grant or exercise of the Option, had any Group Company been aware (or fully aware) of that breach at the relevant time.

8.10 The Board shall treat Option Holders fairly and reasonably when making decisions or taking steps under Rule 8.9.

8.11 The Company may permit the Option Holder to correct any defect referred to in Rule 8.3.2 or 8.3.3 (but shall not be obliged to do so). The date of any corrected exercise notice shall be the date of the correction rather than the original notice date for all other purposes of the Scheme.

8.12 Subject to the other Rules of this Scheme, as soon as practicable and in any event not more than 30 days after receipt by the Company of a valid notice exercising an Option or the automatic exercise of an Option, the Shares in respect of which the Option has been exercised shall be allotted and/or issued by the Company to the Option Holder (or a nominee for the Option Holder), or shall be transferred to the Option Holder (or a nominee for the Option Holder).

8.13 The Company shall be responsible for any stamp duty payable by an Option Holder in respect of the transfer of any Shares to him pursuant to the exercise of an Option.

8.14 Except for any rights determined by reference to a date before the date of allotment, Shares allotted and issued in satisfaction of the exercise of an Option shall rank equally in all respects with the other shares of the same class in issue at the date of allotment.

9. TAX LIABILITIES

9.1 Each Option Agreement shall include the Option Holder's irrevocable agreement to:

(a) pay to the Option Holder's Employer the amount of any Tax Liability; or

(b) enter into arrangements to the satisfaction of the Option Holder's Employer for payment of any Tax Liability.

Where an Option is granted by Deed of Grant, the acceptance of the terms of the Option in accordance with Rule 3.4A.2 shall constitute the Option Holder's irrevocable agreement to these terms.

9.2 Unless the Option Holder's Employer directs that it shall not, each Option Agreement shall include the Option Holder's irrevocable agreement that:

(a) the Option Holder's Employer may recover the whole or any part of any Employer NICs from the Option Holder; and

(b) at the request of the Option Holder's Employer, the Option Holder shall elect (using a form approved by HMRC) that the whole or any part of the liability for Employer NICs shall be transferred to the Option Holder.

Where an Option is granted by Deed of Grant, the acceptance of the terms of the Option in accordance with Rule 3.4A.2 shall constitute the Option Holder's irrevocable agreement to these terms (unless the Option Holder's Employer directs that it shall not).

9.3 The Option Holder's Employer may decide to release the Option Holder from, or not to enforce, any part of the Option Holder's obligations in respect of Employer NICs under Rule 9.1 and 9.2.

9.4 If an Option Holder does not fulfil his obligations under either Rule 9.1(a) or Rule 9.1(b) in respect of any Tax Liability arising from the exercise of an Option within seven days after the date of exercise and Shares are readily saleable at that time, the Grantor shall withhold Sufficient Shares from the Shares which would otherwise be delivered to the Option Holder. From the net proceeds of sale of those withheld Shares, the Granter shall pay to the Option Holder's Employer an amount equal to the Tax Liability and shall pay any balance to the Option Holder. The Option Holder's obligations under Rule 9.1(a) and Rule 9.1(b) shall not be affected by any failure of the Company to withhold Shares under this Rule 9.4.

9.5 Option Holders shall have no rights to compensation or damages on account of any tax or National Insurance contributions liability which arises or is increased (or is claimed to arise or be increased) in whole or in part because of:

(a) any decision of HMRC that an Option does not meet the requirements of Schedule 5 ITEPA 2003 and is therefore not an EMI Option, however that decision may arise;

(b) any Disqualifying Event, however that event may be caused; or

(c) the timing of any decision by the Board to permit the exercise of an Option under Rule 7.5.

9.6 Each Option Agreement shall include the Option Holder's irrevocable agreement to enter into a joint election, under section 431(1) or section 431(2) of ITEPA 2003, in respect of the Shares to be acquired on exercise of the relevant Option, if required to do so by the Company or Option Holder's Employer, on or before any date of exercise of the Option. Where an Option is granted by Deed of Grant, the acceptance of the terms of the Option in accordance with Rule 3.4A.2 shall constitute the Option Holder's irrevocable agreement to enter into such an election if so required.

9.7 Each Option Agreement shall include a power of attorney appointing the Company as the Option Holder's agent and attorney for the purposes of Rule 9.4 and Rule 9.6. Where an Option is granted by way of Deed of Grant, the acceptance of the terms of the Option in accordance with Rule 3.4A.2 shall constitute the Option Holder's appointment of the Company as the Option Holder's agent for the purposes of Rule 9.4 and Rule 9.6.

10. NON-TRANSFERABILITY OF OPTIONS

10.1 During his lifetime, only the individual to whom an Option is granted may exercise that Option. Options (and any rights arising under them) may not be transferred or assigned or have any charge or other security interest created over them.

11. TAKEOVERS

11.1 Subject to Rules 7.1, 11.2, and 12, if any person ("**the Controller**") acquires control of the Company as a result of:

11.1.1 making an offer to acquire the whole of the issued share capital of the Company which is made on a condition such that, if it is satisfied, the Controller will (on its own account or acting together with others) have control of the Company; or

11.1.2 making an offer to acquire all the shares in the Company which are of the same class as the Shares (on its own account or acting together with others); or

11.1.3 entering into a share sale and purchase agreement which will result in the Controller obtaining Control of the Company upon completion (on its own account or acting together with others);

the Option Holder shall, whether or not he subsequently or in consequence of the change in control ceases to be Connected for any reason but subject to the provisions of Rules 7.1, 7.2 and 7.3, be entitled to exercise his Option in whole or in part within the period of 40 days beginning with the date when the Controller has obtained control of the Company and (if relevant) any condition subject to which the offer is made has been satisfied and to the extent that the Option is not exercised within such period it shall lapse and cease to be exercisable.

11.2 Notwithstanding Rule 11.1, if a person makes such an offer as is referred to in Rule 11.1.1 or 11.1.2 or negotiates a share sale and purchase agreement with the shareholders of the Company which will result in a change in control, the Board may, in its absolute discretion and by notice in writing to all Option Holders, declare all outstanding Options to be exercisable in respect of all Option Shares which would become Vested Shares upon such change of control in anticipation of the change in control during a reasonable limited period specified by the Board in the notice (which period shall end immediately before the Controller obtains control of the Company, if it has not already ended). If the Board so declares, all outstanding Options may be exercised at any time during such period. If not exercised, the Options shall lapse immediately upon the expiry of such period.

12. QUALIFYING EXCHANGE OF SHARES

12.1 The provisions of Rule 12.2 shall have effect, and Rule 11.1 shall not apply if another company obtains all the shares of the Company as a result of a "qualifying exchange of shares" (falling within paragraph 40 of Schedule 5 to ITEPA 2003) and the Option Holder is invited to release his rights under his Option in consideration of the grant to him of rights (the "**Replacement Option**") which are equivalent but relate to shares in the acquiring company and the requirements of paragraphs 42 and 43 of Schedule 5 to ITEPA 2003 would be met in relation to the Replacement Option.

12.2 If the Option Holder does not agree to release his rights under his Option in consideration of the grant to him of such Replacement Option then his Option shall lapse and cease to be exercisable at the end of the period within which the Option Holder could have accepted such invitation.

13. SALE

13.1 In the event of a Sale, Options may be exercised in respect of Vested Shares whether or not the relevant Option Holder shall have ceased to be Connected subsequently to or in consequence of that Sale within the period of 40 days beginning with the date of the Sale and shall lapse and cease to be exercisable at the end of that period.

13.2 If the Board anticipates that a Sale may occur, the Board may invite Option Holders to exercise Options in respect of Option Shares which would become Vested Shares upon such Sale within such period preceding such Sale as the Board may specify and, if an Option is not then exercised, it shall, unless the Board otherwise determines, lapse and cease to be exercisable at the end of that period.

14. LISTING

[Rule 14 has been deleted]

15. VARIATION OF SHARE CAPITAL

15.1 If there is any variation of the share capital of the Company (whether that variation is a capitalisation issue (other than a scrip dividend), rights issue, consolidation, subdivision or reduction of capital or otherwise) which affects (or may affect) the value of Options to Option Holders, the Board may adjust the number and description of Shares subject to each Option and/or the Option Price of each Option in a manner which the Board, in its reasonable opinion, considers to be fair and appropriate. However:

15.1.1 the amendment of any Option granted by a Grantor other than the Company shall require the consent of that Grantor (which shall not be unreasonably withheld);

the Board should note that the amendment of an EMI Option:

(a) may be a Disqualifying Event;

(b) may be regarded by HMRC as the release of the Option and the grant of a replacement share option which lacks EMI tax advantages; and

(c) it is possible to consult the Small Company Enterprise Centre of HMRC before any amendment proposed to be made under this Rule 15 and obtain their informal confirmation that they do not consider that the amendment would fall within either (i) or (ii) above;

15.1.2 the total amount payable on the exercise of any Option in full shall not be increased; and

15.1.3 the Option Price for a Share to be newly issued on the exercise of any Option shall not be reduced below its nominal value (unless the Board resolves to capitalise, from reserves, an amount equal to the amount by which the total nominal value of the relevant Shares exceeds the total adjusted Option Price, and to apply such amount to pay-up the relevant Shares in full).

16. RELATIONSHIP WITH EMPLOYMENT CONTRACT

16.1 This Scheme shall not form part of any contract of employment or letter of appointment between any Eligible Person and any Group Company and shall not confer on any Eligible Person any legal or equitable rights whatsoever against any such company nor give rise to any claim or cause of action at common law under statute or in equity.

16.2 The grant of an option shall not form part of the Option Holder's entitlement to remuneration or benefits pursuant to his contract of employment or letter of appointment or count as wages or remuneration for pension purposes nor does the existence of a contract of employment or a letter of appointment between any person and any Group Company give such person any right or entitlement to have an Option granted to him in respect of any number of Shares or any expectation that an Option might be granted to him whether subject to any conditions or at all.

16.3 The rights and obligations of an Option Holder under the terms of his contract of employment or letter of appointment shall not be affected by the grant of an Option or his participation in this Scheme.

16.4 The rights granted to an Option Holder upon the grant of an Option shall not afford the Option Holder any rights or additional rights to compensation or damages in consequence of the loss or termination of his office or employment with any Group Company for any reason whatsoever (whether or not in circumstances giving rise to a claim for wrongful or unfair dismissal).

17. VARIATIONS AND TERMINATION

17.1 The Board may from time to time in its absolute discretion, subject to Rules 17.2 and 17.3, amend, delete or add to the Rules of this Scheme in any respect as they deem desirable.

17.2 No amendment, deletion or addition shall be made which would adversely affect in any way any subsisting rights of Option Holders under the Scheme unless it is made:

17.2.1 with the prior written consent of such number of Option Holders as hold Options under the Scheme to acquire 75 per cent of the Shares which would be issued or transferred if all Options granted and subsisting under the Scheme were at that time exercised; or

17.2.2 by a resolution at a meeting of Option Holders passed by not less than 75 per cent of the Option Holders who attend and vote either in person or by proxy, and for the purposes of this Rule 17.2 the Option Holders shall be treated as a separate class of share capital and the provisions of the Articles of Association of the Company relating to class meetings shall apply mutatis mutandis.

17.3 This Scheme may be terminated at any time by a resolution of the Board or of the Company in general meeting, but if not terminated before then shall terminate on 15 March 2025. On termination, no further Options shall be granted, but Options granted prior to such termination shall continue to be valid and exercisable in accordance with these Rules.

18. HMRC REQUESTS

18.1 The Company shall provide to HMRC (within such time limit as the HMRC directs) any information in relation to this Scheme or the grant of Options under it and an Option Holder shall:

18.1.1 promptly provide to the Company such information as it may reasonably request; and

18.1.2 consent to the Company providing such information concerning him to HMRC for the purpose of complying with such request from HMRC.

19. EMI

19.1 Except as described in this Rule, the Rules of this Scheme shall apply to EMI Options in exactly the same way as they apply to other Options.

19.2 No warranty, representation or undertaking of any nature is given to the holder of an EMI Option that the EMI Option is a qualifying option for the purposes of ITEPA 2003 or that a disqualifying event will not occur in relation to an EMI Option. Neither the Board, the Company nor any other person shall be liable to the Option Holder for any loss of whatsoever nature resulting from the failure for any reason of an Option granted as an EMI Option to meet the conditions of Schedule 5 to ITEPA 2003, whether such failure results from the inadvertent or deliberate act of the Board, the Company or any other person or for any other reason whatsoever.

20. GENERAL

20.1 Any notice or other communication under or in connection with this Scheme may be given in such manner as the Board determines to be appropriate. Items sent by post shall be sent by pre-paid first-class post and shall be deemed to have been received at 12 noon on the second business day after posting. This Rule 20.1 shall not apply to the service of any proceedings or other documents in any legal action.

20.2 The Company shall at all times ensure that the Board is authorised to satisfy all rights from time to time subsisting under Options granted pursuant to this Scheme, taking account of any other obligations of the Company to allot and issue unissued Shares.

20.3 The Board's decision on any matter relating to this Scheme including any disputes relating to an Option shall be final and binding.

20.4 The costs of introducing and administering this Scheme shall be borne by the Company.

20.5 The Scheme shall be administered by the Board and the Board shall have power from time to time to make or vary regulations for the administration and operation of this Scheme provided that such regulations are not inconsistent with these Rules.

20.6 Notwithstanding Rule 20.5, or anything else to the contrary in these Rules, any matter to be determined in relation to an Option granted or to be granted to, or held by, the Company's chief executive officer or its other executive officers must be determined or recommended to the full board of the Company for determination either by:

20.6.1 independent directors constituting a majority of the board's independent directors in a vote in which only independent directors participate; or

20.6.2 a compensation committee comprised solely of independent directors.

This Rule 20.6 shall be interpreted in accordance with the NASDAQ Listing Rules, save that "independent director" shall mean a person who is both an independent director within the meaning of the NASDAQ Listing Rules and a non-employee director within the meaning of Rule16b-3 under the Securities Exchange Act of 1934 of the United States (the "Exchange Act").

20.7 Subject always to Rule 20.6, the Board may delegate its powers to such person or persons as it determines, and on such terms as it determines, provided that the Board may not delegate its power and authority to the Chief Executive Officer or other executive officer of the Company with regard to the selection for participation in this Plan of an officer, director or other person subject to Section 16 of the Exchange Act or decisions concerning the timing, pricing or amount of an Option granted to such an officer, director or other person.

20.8 The Company and any other Grantor shall not be obliged to provide Option Holders with copies of any materials sent to the holders of Shares.

20.9 The Contracts (Rights of Third Parties) Act 1999 shall not apply to this Scheme nor to any Option granted under it and no person other than the parties referred to in these Rules including, without prejudice to the generality of the foregoing, the relevant Option Holder's Employer and the parties to an Option shall have any rights under it nor shall it be enforceable under that Act by any person other than the parties to it.

20.10 No individual shall have any claim against any member of the Group arising out of his not being admitted to participation in the Scheme which is entirely within the discretion of the Board.

20.11 In the case of the partial exercise of an Option, the Board may call in or endorse or cancel and reissue as it thinks fit, any certificate for the balance of Shares over which the Option was granted.

20.12 Neither the Company nor any Grantor shall be obliged to notify any Option Holder if an Option is due to lapse.

21. GOVERNING LAW AND JURISDICTION

21.1 These Rules and all Options granted hereunder shall be governed by and construed in accordance with English law.

21.2 The courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim (including a non-contractual dispute or claim) that arises out of or in connection with these Rules, the Scheme or its subject matter and any Option or its subject matter or formation.

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

To the Board of Directors Adaptimmune Therapeutics plc:

We consent to the incorporation by reference in the registration statement (No. 333-212713) on Form S-3 and in registration statement (No. 333-203929) on Form S-8 of Adaptimmune Therapeutics plc of our report dated March 15, 2018 with respect to the consolidated balance sheets of Adaptimmune Therapeutics plc and subsidiaries as of December 31, 2017 and December 31, 2016, and the related consolidated statements of operations, comprehensive loss, changes in equity, and cash flows for the years ended December 31, 2017 and 2016, the six month period ended December 31, 2015 and the year ended June 30, 2015, which report appears in the December 31, 2017 annual report on Form 10-K of Adaptimmune Therapeutics plc.

/s/ KPMG LLP

Reading, United Kingdom
March 15, 2018

Exhibit 31.1

Form of Certification Required by Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934 as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, James Noble, certify that:

1. I have reviewed this annual report on Form 10-K of Adaptimmune Therapeutics plc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)), for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected or is reasonably likely to materially affect the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 15, 2018

/s/ James Noble
James Noble
Chief Executive Officer and Director

Exhibit 31.2

Form of Certification Required by Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934 as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Adrian Rawcliffe, certify that:

1. I have reviewed this annual report on Form 10-K of Adaptimmune Therapeutics plc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)), for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected or is reasonably likely to materially affect the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 15, 2018

/s/ Adrian Rawcliffe
Adrian Rawcliffe
Chief Financial Officer

Exhibit 32.1

Section 906 Certificate

Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code), I, James Noble, Chief Executive Officer of Adaptimmune Therapeutics plc, a public limited company incorporated under English law (the "Company"), hereby certify, to my knowledge, that:

1. The Company's annual report on Form 10-K for the year ended December 31, 2017, to which this Certification is attached as Exhibit 32.1 (the "Annual Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 15, 2018

/s/ James Noble
James Noble
Chief Executive Officer and Director

Exhibit 32.2

Section 906 Certificate

Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code), I, Adrian Rawcliffe, Chief Financial Officer of Adaptimmune Therapeutics plc, a public limited company incorporated under English law (the "Company"), hereby certify, to my knowledge, that:

1. The Company's annual report on Form 10-K for the year ended December 31, 2017, to which this Certification is attached as Exhibit 32.2 (the "Annual Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 15, 2018

/s/ Adrian Rawcliffe
Adrian Rawcliffe
Chief Financial Officer