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, 2016

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.)
101 Park Drive, Milton Park **Abingdon, Oxfordshire OX14 4RY** **United Kingdom**	
(Address of principal executive offices)	**(44) 1235 430000** (Registrant's telephone number, including area code)

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

Title of each class	**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, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting 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 ☐

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, 2016, 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 $386,305,126.

As of March 8, 2017 the number of outstanding ordinary shares, par value £0.001 per share, of the Registrant is 424,775,092.

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, 2016.

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 advance our NY-ESO SPEAR T-cells to a point where GlaxoSmithKline, or GSK, exercises the option to license the product and the scope and timing of performance of our ongoing collaboration with GSK;
- 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 in to and treat patients in our clinical trials;
- our ability to further develop our commercial manufacturing process for our SPEAR T-cells, transfer such commercial process to third party contract manufacturers and for such third party contract manufacturers to manufacture SPEAR T-cells to the quality and on the timescales we require;
- the success, cost and timing of our product development activities and clinical trials;
- 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 TCR therapeutic candidates;
- patents, including, any inability to obtain third party licenses, legal challenges thereto or enforcement of patents against us;
- the level of pricing and reimbursement for our SPEAR T-cells, if approved for marketing;
- general economic and business conditions or conditions affecting demand for our SPEAR T-cells in the markets in which we operate, both in the United States and internationally;
- 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 and other third-party providers;
- increased competition from other companies in the biotechnology and pharmaceutical industries;
- claims for personal injury or death arising from the use of our SPEAR T-cell candidates;
- changes in our business strategy or development plans, and our expected level of capital expenses;
- our ability to attract and retain qualified personnel;

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- regulatory, environmental, legislative and judicial developments including a regulatory requirement to place any clinical trials on hold or to suspend any trials;
- a change in our status as an emerging growth company under the Jumpstart Our Business Start-ups Act of 2012, or JOBS Act");
- uncertainty about the future relationship between the United Kingdom and the European Union; 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 committed to developing novel immunotherapies primarily to treat cancer. Our vision is to be a world leader in discovering, developing and commercializing T-cells to transform the treatment of patients with serious diseases. Our comprehensive SPEAR (Specific Peptide Enhanced Affinity Receptor) T-cell platform enables us to identify cancer targets, find and genetically optimize T-cell receptors ("TCRs"), and produce SPEAR T-cells for administration to patients. Unlike certain other autologous immunotherapies our SPEAR T-cells are able to target intracellular and extracellular targets and solid and haematologic tumors.

Our SPEAR T-cell platform is being utilized to maximize both patient and disease indication coverage. First, we are using our platform to identify and validate cancer testis antigens for development of SPEAR T-cells. These antigens have very low expression on normal tissues and are therefore preferred targets for our SPEAR T-cells. However, within a given disease indication, the frequency of expression of these 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 any disease indication to increase treatment potential for any given disease. We have three SPEAR T-cells in clinical trials which are directed to cancer testis antigens, NY-ESO-1, MAGE-A4 and MAGE-A10. The targets to which these SPEAR T-cells are directed are expressed in multiple disease indications including non-small cell lung cancer ("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.

Second, we are developing SPEAR T-cells directed to non-cancer testis antigens 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.

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 have Phase 1/2 clinical trials ongoing with our NY-ESO and MAGE-A10 SPEAR T-cells and during 2016 opened two additional INDs for our AFP and MAGE A-4 SPEAR T-cells. Our NY-ESO SPEAR T-cell has shown promising initial results in clinical trials with a 50% response rate and 18-month median survival rate reported in synovial sarcoma (a solid tumor) and a 91% response rate at day 100 post autologous stem cell transplant in multiple myeloma. The NY-ESO SPEAR T-cell has shown a promising tolerability profile to date in all clinical trials. 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. We expect further clinical data during 2017.

In addition, we continue to use our SPEAR T-cell platform to identify further target peptides which provide additional coverage for any existing indications or which show high expression in specific cancers. We have identified over 30 intracellular target peptides and have 12 research programs evaluating these peptides.

We also recognize that further development of our SPEAR T-cells will assist in enhancing efficacy and durability of response. We therefore have a number of next generation SPEAR T-cell strategies 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®. 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 large 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.

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Our Clinical Product Pipeline

NY-ESO

Our SPEAR T-cell therapy targets the NY-ESO-1 and LAGE-1a cancer antigens which are present in multiple different tumor types. We are conducting Phase 1/2 clinical trials in patients with solid tumours and haematological malignancies including synovial sarcoma, multiple myeloma, NSCLC and ovarian cancer. A pilot trial in myxoid round cell liposarcoma ("MRCLS") started in December 2016. We are planning to start a pivotal trial in synovial sarcoma, which is dependent on the start and performance of comparability studies. Clinical trials are ongoing in the United States and clinical trial applications have been approved in both Canada and the United Kingdom.

MAGE-A10

Our second SPEAR T-cell therapy, targeting the MAGE-A10 peptide, is currently in clinical trials in the United States. The MAGE-A10 trial in NSCLC was initiated in late 2015. A three tumor trial in urothelial (bladder) cancers, melanoma and head and neck cancers was initiated at The University of Texas MD Anderson Cancer Center ("MD Anderson") in October 2016 and the trial is currently being initiated at other sites in the United States and Canada. Initial data for our MAGE-A10 clinical trials is anticipated in late 2017 or early 2018.

AFP SPEAR T-cell

An IND for our AFP SPEAR T-cell for the treatment of hepatocellular cancer was opened in 2016. Clinical trial sites in the United States and Europe will be initiated in 2017. Initial data from the AFP clinical trials is anticipated in late 2017 or early 2018.

MAGE-A4 SPEAR T-cell

An IND for our MAGE-A4 SPEAR T-cell program in urothelial (bladder) cancers, melanoma, head and neck cancer, ovarian cancer, NSCLC, esophageal cancer and gastric cancers is now open. Initial data on our MAGE-A4 SPEAR T-cell program is anticipated in late 2017 or early 2018.

The following table summarizes the status of our current clinical trials:

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. In order to achieve our objective, we are focused on the following strategies:

Advance our clinical studies for our AFP, MAGE-A10 and MAGE-A4 SPEAR T-cells and advance clinical studies with our NY-ESO SPEAR T-cell beyond the setting of synovial sarcoma where preliminary evidence of efficacy and safety is established. We have four SPEAR T-cells with open INDs covering multiple indications and we plan to advance all four SPEAR T-cells further during 2017 with the aim of providing initial tolerability data for SPEAR T-cells other than our NY-ESO SPEAR T-cell. We are also advancing clinical studies for our NY-ESO SPEAR T-cell in indications other than synovial sarcoma, and clinical trials are already being extended to additional sites within the United States and within Europe. We are also planning to advance into pivotal trials in synovial sarcoma with our NY-ESO SPEAR T-cell. Discussions with the FDA in relation to the planning of that pivotal trial are ongoing.

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 TCR therapeutic candidates 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. The first of our two approaches uses cancer testis antigens and aims to select multiple cancer testis antigens for any given indication to maximize the patient coverage that can be obtained with our SPEAR T-cell products. The second approach relies on the identification of targets which are closely associated with a particular cancer and where the SPEAR T-cells can then be specifically targeted to that cancer.

Continue to understand, further enhance and improve 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 enhancing effectiveness and persistence of our SPEAR T-cells. We continue to further develop our TCR therapeutic candidates 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 planning to evaluate the combination of our SPEAR T-cell therapies with other immunotherapy approaches. A combination trial with Merck's KEYTRUDA® (pembrolizumab) in patients with multiple myeloma is planned to start in 2017.

Optimize and expand our process development and manufacturing capabilities to maintain our leadership position in the TCR space. Our commercial-ready cell manufacturing process ('cell process 1.5'), has been reviewed by the FDA and the FDA has allowed us to proceed with implementation of cell process 1.5 into our ongoing NY-ESO SPEAR T-cell trials. 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. We continue to work with third party contract manufacturers in both the United States and Europe to plan for commercial manufacture of our SPEAR T-cells. In addition, during 2016 we completed the shell and core construction for a new state of the art current good manufacturing practice ("cGMP") manufacturing and office facility and continue to fit-out the facility, which is intended to support the clinical development and initial commercialization of SPEAR T-cells. We are planning to have manufacturing capability towards the end of 2017 and will initially manufacture SPEAR T-cells to support our clinical trials.

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.

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 recognise 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. These targets have very low expression on most normal tissues in adults and are therefore preferred targets for our SPEAR T-cells. However, within a given indication, the frequency of expression of these 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 peptides in selected disease indications to increase the probability of treating patients with a given disease indication and potentially the ability for re-treatment of patients with a different SPEAR T-cell. We have three SPEAR T-cells in clinical trials which are directed to cancer testis antigens, NY-ESO-1, MAGE-A4 and MAGE-A10. The targets to which these SPEAR T-cells are directed are expressed in multiple disease indications including 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.

The second type of approach is directed to non-cancer testis antigens 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 in development.

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 two SPEAR T-cells already in clinical trials (NY-ESO, MAGE-A10), two additional programs with open INDs are planned to enter the clinic in 2017 (AFP and MAGE-A4) 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. The following diagram summarizes the process for manufacturing and administering our SPEAR T-cells.

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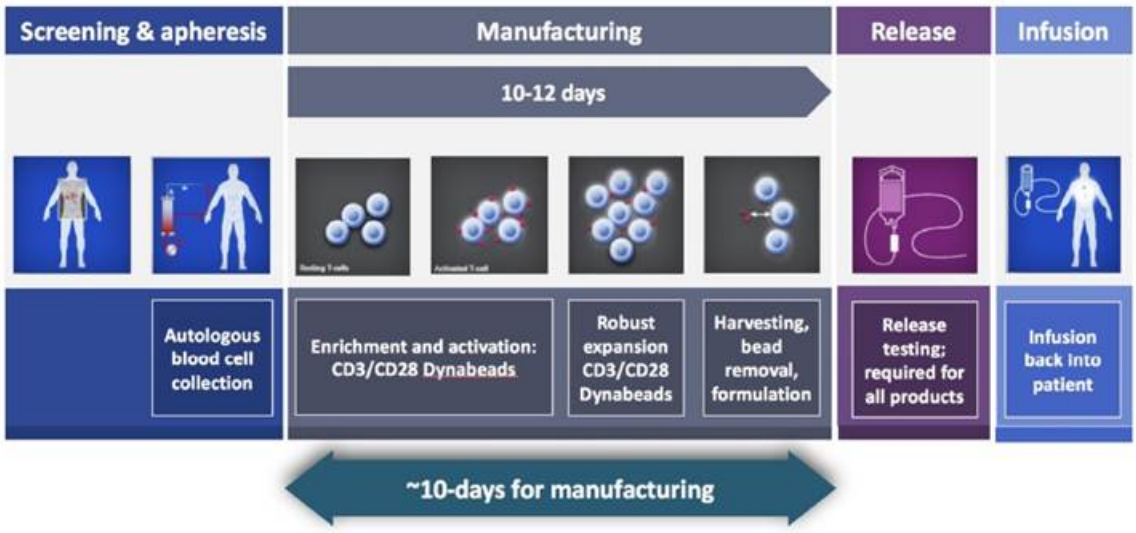

Our NY-ESO SPEAR T-cell therapy

Our first SPEAR T-cell targets the NY-ESO-1 and LAGE-1a target peptides and is currently in clinical trials in the United States. Phase 1/2 studies are ongoing in synovial sarcoma, MRCLS, NSCLC and ovarian cancer indications. GSK has an exclusive option over our NY-ESO SPEAR T-cell program. For further details please see "Core Alliances and Collaborations - *GSK Collaboration and License Agreement"* below.

Our NY-ESO SPEAR T-cell therapy has received orphan drug designation from the FDA and European Commissionfor the treatment of soft tissue sarcoma. The EMA has also granted PRIME regulatory access for the Company's NY-ESO SPEAR T-cell therapy for the synovial sarcoma indication, and this product has breakthrough designation in the United States. NY-ESO SPEAR T-cells overall continue to demonstrate a generally acceptable benefit:risk profile to date.

As of January 5, 2017, 61 subjects have received NY-ESO SPEAR T-cells in our sponsored studies. The most common (>15%) adverse events in these subjects considered by investigators to be at least possibly related to our NY-ESO SPEAR T-cells include: fever, diarrhea, fatigue, rash, nausea, anemia, dyspnea, cytokine release syndrome ("CRS"), lymphopenia, leukopenia, cough, ALT increased, AST increased, hypotension, sinus tachycardia, neutropenia, and thrombocytopenia. Adverse events with a severity of grade 3 or higher and considered by investigators to be at least possibly related and occurring in more than one patient include: lymphopenia, leukopenia, anemia, neutropenia, febrile neutropenia, diarrhea, CRS, thrombocytopenia, hypophosphatemia, fever, rash, dyspnea, hypotension, hypoxia, colitis, decreased appetite, dehydration, graft versus host disease, hyponatremia, and musculoskeletal chest pain. There has been one fatal (grade 5) 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 bone marrow failure. For further details on adverse events please see Part II — Item 1A Risk Factors — "Our SPEAR T-cells may have undesirable side effects or have other properties that could halt their clinical development, prevent regulatory approval, limit their commercial potential or otherwise result in significant negative consequences".

- *Our synovial sarcoma program*:

  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

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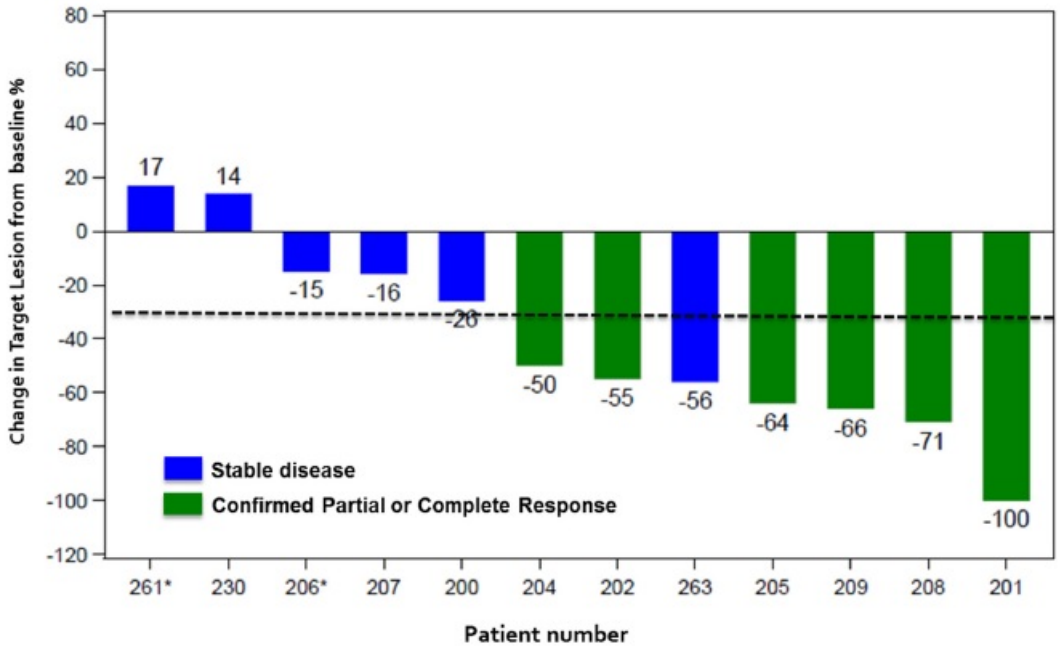
    fludarabine) — enrollment in this first cohort is now complete.
  - Cohort 2 (patients with low NY-ESO-1 antigen expression and lymphodepletion with cyclophosphamide and fludarabine) — enrollment continues in this cohort. Indications of a clinical response have also been observed in cohort 2 for one patient out of the 4 evaluable patients treated to date.
  - 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.
  - 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 is open and enrolling patients.

The current synovial sarcoma trials are also being extended to sites outside of the United States with clinical trial applications approved in both the United Kingdom and Canada.

NY-ESO SPEAR T-cells continue to demonstrate a generally acceptable benefit:risk profile to date in synovial sarcoma trials. As of September 30, 2016, our NY-ESO SPEAR T-cells demonstrated a 50% (6/12) response rate in cohort 1 or 60% (6/10) response rate in patients receiving the target cell dose. The median survival rate for patients in cohort 1 is approximately 18 months (80 weeks) as of September 30, 2016.

The diagram below illustrates the best response rate for patients in cohort 1 as of September 30, 2016. Response rate has been determined using Response Evaluating Criteria in Solid Tumors ("RECIST") 1.1 criteria. The dotted line denotes the level of decrease in target lesion required for a partial response.



*Subjects 206 and 261 received less than 1Billion cells, the target dose.

As of January 5, 2017, 24 subjects have received NY-ESO SPEAR T-cells in our synovial sarcoma program. The most common (>30%) adverse events in this trial (all cohorts) considered by investigators to be at least possibly related to our NY-ESO SPEAR T-cells include fever, anemia, lymphopenia, leukopenia, CRS, fatigue, nausea, dyspnea, rash, sinus tachycardia, cough, neutropenia, and thrombocytopenia. Adverse events with severity grade 3 or higher considered by investigators to be at least possibly related and occurring in more than one patient include lymphopenia, leukopenia, anemia, neutropenia, thrombocytopenia, CRS, hypophosphatemia, fever, dyspnea, febrile neutropenia, hypotension, hypoxia, musculoskeletal chest pain, and rash. 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 bone marrow failure.

We are in discussions with the FDA in relation to the initiation of a pivotal trial in the synovial sarcoma indication, including discussions relating to trial design and the requirement for comparability testing for use of our manufacturing process. The start of the pivotal trial is dependent on the start and performance of analytical comparability studies between the current and the commercial processes. Should comparability studies be delayed or the results not be acceptable to us or the FDA then the start of the pivotal trial will be delayed.

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- *Our MRCLS program*:

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 frequently in the thighs). MRCLS is 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.

A pilot trial in MRCLS is now active at sites in the United States. Initial data from this trial is expected in late 2017 or early 2018 depending on patient recruitment.

This is an open-label pilot study in patients to assess preliminary safety and efficacy in this new indication. Initially, 10 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 will 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.

- *Our Ovarian program:*

Ovarian cancer ranks fifth in cancer deaths among women, accounting for more deaths than any other cancer of the female reproductive system. About 85 to 90 percent of ovarian cancers are cancerous epithelial tumors or epithelial ovarian carcinomas. It is estimated that approximately 22,440 women will receive a new diagnosis of ovarian cancer, and approximately 14,080 women will die of this disease in the United States in 2017. This cancer mainly develops in older women, and approximately half of all ovarian cancers occur in women 63 years of age or older.

The primary trial objective is to determine the safety and tolerability of our NY-ESO TCR therapeutic candidate with chemotherapy preconditioning in patients who have refractory or resistant Stage 3/4 ovarian cancer.

To date, no objective clinical responses have been reported in patients. The initial patients received a preconditioning regimen which consisted of cyclophosphamide alone. The protocol for the ovarian study has now been amended to include a preconditioning regimen which includes both fludarabine and cyclophosphamide. Further data from this trial with the modified preconditioning regimen is expected in late 2017 or early 2018 depending on the rate of patient recruitment.

- *Our Melanoma program:*

No objective responses have been observed in the four patients treated to date in this trial. As a result, no further patients will be enrolled in the trial. A combination study with immune check point inhibitors ("CPI") was previously being considered but is no longer being considered given the changes in the underlying standard of care for melanoma patients and the likely difficulty in recruiting patients to such a combination study.

- *Our 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.

Enrollment in the myeloma trial (with autologous stem-cell transplantation, or ASCT) was completed in July 2014.The Phase 1/2, open-label, two-site clinical trial in 25 multiple myeloma patients who were eligible for ASCT was open to patients with high risk or relapsed multiple myeloma, who have few remaining treatment options and short life expectancy. Prior to enrollment in the clinical trial, patients had received on average three prior therapies and the trial included six patients that had a prior ASCT. Sixty percent of tumors contained cytogenetic abnormalities that represent negative prognostic indicators. Disease response was assessed in accordance with the International Uniform Response Criteria for myeloma assessment and the additional criteria of nCR which was consistent with the methods employed by the Bone Marrow Transplantation Clinical Trials.

Interim results from this Phase 1/2 clinical trial in multiple myeloma patients were reported in Nature Medicine, published on July 20, 2015. Nature Medicine reported response rates in patients with active disease at the time of transplant, with a 59%

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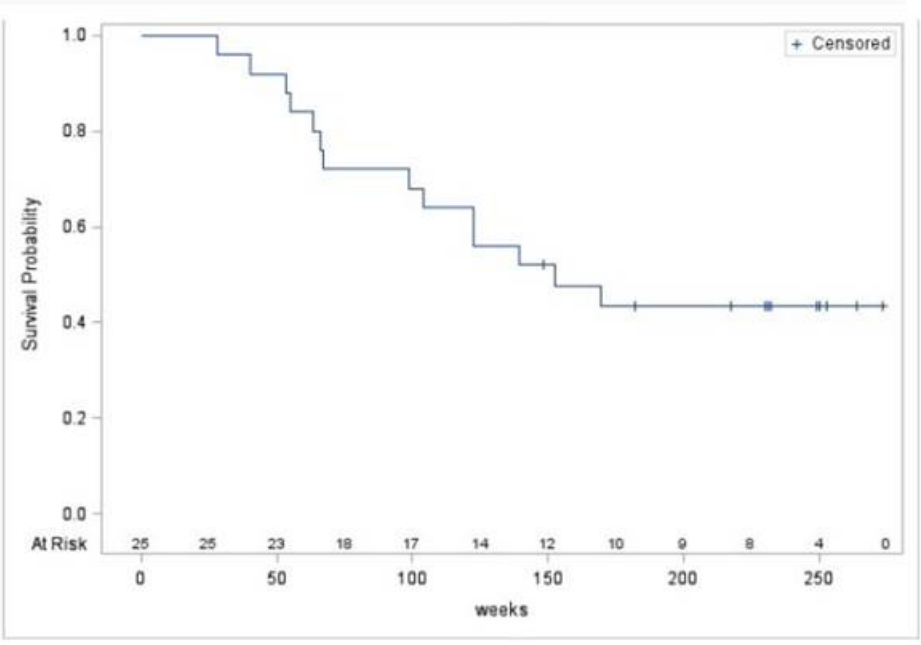
CR/nCR as compared to 24-38% CR/nCR rates at 100 days in other studies treating myeloma with stem cell transplants alone and with stem cell transplants with bortezomib, respectively.

A 91% response rate at day 100 has been previously reported for patients and as of January 27, 2017 there is a median survival rate of approximately three years. Survival data is illustrated in the following Kaplan Meier plot.



As of January 5, 2017, 25 subjects have received NY-ESO SPEAR T-cells in our myeloma transplant program. The most common (>30%) adverse events in this trial considered by investigators to be at least possibly related to our NY-ESO SPEAR T-cells include diarrhea and rash. Adverse events with severity grade 3 or higher considered by investigators to be at least possibly related and occurring in more than one patient include diarrhea, febrile neutropenia, colitis, graft versus host disease, neutropenia and rash.

On October 27, 2016, we announced entry into aclinical trial collaboration agreement for the assessment of our NY-ESO SPEAR T-cell in combination with Merck's anti-programmed death-1 ("PD-1") inhibitor, KEYTRUDA® (pembrolizumab), in patients with multiple myeloma. The study will evaluate the safety, pharmacodynamics, and preliminary efficacy of the combination, and is planned for initiation during the second half of 2017.

- ***NSCLC***: A trial in NSCLC opened in 2016. Enrollment has been more challenging than anticipated. Initial data is currently anticipated in late 2017, but availability of data for publication will depend on the number of patients recruited to the trial. The chemotherapy preconditioning regimen has been modified in a protocol amendment to include both fludarabine and cyclophosphamide and the NY-ESO expression requirement has been modified to at least 1+ in >10% of the cells.

Our NY-ESO T-cell therapeutic has also been used in an investigator-initiated clinical program funded by the European Union, the Adoptive Engineered T-cell

Targeting to Activate Cancer Killing ("ATTACK 2") program. The therapy, which is produced under a different manufacturing process than Adaptimmune's NY-ESO TCR therapy, is being evaluated for the treatment of patients with advanced gastro-esophageal cancer for the first time. Two patients have been treated under this protocol, one of whom passed away 46 days after initial treatment. Enrollment in the trial was temporarily paused pending investigation of the patient fatality, but an independent data monitoring committee has recommended that recruitment can resume following a protocol amendment. The European Union has since terminated funding of the trial due to the delays in trial progression and we are in discussions with the sponsor, the Christie NHS Foundation Trust, in relation to continuation of the trial.

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Our MAGE-A10 SPEAR T-cell Therapy

MAGE-A10 is a target peptide expressed in a number of solid tumor cell types, including non-small cell lung cancer ("NSCLC"),urothelial, melanoma and head and neck cancers. Clinical trials are ongoing in the United States in all these tumor types.

- ***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 dose escalating study in patients with advanced stage NSCLC expressing the MAGE-A10 antigen. 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 efficacy and durability of persistence. Enrollment of patients into this program has been challenging. Initial data is expected in late 2017 or early 2018 depending on patient enrollment.

- ***3-tumor trial*** - A three tumor trial in urothelial, melanoma and head and neck cancers received RAC (the NIH Recombinant DNA Advisory Committee) approval in May 2016. The first trial site, MD Anderson, is now initiated and the trial is currently being initiated at other sites in the United States and Canada. This is a Phase I, open-label, modified 3+3 dose escalation study of autologous T-cells genetically engineered with an affinity optimized MAGE-A10 T-cell receptor in HLAA*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.

  - *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 is 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 are 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.

Our AFP SPEAR T-cell Therapy

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 is 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.

An IND for a clinical trial of our AFP SPEAR T-cell in hepatocellular cancer was opened in 2016 and we anticipate site initiation in the first half of 2017. Enrollment is dependent on the availability of the vector used to manufacture our AFP SPEAR T-cell. The Phase 1 clinical trial will include a dose escalation and expansion of a tolerable dose to explore initial evidence of anti-tumor activity. The trial will also include evaluation of two pre-treatment regimens, one with fludarabine and one without fludarabine.

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Our MAGE-A4 SPEAR T-cell Therapy

The FDA has accepted the Company's IND application for autologous genetically modified T-cells expressing an affinity optimized TCR specific for MAGE-A4 in patients with multiple malignant solid tumors. The IND is now active and we are actively working with sites in the United States to get the study started as soon as possible in 2017.

Under this IND, Adaptimmune will initiate a Phase 1, open-label, modified 3+3 dose escalation study of autologous T-cells genetically engineered with an affinity optimized MAGE-A4 TCR 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 modified fludarabine and cyclophosphamide as used in the Company's ongoing synovial sarcoma study. This multi-tumor study will enroll up to 32 patients. The trial will also include dose escalation in initial patients.

Initial data is anticipated in late 2017 or early 2018.

Next Generation Technology Platform Development

Next Generation Therapeutics

We believe that there is also further room 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 generation 2 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. We are currently in the process of planning INDs for at least one next generation SPEAR T-cell for 2018.

Manufacturing Improvements

In parallel with our ongoing clinical programs and underlying target peptide identification work, we are improving the 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 are also introducing cryopreservation steps which make the logistics of administering our SPEAR T-cells more flexible for patients and will 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. A data package for this amended process ('cell process 1.5') was submitted to the FDA during 2016 and the FDA has allowed us to proceed with implementation of this cell process 1.5 into our ongoing NY-ESO SPEAR T-cell trials. Finally, we are also working towards automation of at least certain 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.

Additionally, in connection with our SPEAR T-cells, we are also working with third-party contractors to develop companion diagnostics for screening of patient tumors for the presence of target peptides.

Core Alliances and Collaborations

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.

Under the GSK Collaboration and License Agreement, the NY-ESO SPEAR T-cell program and associated manufacturing optimization work will be conducted by us in collaboration with GSK. GSK has an option to obtain an exclusive worldwide license to the NY-ESO therapeutic candidate program, exercisable during the performance of the program and up to specified time periods after we have delivered a Phase 1/2 data package for the program to GSK. If the option is exercised after delivery of the Phase 1/2 data package, GSK will assume full responsibility for the NY-ESO SPEAR T-cell program. In February 2016, the GSK Collaboration and

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License Agreement was expanded to accelerate the development of the NY-ESO SPEAR T-cells towards pivotal trials in synovial sarcoma, as well as the exploration of development of NY-ESO SPEAR T-cells in MRCLS. The amendment also provides the opportunity for up to eight combination studies using NY-ESO SPEAR T-cells. As the program progresses, additional amendments to the scope and timing of the NY-ESO development plan may be agreed with GSK.

A second target, PRAME, has also now been nominated by GSK under the GSK Collaboration and License Agreement. As a result of the nomination, Adaptimmune will be responsible for taking the PRAME SPEAR T-cell program through preclinical testing and up to IND 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. 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 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. Under the NY-ESO SPEAR T-cell program, in the event of early exercise of the option, we will, unless otherwise agreed with GSK, have a continuing obligation to complete any work outstanding under the agreed development plan for the NY-ESO SPEAR T-cell program. 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, 2016, we had achieved development milestones of $39.0 million.

In addition to the development milestones, we are entitled to royalties from GSK on all GSK sales of T-cell products 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 TCR therapeutic in the country in which the relevant TCR therapeutic 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 TCR therapeutic 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".

MD Anderson Strategic Alliance

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. The Company and MD Anderson will collaborate in a number of studies including clinical and preclinical development of Adaptimmune's SPEAR T-cell therapies targeting NY-ESO, MAGE-A10 and 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, sarcoma, esophageal and gastric cancers. The Company will make payments to MD Anderson as certain milestones are achieved and these costs will be expensed to research and development as MD Anderson renders the services.

Under the terms of the alliance agreement, Adaptimmune will sponsor a number of clinical and preclinical studies. Adaptimmune has committed funding of at least US $19,644,000 to fund studies under the alliance agreement. 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.

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The alliance and the performance of the various studies will be overseen by a joint steering committee. Decisions of the joint steering committee require unanimity, with one vote being given to each party to the agreement. MD Anderson will supply the required personnel, facilities and equipment for performance of the agreed studies and Adaptimmune will, where applicable, supply the SPEAR T-cell therapy for patient administration.

We will own all results and data arising from the performance of the alliance studies, save for original source documents and patient records. MD Anderson retains the right to use such results and data for its internal research, academic, and patient care purposes. Certain intellectual property rights arising under the alliance will be owned by the Company, with others being owned by the party or parties creating such intellectual property rights. MD Anderson grants to the Company a non-exclusive, worldwide, irrevocable royalty-free license to any arising intellectual property rights in which MD Anderson has an ownership interest, for any purpose. Such license includes an unrestricted right to sublicense through multiple tiers. MD Anderson also grants the Company an exclusive option to negotiate an exclusive (subject to MD Anderson's perpetual, irrevocable, no-cost right to use such invention for non-commercial internal research, academic and patient care purposes), royalty-bearing license to any arising intellectual property rights in which MD Anderson has an ownership interest. In turn, the Company grants to MD Anderson a limited, perpetual, irrevocable, non-exclusive, royalty-free license to any arising intellectual property rights in which it has an ownership interest for internal non-commercial research, academic and patient care purposes.

The alliance agreement may be terminated by either party for material breach by the other party. Individual studies may be terminated inter alia for material breach, health and safety concerns or where the institutional review board ("IRB"), 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.

Merck Combination Agreement

On October 27, 2016, we entered into a clinical trial collaboration agreement with Merck (known as MSD outside the United States and Canada), 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. The study will evaluate the safety, pharmacokinetics, pharmacodynamics, and preliminary efficacy of the combination, and is planned for initiation in the first half of 2017.

Our NY-ESO SPEAR T-cell therapy has previously been evaluated in multiple myeloma in a single agent Phase 1/2 trial in which 20 out of 22 patients (91%) experienced a response at day 100 post autologous stem cell transplant. KEYTRUDA® is a humanized monoclonal antibody that works by increasing the ability of the body's immune system to help detect and fight tumor cells. KEYTRUDA® blocks the interaction between PD-1 and its ligands, PD-L1 and PD-L2, thereby activating T lymphocytes which may affect both tumor cells and healthy cells. Blocking this interaction is reported to enable T-cell activation and potentiates antitumor activity.

We believe there is preclinical evidence to support the view that the combination of NY-ESO SPEAR T-cell therapy and anti-PD-1 therapy may lead to meaningful anti-tumor activity. We are planning to evaluate our therapy alone and in combination with KEYTRUDA® in a randomized trial of patients with multiple myeloma who are refractory or have relapsed with standard therapy.

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. Adaptimmune will act as the sponsor for the combination study. Each party will be responsible for its own internal costs associated with the agreement and Adaptimmune will be responsible for the other costs of the combination study. Coordination of the activities under the agreement is via a joint development committee, which comprises an equal number of members from each party. Intellectual property rights under the agreement will, depending on the nature of such rights, be owned solely by either party or jointly. 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.

Universal Cells Research, Collaboration and License Agreement

On November 25, 2015, we entered into a Research, Collaboration and License Agreement relating to gene editing and HLA-engineering technology with Universal Cells. The Company paid an upfront license and start-up fee of $2.5 million to Universal Cells in November 2015 and a milestone payment of $3.0 million in February 2016. Further milestone payments of up to $44 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 and start-up fee was expensed to research and development when incurred.

Under the agreement, the companies have mutually agreed to a development plan for the development of affinity-enhanced donor T-cells that are universally applicable. 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. The development plan is split into a series of

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phases which can be varied as the project progresses and dependent on the output of earlier phases. The development plan is overseen by a joint steering committee consisting of equal members from each party.

Under the terms of the agreement, Universal Cells grants to Adaptimmune an exclusive, sub-licenseable, worldwide right and license in the field of T-cell immunotherapy, with the right to grant sublicences, under certain intellectual property rights of Universal Cells. The agreement also includes the sub-license of certain intellectual property rights owned by the University of Washington. Adaptimmune grants to Universal Cells a non-exclusive license under its intellectual property rights to the extent required for the performance of the development program.

The agreement will expire on the last to expire of any of the Universal Cells licensed intellectual property, unless terminated earlier for material breach or insolvency. Adaptimmune also has a right to terminate the agreement on provision of written notice where it has safety concerns, does not wish to proceed to the next phase of development or in the event of a change of control.

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

On December 16, 2016, we entered into a Co-Development and Co-Commercialization Agreement with Bellicum in order to facilitate a staged collaboration to evaluate, develop and commercialize next generation T-cell therapies.

Under the agreement, 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. Depending on results of the initial preclinical proof-of-concept phase, we 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.

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 the agreement, 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.

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 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 TCR therapeutic candidates. 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. Prior to making any decision on filing any patent application, we consider with our patent professionals whether patent protection is the most sensible strategy for protecting the invention concerned or whether the invention should be maintained as confidential.

As of December 31, 2016 we owned or jointly owned approximately 173 granted patents (of which 18 are U.S.-issued patents) and 69 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 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. The patent applications have been filed with the UKIPO and with the USPTO and we are in the process of filing national applications in all the 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.

Platform Technology

We jointly own a number of platform technology patents and patent applications. These are jointly owned with Immunocore Limited ("Immunocore") 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.

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 engineering into clinical candidates.

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.

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. This is relevant to all of our products in solid tumor

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indications and protects one of the next generation SPEAR T-cell products under development. Further next generation patent applications are expected to be filed shortly.

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.

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

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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

originally was developed by Avidex and subsequently acquired by Medigene. Adaptimmune and Immunocore each utilize 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 Immunocoreand 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.

We are aware of a family of patent applications owned by The Board of Trustees of the University of Illinois which include two issued U.S. patents (U.S. 6,759,243 and 7,569,357) which were issued with very broad claims relating to high affinity TCRs. We believe that U.S. Patent 7,569,357, because of certain claim recitations, is not an impediment to the continued development of our current SPEAR T-cells. We requested re-examination of U.S. Patent 6,759,243 at the USPTO. In that re-examination, the USPTO adopted our position and rejected all claims under re-examination as anticipated or obvious, and in a related pending patent application of The Board of Trustees of the University of Illinois, in an August 18, 2014 Office Action, the USPTO also adopted our position and rejected the claims based on our arguments and evidence of our re-examination request. Through the re-examination process, we have been successful in achieving a narrowing of all of the claims of U.S. Patent 6,759,243. While we believe U.S. Patent 6,759,243 will be nonetheless invalid in the form in which it will be issued after re-examination, we do not believe the patent after re-examination will be an impediment to our current SPEAR T-cells, including inter alia because of the recitations added by the patentee during re-examination and the U.S. codified doctrine of "intervening rights." Furthermore, these U.S. patents will likely expire prior to any commercial supply by us of any of our SPEAR T-cells. There are three European applications in this same family on which we have filed third party observations. Two of these applications have now been granted with claims narrowed away from Adaptimmune's activities in such a way that we do not believe the patents should create an impediment to development of our current SPEAR T-cells within Europe. The third is still pending, but we expect the examiner again to accept the same arguments we used in the other two cases.

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.

Laws and Regulations Regarding Patent Terms

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the earliest date of filing a non-provisional patent application. In the United States, a patent term may be shortened if a patent is terminally disclaimed over another patent or as a result of delays in patent prosecution by the patentee. A patent's term may be lengthened by a patent term adjustment, which compensates a patentee for administrative delays by the USPTO in granting a patent. The patent term of a European patent is 20 years from its effective filing date, which, unlike in the United States, is not subject to patent term adjustments in the same way as U.S. patents.

The term of a patent that covers an FDA-approved drug or biologic may also be eligible for patent term extension, which permits patent term restoration as compensation for the patent term lost during the FDA regulatory review process. The Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act, permits a patent term extension of up to five years

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beyond the expiration of the patent. The length of the patent term extension is related to the length of time the drug or biologic is under regulatory review. Patent extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent applicable to an approved drug may be extended. Similar provisions are available in Europe and other jurisdictions to extend the term of a patent that covers an approved drug, for example Supplementary Protection Certificates. In the future, if and when our products receive FDA approval or equivalent regulatory approval outside of the United States, we expect to apply for patent term extensions on patents covering those products. We anticipate that some of our issued patents may be eligible for patent term extensions, but such extensions may not be available and therefore our commercial monopoly may be restricted. See "Risk Factors—Risks Related to Our Intellectual Property—We may not be able to protect our proprietary technology in the marketplace or the cost of doing so may be prohibitive or excessive."

Competition

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. 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 TCR therapeutic candidates 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 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 the T cells.

Other engineered T-cell therapeutics have also been identified using antibody recognition systems engineered into T cells, so-called CAR-T cells. These and other competitors in the TCR space include: Juno Therapeutics Inc., Kite Pharma Inc. / National Institutes of Health ("NIH"), Medigene AG/Bluebird Bio, Inc., Eureka Therapeutics Inc., Ziopharm Oncology, Inc. and Takara Bio Inc. In the CAR-T space, competitors include: Bellicum Pharmaceuticals, Inc., bluebird bio, Inc. / Celgene Corporation / Baylor College of Medicine, Cellectis SA / Pfizer Inc., Juno Therapeutics Inc. / Celgene Corporation / Fred Hutchinson Cancer Research Center / Memorial Sloan Kettering Cancer Center, Kite Pharma, Inc. / Amgen, Inc. / NIH/, Intrexon Corporation / Ziopharm Oncology, Inc. / MD Anderson Cancer Center and Novartis AG / University of Pennsylvania.

We do not believe that any of these competitors offer the same form of affinity-enhancement and specificity as our engineered TCR therapeutic candidates and, due to the low presentation of target peptide-HLA antigen on relevant cancer cells, those with TCR-based approaches are unlikely to be as effective. For example, Kite Pharma Inc. is in the process of, among other things, developing genetically engineered T-cells that bind directly to cancer cells. We believe this technology relies on the modification of T cells to express certain cancer-specific receptors, namely TCRs and CAR-Ts. Novartis also has substantial interest in the development of CAR-Ts. Juno Therapeutics Inc. has

developed an engineered TCR therapeutic candidate where the end TCR is purported to have enhanced affinity through stem-cell selection. The therapeutic is produced in a very different way from the affinity-enhanced TCRs we produce, and we believe there is limited ability to control the enhancement obtained. Takara Bio Inc. has developed a naturally occurring TCR that binds to a MAGE A-4 target peptide and the therapeutic is in clinical trials. The TCR is not affinity-enhanced as is the TCR for our SPEAR T-cells. Medigene AG has also reported development of a PRAME TCR therapeutic candidate and is collaborating on a MAGE-A1 TCR which is due to enter clinical trials later in 2017. Eureka Therapeutics Inc. has announced the development of CAR-T products which target peptide-HLA complexes. They have developed CAR-Ts targeting the same NY-ESO and AFP peptides as are targeted by our SPEAR T-cells. However, development still appears to be in the early stages and limited data is available to assess impact on our own SPEAR T-cells, if any. Ziopharm Oncology, Inc. has announced the development of a TCR mimetic CAR-T targeting NY-ESO-1. Adicet Bio/Regeneron Inc. has announced plans to develop TCR immunotherapy products directed to MHC-peptide complexes and Tactiva Therapeutics are developing CD-4-TCRs and CD8-TCRs targeting solid tumors expressing NY-ESO. Guangzhou Xiangxue have published a number of patent applications for TCR immunotherapy products and we understand that the company are putting an NY-ESO-1 TCR into phase I clinical trials.

Immune Design Corp. has a vaccine in clinical trials which is not TCR-based. The vaccine targets the NY-ESO peptide in humans and again relies on binding to target peptides presented at low levels on target cells to stimulate natural low affinity T-cell responses. The treatment is not patient-specific.

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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.

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

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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.

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.

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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

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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.

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.

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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.

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.

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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.

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 offerer/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.

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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. 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.

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.

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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).

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, 2016, we had 298 full-time equivalent employees. Of these employees, 232 were in research and development (including in manufacturing and operations, and quality control and quality assurance) and 66 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.

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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 101 Park Drive, Milton Park, Abingdon, Oxfordshire OX14 4RY, 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 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 year ended December 31, 2016, six months ended December 31, 2015 and the years ended June 30, 2015 and 2014, we incurred net losses of $71.6 million, $23.0 million, $22.1 million, and $11.6 million, respectively. As of December 31, 2016, we had accumulated losses of $161.5 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 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 our 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;
- 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.

As of December 31, 2016, we had $158.8 million of cash and cash equivalents and $22.7 million of short-term deposits. 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 and short-term deposits 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, 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.

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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 lead NY-ESO 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 our NY-ESO SPEAR T-cell will be sufficient to plan one or more pivotal clinical trials and obtain regulatory approval or marketing authorization. Negative results in this lead clinical program of our NY-ESO SPEAR T-cell or in other investigator-initiated clinical programs utilizing our 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 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.

There is no guarantee that the FDA, or any other regulatory authority, will approve any IND (or equivalent application) for any of our 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 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 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 IDE for our SPEAR T-cells where appropriate.

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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 resulting from administration of 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.

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.

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- 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 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' RAC. The RAC review process can delay or impede the initiation of a clinical trial. New guidelines were introduced by the NIH in April 2016 relating to the RAC review process for protocols using genetically modified cells and there is uncertainty as to how the new guidelines will operate. This could lead to increased delays in the approval of our protocols or additional education of institution review committees or boards being required during the protocol review process.

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. For example, the deaths reported in a trial using a CAR-T directed against CD19 (JCAR-015) in adult patients with Adult Lymphoblastic Leukemia (ALL) (Juno Therapeutics, NCT02535364) may impact on our ability to further advance our clinical trials or result in the FDA requiring amendments or changes to the protocols used for 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 neurotoxological events observed with CD19-directed CAR-T cell treatments, including the fatal events observed in the NCT02535364 trial, occur with Adaptimmune's NY-ESO-1 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.

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.

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 our 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. 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.

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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.

As of January 5, 2017, 61 subjects have received NY-ESO SPEAR T-cells in Adaptimmune-sponsored studies. The most common (>15%) adverse events in these subjects considered by investigators to be at least possibly related to our NY-ESO SPEAR T-cells include: fever, diarrhea, fatigue, rash, nausea, anemia, dyspnea, CRS, lymphopenia, leukopenia, cough, ALT increased, AST increased, hypotension, sinus tachycardia, neutropenia, and thrombocytopenia. Adverse events with severity grade 3 or higher considered by investigators to be at least possibly related and occurring in more than one patient include lymphopenia, leukopenia, anemia, neutropenia, febrile neutropenia, diarrhea, CRS, graft versus host disease, hyponatremia, and musculoskeletal chest pain. There has been one report of fatal (grade 5) treatment related to 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 NY-ESO SPEAR T-cells may have caused bone marrow failure. Serious adverse events (SAEs) have also been reported on our Company sponsored clinical programs. SAEs considered by investigators to be at least possibly related and occurring in more than one patient include: fever, cytokine release syndrome, dehydration, graft versus host disease, neutropenia, and rash. 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, colitis and diarrhea have been reported in other NY-ESO SPEAR T-cell studies. There have also been reports of serious unexpected adverse reactions considered at least possibly related by investigators in our trials: grade 2 rhabdomyolysis possibly due to breakdown of a myeloma plasmacytoma that was thought to be infiltrating the muscle tissue based on a CT scan; grade 3 dehydration requiring overnight hospital admission; grade 4 supraventricular tachycardia (SVT) in one patient and grade 4 respiratory failure with grade 4 febrile neutropenia in a second patient (this patient recovered from respiratory failure and febrile neutropenia but later experienced fatal bone marrow failure); one case of pre-existing pericardial effusion has been reported and recently there have been reports of a grade 3 thromboembolic event, grade 2 pneumonitis, and grade 2 tumor related chest pain.

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 the majority of the peripheral white blood cells at day 14. This level of cytokine release syndrome had not been seen in previous results from trials using our NY-ESO SPEAR T-cell. The patient's tumor markers were also falling during this time. To manage the cytokine release syndrome, the patient was treated with high dose steroids that likely abrogated the engineered T-cell function. All Adaptimmune protocols now allow for use of the anti-IL6R antibody, tocilizumab, for treatment of cytokine release syndrome in future patients. Tocilizumab has been shown to control cytokine release syndrome likely without abrogating the anti-tumor response.

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, 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 following a protocol amendment. The European Union has since terminated funding of the trial due to the delays in trial progression and the Company is in discussions with the sponsor, the Christie NHS Trust, in relation to any continuation of the trial. The enrollment of patients in our own sponsored clinical trials using our NY-ESO SPEAR T-cells have not been affected so far, although regulatory authorities in the United Kingdom and United States were informed of the event. If and when recruitment re-starts in the ATTACK 2 program, if any safety risk to patients is identified which is potentially associated with our NY-ESO SPEAR T-cell, our Company sponsored clinical trials could be affected, including the possibility of being placed on hold.

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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. 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. 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 could significantly harm our business, prospects, financial condition and results of operations.

We may not be able to identify and validate additional target peptides or isolate and develop affinity-enhanced TCRs 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.

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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 our 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 our 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 will delay recruitment of patients into NSCLC trials for both therapies and result 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 our 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, 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. 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 our 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 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.

Our synovial sarcoma pivotal trial start date relies on approval of comparability studies related to the manufacturing of our SPEAR T-cells. If the results from the comparability studies are not acceptable, this may delay the start of the synovial sarcoma pivotal trial and require re-evaluation of the process used to manufacture of our SPEAR T-cells.

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 simultaneously with approval of the biologic product.

We expect that, for our NY-ESO SPEAR T-cell, 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.

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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. Our manufacturing process is and will be susceptible to product loss or failure due to logistical issues, including manufacturing issues associated with the differences in patients' white blood cells, interruptions in the manufacturing process, contamination, equipment or reagent failure, supplier error and variability in SPEAR T-cell and patient characteristics.

For example, to manufacture our lentiviral delivery vector manufacturing slots have to be agreed in advance with third party contract manufacturers. It has not always been possible to obtain manufacturing slots 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. In addition third party contract manufacturers have cancelled or delayed the start of manufacturing slots, even

where such manufacturing slots have been pre-agreed. This has necessitated the use of additional third party contract manufacturers. We cannot guarantee that manufacturing slots will be available within the timescales we require for ongoing supply of SPEAR T-cells. In relation to ongoing NY-ESO SPEAR T-cell trials, this may result in delays in supply of the lentiviral delivery vector and has required us to source alternative third party contract manufacturers for supply of the lentiviral delivery vector. In relation to new clinical trials, cancellation and delay in the start of manufacturing slots may result and has resulted, in the case of our AFP SPEAR T-cell, in delay in the start of or enrollment of patients into our clinical trials.

If for any reason we (or any other manufacturer of our therapy) lose a patient's white blood cells or such material gets contaminated or later processing steps fail at any point, the manufacturing process of the SPEAR T-cell for that patient will need to be completely restarted and the resulting delay may adversely affect that patient's outcome. If microbial, viral or other contaminations are discovered in our SPEAR T-cells or in the manufacturing facilities in which our SPEAR T-cells are made or administered, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.

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. We are in the process of transferring the manufacturing process to a third-party manufacturer in Europe, but the third-party manufacturer is as yet untested and has not previously supplied any of our SPEAR T-cell product. Any inability to set up acceptable manufacturing and supply chains to enable treatment of patients in Europe could result in delay to those trials starting in Europe.

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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. For example, we are planning to make changes to the manufacturing process for cell products and vector material used in our NY-ESO SPEAR T-cell for which we will need to conduct clinical trials to gather safety data for each of the different indications for which larger clinical trials are planned. If our NY-ESO SPEAR T-cell manufactured under the new process has a worse safety or efficacy profile than the prior investigational product, 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.

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 are in the process of developing and transferring new processes to facilitate such manufacture into third-party contract suppliers. 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 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. Such process scale-up and transfer will also require a demonstration of comparability between the product used in clinical trials and the potential commercial product manufactured by the new process at the new facility. If we are unable to demonstrate that our commercial scale product is comparable to the product used in clinical trials, or the regulatory authority requires additional comparability testing to be carried out, we may not receive regulatory approval for that product without additional clinical trials. We cannot guarantee that we will be able to make the required modifications or perform the 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.

Transfer of our new process for manufacture of the lentiviral vector used to manufacture our NY-ESO SPEAR T-cells to our third party contract manufacturing organization ("CMO") has taken substantially longer than originally predicted and there is no guarantee that such technology will be successfully transferred to such third party CMO in the near term or at all. If such transfer is not possible or fails to generate the required levels of product we may need to source alternative CMOs. Any delay, whether in end T-cell product or vector product will also impact when clinical trials may start. Such failure may also impact our collaboration with GSK and result in GSK not exercising options or not developing any of our additional SPEAR T-cells. Even if we are successful, our manufacturing capabilities could be affected by increased costs, unexpected delays, equipment failures, labor shortages, natural disasters, power failures and numerous other factors that could prevent us from realizing the intended benefits of our manufacturing strategy, which in turn could have a material adverse effect on our business.

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.

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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. Such compliance requirements will also apply to any manufacture of SPEAR T-cells at our Navy Yard manufacturing facility, once operational. 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 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.

When we start manufacturing our SPEAR T-cells at our own facility, there is no guarantee that we will be able to comply with the FDA's cGMP requirements or the requirements of other regulatory authorities either at all or within anticipated timescales. In addition, once our manufacturing facility is up and running 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 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 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. The FDA previously issued a partial clinical hold for the Company's MRCLS trial with NY-ESO following review of the IND submitted for the trial. This partial clinical hold has now been lifted. However, there can be no guarantee that the FDA or other regulatory authorities will not issue further clinical holds in relation to the MRCLS trial or other trials.

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. For example the deaths reported in a trial using a CAR-T directed against CD19 (JCAR-015) in adult patients with Adult Lymphoblastic Leukemia (ALL) (Juno Therapeutics, NCT02535364) may impact on our ability to further advance our clinical trials with clinical sites or result in the FDA requiring amendments or changes to the protocols used for our clinical trials. Based on the data currently available to us in relation to our clinical trials there is no evidence that the neurotoxicity observed with CD19-directed CAR-T cell treatments, including the fatal events observed in the NCT02535364 trial occur with Adaptimmune's NY-ESO-1 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. 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.

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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. For example, our SPEAR T-cells have only been used in Phase 1/2 clinical trials to date and the extent to which our SPEAR T-cells will continue to persist in patients and, if they do persist, continue to have an effect in patients is currently unknown. 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 results from trials using our NY-ESO SPEAR T-cell. The patient's tumor markers were also falling during this time. To manage the cytokine release syndrome, the patient was treated with high dose steroids that likely abrogated the engineered T-cell function. The protocol was then modified to allow for use of the anti-IL6R antibody, tocilizumab, for treatment of cytokine release syndrome in future patients, which has been shown to control cytokine release syndrome likely without abrogating the anti-tumor response. 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 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.

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.

As of January 5, 2017, 61 subjects have received NY-ESO SPEAR T-cells in Adaptimmune-sponsored studies. The most common (>15%) adverse events in these subjects considered by investigators to be at least possibly related to our NY-ESO SPEAR T-cells include: fever, diarrhea, fatigue, rash, nausea, anemia, dyspnea, CRS, lymphopenia, leukopenia, cough, ALT increased, AST increased, hypotension, sinus tachycardia, neutropenia, and thrombocytopenia. Adverse events with severity grade 3 or higher considered by investigators to be at least possibly related and occurring in more than one patient include lymphopenia, leukopenia, anemia, neutropenia, febrile neutropenia, diarrhea, CRS, graft versus host disease, hyponatremia, and musculoskeletal chest pain. There has been one report of fatal (grade 5) treatment related to 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 NY-ESO SPEAR T-cells may have caused bone marrow failure. Serious adverse events (SAEs) have also been reported on our Company sponsored clinical programs. SAEs considered by investigators to be at least possibly related and occurring in more than one patient include: fever, cytokine release syndrome, dehydration, graft versus host disease, neutropenia, and rash. 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, colitis and diarrhea have been reported in other NY-ESO SPEAR T-cell studies. There have also been reports of serious unexpected adverse reactions considered at least possibly related by investigators in our trials: grade 2 rhabdomyolysis possibly due to breakdown of a myeloma plasmacytoma that was thought to be infiltrating the muscle tissue based on a CT scan; grade 3 dehydration requiring overnight hospital admission; grade 4 supraventricular tachycardia (SVT) in one patient and grade 4 respiratory failure with grade 4 febrile neutropenia in a second patient (this patient recovered from respiratory failure and febrile neutropenia but later experienced fatal bone marrow failure); one case of pre-existing pericardial effusion has been reported and recently there have been reports of a grade 3 thromboembolic event, grade 2 pneumonitis, and grade 2 tumor related chest pain.

In our NY-ESO SPEAR T-cell trials, CRS has been reported in 13/61 subjects who received NY-ESO SPEAR T-cells as of 02 January 2017. Of these 13 subjects, five subjects have experienced CRS at either Grade 3 or 4 in severity. There have been no reports of severe neurologic effects of CRS and no fatal CRS events. Subjects with more severe 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 response.

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 (Adoptive engineered T-cell Targeting to Activate Cancer Killing) 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 but an independent data monitoring committee has since recommended that recruitment can resume following a protocol amendment. The European Union has since terminated funding of the trial due to the delays in trial progression and the Company is in discussions with the sponsor, the Christie NHS Trust, in relation to continuation of the trial. The trial is not enrolling patients whilst these discussions continue. The enrollment of patients in our own sponsored clinical trials using our NY-ESO SPEAR T-cells have not been affected so far, although regulatory authorities in the United Kingdom and United States were informed of the event. If and when recruitment re-starts in this program, if any safety risk to patients is identified which is potentially associated with our NY-ESO SPEAR T-cell, our Company sponsored clinical trials could be affected, including the possibility of being placed on hold.

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.

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 lower than expected patient numbers have been seen in the Company's NSCLC clinical trials with its NY-ESO SPEAR T-cell and MAGE-A10 SPEAR T-cell. 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. For example, fewer patients expressing the required peptide antigens in the Company's NSCLC clinical trials with its NY-ESO SPEAR T-cell and MAGE-A10 SPEAR T-cell have been seen than anticipated. 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. Patient enrollment is affected by 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;
- 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;
- proximity and availability of clinical trial sites for prospective patients;

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- availability of competing therapies and clinical trials;
- efforts to facilitate timely enrollment in clinical trials;
- 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.

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.

We believe that if our NY-ESO SPEAR T-cell is approved as a biological product under a BLA it should qualify for the 12-year period of exclusivity. However, there is a risk that the FDA will not consider our NY-ESO SPEAR T-cell or any additional 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. In relation to our NY-ESO SPEAR T-cell in synovial sarcoma, the FDA has 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 the Company file a SPA in relation to the design of the pivotal study. Such requirements and requests for additional information can delay the start of the pivotal trial and there is no guarantee that the FDA will not continue to require further or additional information ahead of approving any pivotal trial.

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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. Depending on the data that is obtained by us in our current and future clinical trials in other indications for our NY-ESO SPEAR T-cell or for our other 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 are safe and effective for any of their proposed indications;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;

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- we may be unable to demonstrate that our SPEAR T-cells' clinical and other benefits outweigh their safety risks;
- 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 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 or in other indications for our NY-ESO SPEAR T-cell.

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.

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.

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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;
- 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 a pivotal clinical trial we were able to obtain accelerated approval of our NY-ESO 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.

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 the company's 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.

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 will not lose orphan drug designation for our NY-ESO SPEAR T-cell. Inability to obtain orphan drug designation for a specific SPEAR T-cell or loss of such designation for our NY-ESO SPEAR T-cell in the future would prevent us from taking 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.

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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.

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.

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

- 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 with in 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 that over time will be reduced to 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.

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.

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.

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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.

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 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

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- 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 £3-4.0 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;
- 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.

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Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Obtaining coverage and adequate reimbursement from governmental healthcare programs, such as Medicare and Medicaid, and commercial payors is critical to new product acceptance.

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

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

Obtaining coverage and reimbursement approval of a 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.

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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.

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 our NY-ESO SPEAR T-cell clinical program, which may also affect other SPEAR T-cells.

Our ability to commercialize our NY-ESO SPEAR T-cell and our 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 collaboration and license agreement or any specific license under the 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. In addition, GSK has an option to obtain an exclusive worldwide license to our NY-ESO SPEAR T-cell program, which is exercisable during specified time periods. If the option is exercised after delivery of required phase I/II data package, GSK will assume full responsibility for our NY-ESO SPEAR T-cell program. There is no guarantee that GSK will exercise the option over the NY-ESO SPEAR T-cell program at all or in the timescales currently anticipated and the timing of option exercise may impact the timing and amount of milestone payments received by the Company.

The current development plans or any future development plan agreed upon between GSK and us may be unsuccessful or fail to result in candidate therapies that are feasible for further development or commercialization. There is therefore no guarantee that any payments due on commercialization of products under the agreement between GSK and us will be due or payable by GSK at any time or on the timeframes currently expected. 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.

In addition, the development plans agreed upon with GSK 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 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.

GSK has the ability to influence or control certain decisions relating to the development of therapies covered by our collaboration and license agreement with GSK. 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 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.

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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 relevant 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.

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.

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We rely on third parties to manufacture and supply our 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 if we are unable to develop our own commercial manufacturing facility for any commercial product supplies, we will be 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.

- 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.

- 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.

- 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.

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.

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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.

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. Immunocore currently owns approximately 6.35% of the ordinary shares in Adaptimmune. Three of our greater than five percent ordinary shareholders, Nicholas Cross, Ian Laing and George Robinson, are significant shareholders in, and are directors of, Immunocore. Our scientific founder and advisor, Bent Jakobsen, is also an employee of Immunocore.

Both Adaptimmune and Immunocore focus on technologies that are based on TCR therapies. Each company focuses on distinct applications of, and utilizes different, TCRs. Immunocore uses soluble TCRs whereas Adaptimmune uses cellular SPEAR T-cells. Both soluble TCRs and Adaptimmune's SPEAR T-cells rely on the engineering of TCRs to create affinity-enhanced TCRs. In Adaptimmune's case, once the engineered affinity-enhanced TCR has been generated, the gene encoding that engineered TCR is transduced into patient T cells. With soluble TCRs, there is no transduction. For soluble TCRs, the engineered affinity-enhanced TCRs are combined with an antibody fragment, anti-CD3, and it is this combined TCR/anti- CD3 candidate that is then used to treat patients directly. The combined candidates are called ImmTACs. As a result, the end therapeutic candidates being developed by each company are different in terms of end structure, affinity, require different manufacturing and administration routes and are likely to have different properties in patients. For example, ImmTACs do not persist beyond a few hours in a patient following administration, whereas Adaptimmune's TCR therapeutics have been shown to persist in patients for years; ImmTACs are likely to require higher amounts of target peptide to be present and hence Adaptimmune's TCR therapeutics may address cancer cells with lower levels of antigen; ImmTACs rely on activating the patient's existing T cells through an anti-CD3-CD3 interaction, whereas Adaptimmune's SPEAR T-cells activate T cells through direct binding to the target peptide and this results in a different mechanism of action.

Notwithstanding the differences between Immunocore's and Adaptimmune's end products, both companies may develop products or therapies that target the same peptide and are directly competitive and/or address the same indications and patient populations. For example, both companies could develop therapeutic candidates to the same peptide target and hence have a product addressing the same patient populations in the same way as any other competing technology. In addition, both Immunocore and Adaptimmune have entered into collaboration agreements with GSK, which could decide over time to devote greater time and resources to Immunocore at the expense of Adaptimmune.

Under the terms of a target collaboration agreement which terminated as of March 1, 2017, 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, each of 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 also have a transitional services agreement with Immunocore which provides for certain limited ongoing services between the two companies..

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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 our NY-ESO SPEAR T-cell 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.

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.

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. An amendment to the protocol is currently being considered prior to restarting enrollment in the trial. However, the European Union has terminated funding of the trial due to the delays in trial progression and the Company is in discussions with the sponsor, the Christie NHS Foundation Trust, in relation to continuation of the trial. There is no guarantee we will reach agreement with the Christie NHS Foundation Trust to continue with the esophageal trial at all or on a timely basis.

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.

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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.

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.

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.

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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. 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.

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.

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.

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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.

We have identified three third party European patent applications which relate to high affinity TCR proteins and methods. Two of these patent applications have been amended and the claims are not relevant to our SPEAR T-cell technology. The final application includes broad claims which we do not currently perceive as relevant to our business. We have previously filed third party observations in relation to these claims and have recently filed further third party observations arguing on the basis of lack of support, lack of clarity, disallowed added matter, non-entitlement to priority, and lack of inventive step. Should these patent applications proceed to grant in Europe with claims of broad scope, we may need to consider filing Opposition proceedings against the grant of the European patents at the European Patent Office and/or filing for revocation of the national patents derived from the European patents before relevant national patent offices and/or courts.

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 SPEAR T-cells. We believe such licenses are available and we are in discussions to procure a license or freedom to operate under the relevant patent rights.

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.

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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.

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.

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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 Operating 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.

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 a mutual nine months' notice period in the case of Mr. Noble, a mutual six months' notice period in the case of 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 and Mr. Rawcliffe 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 and Mr. Rawcliffe, 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, 2016, we had 298 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."

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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 operation as a manufacturing facility. The move in the United Kingdom is due to occur in mid-2017 and will cause interruption to our research and development work, including pre-clinical safety testing. The move requires 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 are intending to open a manufacturing facility of our own which may be delayed or which may result in increased costs being incurred by the company

We are in the process of development a manufacturing facility for our SPEAR T-cell products within our Navy Yard facility in Philadelphia, United States. As a company we have never operated our own manufacturing facility or manufactured SPEAR T-cells ourselves. The ability to use the Navy Yard facility for manufacture of our products within a reasonable period of time is dependent on a number of factors including:

- our ability to recruit the required employees at a suitable level and experience;
- our ability to obtain regulatory approval for the facility and for SPEAR T-cells manufactured at the facility and to satisfy regulatory authorities on an ongoing basis;
- 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;
- our ability to be able to fund the ongoing development including equipment requirements necessary for successful manufacture of SPEAR T-cells at our facility.

Should we be unable to successfully start manufacture of SPEAR T-cells at our facility within the timescales currently anticipated this could result in delays to the supply of SPEAR T-cells for our clinical programs. Should any of our third party manufacturers cease to be able to supply SPEAR T-cells prior to the time at which our manufacturing facility is able to produce SPEAR T-cells for use in our clinical programs, then we will be unable to support such clinical programs until alternative manufacturing capability is secured. The cost of developing, out-fitting and running a manufacturing facility may also be greater than currently anticipated and we may require additional capital for the completion of the manufacturing facility which may result in the need for us to raise additional funds earlier than expected.

We expect to face intense competition, often 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 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.

In particular, we face competition from chimeric antigen receptor T-cell, or CAR-T, technologies from companies such as Novartis AG/University of Pennsylvania, Kite Pharma, Inc./Amgen Inc./National Cancer Institute, bluebird bio, Inc./Celgene Corporation/Baylor College of Medicine, Intrexon Corporation/Ziopharm Oncology, Inc./MD Anderson Cancer Center, Juno Therapeutics, Inc./Celgene Corporation/Fred Hutchinson Cancer Research Center/Memorial Sloan Kettering Cancer Center, Cellectis SA/Pfizer Inc./Servier Laboratories and Bellicum Pharmaceuticals Inc. In the TCR space, we face competition from Juno Therapeutics, Inc., Kite Pharma, Inc., Medigene AG/Bluebird Bio Inc., Bellicum Pharmaceuticals Inc., Cell Therapy TCR Ltd., Eureka Therapeutics Inc., and Takara Bio, Inc. Kite Pharma, Inc. has a murine derived TCR product in pre-clinical development targeting NY-ESO-1 and Takara Bio, Inc. have TCR product candidates in early clinical studies targeting NY-ESO-1 and MAGE-A4. Medigene AG has reported development of a PRAME TCR therapeutic candidate and is collaborating on a MAGE-A1 TCR which is due to enter clinical trials later in 2017. Eureka Therapeutics Inc. has announced the development of CAR-T products which target peptide-HLA complexes. They have developed CAR-Ts targeting the same NY-ESO and AFP peptides as are targeted by our SPEAR T-cells. However development still appears to be in the early stages and limited data is available to assess impact on our own SPEAR T-cells, if any. Ziopharm Oncology, Inc. has announced the development of a TCR mimetic CAR-T targeting NY-ESO-1. Adicet Bio/Regeneron Inc. have announced plans to develop TCR immunotherapy products directed to MHC-peptide complexes and Tactiva Therapeutics are developing CD4-TCRs and CD8-TCRs targeting solid tumors expressing NY-ESO. Should Kite Pharma, Inc., Takara Bio, Inc. or any of our other competitors be successful in advancing a TCR product targeting NY-ESO-1 through development,

our ability to develop and advance our NY-ESO SPEAR T-cell could be adversely affected. We may also face competition from other non-TCR and non-cell based treatments such as antibody and check point inhibitor therapies offered by companies such as Amgen Inc., AstraZeneca plc, Bristol-Myers Squibb Company, Incyte Corporation, Merck & Co., Inc., and Roche Holding Ltd. Even if we obtain regulatory approval for our SPEAR T-cells, we may not be the first to market, which could affect both demand for and price of our SPEAR T-cells.

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.

The results of the United Kingdom's referendum on withdrawal from the European Union 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. The terms of any withdrawal are subject to a negotiation period that could last at least two years after the government of the United Kingdom formally initiates a withdrawal process. Nevertheless, the referendum 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. The referendum has also given rise to calls for the governments of other European Union member states to consider withdrawal. 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.

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, 2016. There can be no assurance, however, that we will not be considered to be PFIC for any particular year in the future because PFIC status is factual in nature, depends upon factors not wholly within our control, generally cannot be determined until the close of the taxable year in question, and is determined annually.

If we are a PFIC, U.S. holders of our ADSs would be subject to adverse U.S. federal income tax consequences, such as ineligibility for any preferred tax rates on capital gains or on actual or deemed dividends, interest charges on certain taxes treated as deferred, and additional reporting requirements under U.S. federal income tax laws and regulations. A U.S. holder of our ADSs may be able to mitigate some of the adverse U.S. federal income tax consequences described above with respect to owning the ADSs if we are classified as a PFIC, provided that such U.S. investor is eligible to make, and validly makes, a "mark-to-market" election. In certain circumstances a U.S. Holder can make a "qualified electing fund" election to mitigate some of the adverse tax consequences described with respect to an ownership interest in a PFIC by including in income its share of the PFIC's income on a current basis. However, we do not currently intend to prepare or provide the information that would enable a U.S. Holder to make a qualified electing fund election.

Investors should consult their own tax advisors regarding 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;

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- 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;
- 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;
- 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;
- the change in our status from reporting as a foreign private issuer to reporting as a U.S. domestic company now using Securities Act and Exchange Act U.S. domestic company forms; 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. Each ADS represents six ordinary shares and 11,250,000 ADSs, representing 67,500,000 ordinary shares, have been freely transferable without restriction or additional registration under the U.S. Securities Act of 1933, as amended (the "Securities Act"), since our IPO. The remaining 357,211,900 ordinary shares were subject to a lock-up period, which expired on November 1, 2015. Subsequent to the expiration of the lock-up, and following conversion into ADSs, these shares have been available for sale subject to volume limitations and other restrictions as applicable under Rule 144 under the Securities Act. To the extent these shares are sold into the market, particularly in substantial quantities, the market price of our ADSs could decline.

We also entered into a registration rights agreement on February 23, 2015, pursuant to which we have agreed, under certain circumstances, to file a registration statement to register the resale of the shares held by certain of our existing shareholders, as well as to cooperate in certain public offerings of such shares. 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, 2016, an aggregate of 17,167,347 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 future capital.

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Our decision to report under the regime applicable to U.S. domestic issuers earlier than required has led to higher legal, accounting and other related expenses than we incurred when we reported as a foreign private issuer and we expect to continue to incur increased expenses.

We had determined that we would be required to use the forms and follow the reporting requirements for a U.S. domestic issuer beginning on January 1, 2017. However, we decided to voluntarily switch to the U.S. domestic issuer forms effective from January 1, 2016 and also changed our fiscal year to a calendar year, all with the goals of aligning our fiscal reporting more closely with comparable companies in the industry which use calendar years, report under U.S. GAAP and generally file on the U.S. domestic forms. We have incurred significant legal, accounting and other expenses as we have adjusted to reporting in U.S. dollars and under U.S. GAAP and following the form and substantive accounting and disclosure requirements applicable to U.S. domestic issuers. We expect to continue to incur higher costs associated with reporting under the regime applicable to U.S domestic issuers than when we reported as a foreign private issuer.

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, to the extent that we no longer qualify as a foreign private issuer, 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 earlier 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) the last day of the fiscal year in which we have total annual gross revenue of $1.0 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of May 6, 2015, the date our ADSs began trading; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; and (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. 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 beginning with our second annual report following our IPO, 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.

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Our first Section 404(a) assessment took place for our annual report for our fiscal year ending December 31, 2016. 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.

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.

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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.

Item 1B. Unresolved Staff Comments

None.

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Item 2. Properties

The following table summarizes the facilities we lease as of December 31, 2016, 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	9,738	Corporate headquarters, Administration	June 2025
Abingdon, Oxfordshire, United Kingdom	30,223	Research, Development, Process development	June 2017
Abingdon, Oxfordshire, United Kingdom	67,140	Research, Development, Process development, Manufacturing, Administration	October 2041
Philadelphia, Pennsylvania, United States	47,700	Manufacturing, Process Development, Research	October 2031
Philadelphia, Pennsylvania, United States	29,773	Administrative, Development	February 2017

As of December 31, 2016, all of the above sites were utilized by the Company with the exception of:

- our facilities in Philadelphia, Pennsylvania of 47,700 sq ft, which were occupied in January 2017 following the completion of an internal fit-out; and
- our facilities in Abingdon, Oxfordshire, of 67,140 sq ft, which are undergoing an internal fit-out and are expected to be occupied in the first half of 2017.

In January 2017, we vacated our facilities in Philadelphia, of 29,773 sq ft in order to move to our facilities of 47,700 sq ft. In the first half of 2017, we intend to vacate our facilities in Oxfordshire, of 30,223 sq ft and of 9,738 sq ft in order to move to our facilities of 67,140 sq ft.

We believe that our existing facilities (including our new manufacturing and office facilities in the United Kingdom and United States) 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, 2016, 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 represents 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
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 8, 2017, there were approximately 31 holders of record of our ordinary shares, par value £0.001 per share, and four holders of record of our ADSs. The closing sales price per ADS on the NASDAQ Global Select Market on March 8, 2017 was $4.24.

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 U.K. 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.

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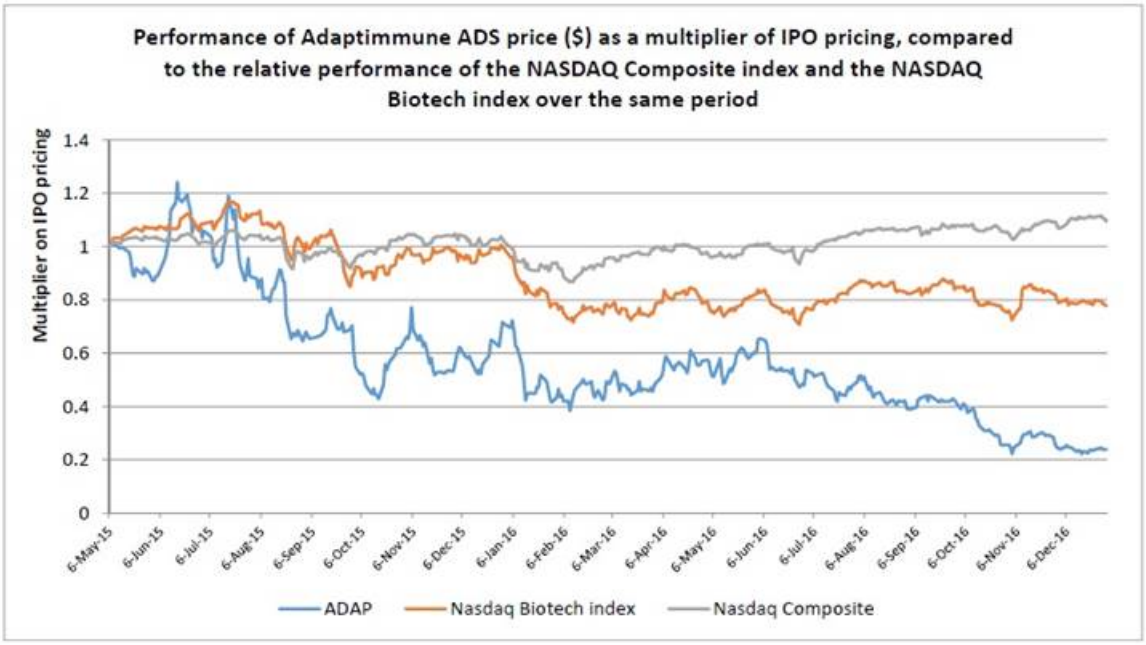
Performance Graph

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, 2016 for (1) our ADSs, (2) the NASDAQ Composite Index (U.S.) and (3) the NASDAQ Biotechnology Index.



Recent Sales of Unregistered Securities

We did not sell any unregistered securities during the year ended December 31, 2016.

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Item 6. Selected Financial Data

The selected statements of operations data for the year ended December 31, 2016, six months ended December 31, 2015 and the years ended June 30, 2015, 2014 and 2013 and the selected balance sheet data as of December 31, 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, 2016	December 31, 2015	June 30, 2015	June 30, 2014	June 30, 2013
Statements of Operations Data(2):					
Revenue	**$ 14,198**	**$ 8,979**	**$ 9,871**	**$ 825**	**$ —**
Research and development(3)	(63,789)	(25,472)	(24,137)	(9,575)	(7,273)
General and administrative(3)	(23,208)	(9,917)	(10,375)	(2,771)	(1,476)
Total operating expenses	**(86,997)**	**(35,389)**	**(34,512)**	**(12,346)**	**(8,749)**
Operating loss	**(72,799)**	**(26,410)**	**(24,641)**	**(11,521)**	**(8,749)**
Interest income	1,110	489	504	—	—
Other income (expense), net	1,002	2,866	2,323	(5)	9
Loss before tax	**(70,687)**	**(23,055)**	**(21,814)**	**(11,526)**	**(8,740)**
Income taxes	(892)	55	(244)	(75)	—
Loss for the year	**(71,579)**	**(23,000)**	**(22,058)**	**(11,601)**	**(8,740)**
Deemed dividends	—	—	(14,735)	—	—
Net loss attributable to ordinary shareholders	**(71,579)**	**(23,000)**	**(36,793)**	**(11,601)**	**(8,740)**
Basic and diluted loss per share	**$ (0.17)**	**$ (0.05)**	**$ (0.17)**	**$ (0.08)**	**$ (0.34)**
Weighted average number of shares outstanding(1)	424,713,997	424,711,900	214,704,593	148,335,529	25,893,846

	December 31, 2016	December 31, 2015	June 30, 2015	June 30, 2014
Balance Sheet Data(2):				
Cash and cash equivalents	$ 158,779	$ 194,263	$ 229,046	$ 51,179
Short-term deposits	22,694	54,620	55,292	—
Total assets	234,515	285,821	300,653	55,735
Total liabilities	68,373	50,828	41,650	52,778
Total stockholders' equity	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.

(3) The Company has identified that property and insurance costs relating to research and development facilities of $1,377,000 and $1,162,000 in the six months ended December 31, 2015 and the year ended June 30, 2015, respectively, were misclassified as general and administrative expenses in prior periods. These costs have been presented within research and development in the current period and the Company has reclassified prior period expenses to conform the presentation to the current period.

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Legal expenses for patent applications of $149,000, $303,000 and $171,000 in the six months ended December 31, 2015 and the years ended June 30, 2015 and 2014, respectively, were misclassified as research and development expenditure in prior periods. These expenses have been presented within general administrative expenses in the current period and the Company has reclassified prior period expenses to conform the presentation to the current period.

The Company has assessed the materiality of the classification errors in accordance with the SEC's guidance on assessing materiality, Staff Accounting Bulletin No. 99, *Materiality,* and determined that the errors are quantitatively and qualitatively not material.

The operating expenses for comparative periods as previously reported and as presented after the reclassification are as follows (in thousands):

	Six months ended December 31, 2015		Year ended June 30, 2015		Year ended June 30, 2014	
	As previously reported	After reclassification	As previously reported	After reclassification	As previously reported	After reclassification
Research and development	$ 24,244	$ 25,472	$ 23,278	$ 24,137	$ 9,746	$ 9,575
General and administrative	11,145	9,917	11,234	10,375	2,600	2,771
Total operating expenses	**$ 35,389**	**$ 35,389**	**$ 34,512**	**$ 34,512**	**$ 12,346**	**$ 12,346**

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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 novel cancer immunotherapy products based on its proprietary SPEAR T-cell platform. We have developed a comprehensive proprietary platform that enables us to identify cancer targets, find and genetically engineer TCR, and produce TCR therapeutic candidates for administration to patients. The Company engineers TCRs to increase their affinity to cancer specific peptides in order to destroy cancer cells in patients.

We have Phase 1/2 clinical trials ongoing with our NY-ESO and MAGE-A10 SPEAR T-cells and during 2016 opened two additional INDs for our AFP and MAGE A-4 SPEAR T-cells. Our NY-ESO SPEAR T-cell has shown promising initial results in clinical trials with a 50% response rate and 18-month median survival rate reported in synovial sarcoma (a solid tumor) and a 91% response rate at day 100 post autologous stem cell transplant in multiple myeloma. The NY-ESO SPEAR T-cell has shown a promising tolerability profile to date in all clinical trials. Our NY-ESO SPEAR T-cell therapy has breakthrough therapy designation in the United States and has also received orphan drug designation from the FDA and European Commission for the treatment of soft tissue sarcoma. The EMA has also granted PRIME regulatory access for the Company's NY-ESO SPEAR T-cell therapy for the synovial sarcoma indication. We expect further clinical data during 2017.

In addition, we continue to use our SPEAR T-cell platform to identify further target peptides which provide additional coverage for any existing indications or which show high expression in specific cancers. We have identified over 30 intracellular target peptides and have 12 research programs evaluating these peptides.

The NY-ESO SPEAR T-cell program is subject to a collaboration and license agreement with GSK under which GSK has an option to obtain an exclusive worldwide license to the NY-ESO SPEAR T-cell program. 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, as well as the exploration of development of NY-ESO SPEAR T-cells in MRCLS. The amendment also provides the opportunity for up to eight combination studies using NY-ESO SPEAR T-cells. The Company achieved development milestones under the GSK Collaboration and License Agreement of $17.4 million in the year ended December 31, 2016.

Significant Events in the Three Months Ended December 31, 2016

- On October 18, 2016, the Company announced initiation of a Phase 1 triple tumor study using its wholly owned MAGE-A10 SPEAR T-cell therapy in 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.
- On October 27, 2016, the Company announced entry into a 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.
- On November 9, 2016, the Company announced that the FDA had removed the partial clinical hold on the planned study of its NY-ESO SPEAR in MRCLS. The MRCLS trial is now active at sites in the United States (the initiation of patient screening in this study was announced on December 5, 2016).
- On December 19, 2016, the Company announced entry into a Co-Development and Co-Commercialization Agreement with Bellicum in order to facilitate a staged collaboration to evaluate, develop and commercialize next generation T- cell therapies. 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. Depending on results of the initial preclinical proof-of-concept phase, we may progress to a two-target co-development and co-commercialization phase.

Recent events since December 31, 2016

- On January 9, 2017, we announced that GSK had nominated a second target, PRAME (preferentially expressed antigen in melanoma), under the GSK Collaboration and License Agreement. Adaptimmune will be responsible for PRAME preclinical TCR development and delivery of the IND package to GSK.

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Financial operations overview

Revenue

In May 2014, the Company entered into the GSK Collaboration and License Agreement, for the development of, and option to obtain an exclusive license to, up to five SPEAR T-cell programs. The first of these programs is for the development of the Company's NY-ESO SPEAR T-cells and the second of these programs is for the development of a PRAME SPEAR T-cell.

The revenue recognized to date relates to the upfront payment of $42.1 million received in June 2014 and non-substantive development milestones of $17.4 million, $14.4 million and $7.2 million achieved in the year ended December 31, 2016, six months ended December 31, 2015 and the year ended June 30, 2015, respectively.

Revenue relating to milestone payments is recognized using the proportional performance method systematically 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 Company is entitled to further non-substantive milestone payments based on the achievement of specified development milestones and royalties from GSK on all GSK sales of TCR therapeutic products licensed under the agreement. When, and if, GSK exercises its option to obtain an exclusive license to a target, an option exercise fee will be payable and the Company will be entitled to further development and commercialization milestone payments based on achievement of specified milestones by GSK.

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 relating to facilities, materials and equipment used in R&D;
- costs of acquired or in-licensed R&D 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.

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.

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

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;
- cost 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 primarily 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 our 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 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.

Income Taxes

We are subject to corporate taxation in the United Kingdom and the United States. Our income tax recognized represents the tax currently payable arising on taxable profits from our U.S. subsidiary, which is subject to federal corporation tax of 34%. The U.S. subsidiary has been granted an exemption from certain state and local taxes, which we anticipate being in place for the next several years.

The Company incurs losses in the United Kingdom. No deferred tax assets are recognized on our U.K. losses because there is currently no indication that we shall make sufficient taxable profits to utilize these tax losses. Unsurrendered tax losses can be carried forward to be offset against future taxable profits. There are accumulated tax loss carry forwards in the United Kingdom amounting to $86.0 million at December 31, 2016. These tax losses do not expire. However, draft legislation has been published for inclusion in Finance Bill 2017 that would, if enacted, restrict the use of carried forward tax losses from April 1, 2017, such that they would not be available for offset against more than 50% of taxable profits in any accounting period (subject to a £5 million annual allowance).

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 that over time will be reduced to 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.

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 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 have transitioned to reporting our results on a calendar year basis, and as such we are reporting herein results for the year ended December 31, 2016, the six-month period ended December 31, 2015, and the years ended June 30, 2015 and 2014 together with the results for the comparative period. 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, 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,		Increase/decrease	
	2016	2015		
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.

The changes in estimate will also result in a decrease in revenue amortization of $2,237,000 in the year ended December 31, 2017 and an increase in revenue amortization of $939,000, $900,000 and $6,053,000 in the years ended December 31, 2018, 2019 and 2020, respectively, compared to the revenue that would have been recognized based on previous estimates.

Although it is difficult to project the timing of achieving future development deliverables, we expect revenue for the year ended December 31, 2017 will be higher than the year ended December 31, 2016 due to the potential achievement of development milestones in the period.

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

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- 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.

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.

In the year ended December 31, 2017, we plan to increase the number of clinical trials we are running, both in new therapies (including our MAGE-A4 and AFP SPEAR T-cells), in existing therapies (our MAGE-A10 SPEAR T-cell) and as part of the GSK Collaboration and License Agreement for our NY-ESO SPEAR T-cells. We expect to 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 and manage clinical trials. This will significantly increase the related salaries and share-based compensation expense, as well as require higher expenditures on facilities, materials and consumables.

The share-based compensation expense will fluctuate in future periods due to changes in the assumptions to the fair value calculation for nonemployee share options, which include the share price, interest rates, volatility and expected term. A five percent increase in the share price at December 31, 2016 would have increased the share-based compensation expense for the year ended December 31, 2016 by approximately $33,000.

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.

We expect that our general and administrative expenses will continue to increase as the Company continues to expand.

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 U.S. and the increase in income taxes is due to an increase in the taxable profits in the U.S. as the Company expands its operations. The Company incurs losses in the United Kingdom.

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.

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
- $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.

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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.

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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 an initial public offering, placements 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, 2016, we have raised:

- $307.3 million, net of issue costs, through the issuance of shares, of which $176.0 million was raised through our initial public offering in May 2015;
- $79.9 million upfront fees and milestones under our GSK Collaboration and License Agreement;
- $2.6 million of income in the form of government grants from the United Kingdom; and
- $7.2 million in the form of U.K. research and development tax credits and receipts from the U.K. RDEC Scheme.

The Company uses a non-GAAP measure, Total Liquidity Position, which is defined as cash and cash equivalents plus short-term deposits, to evaluate the funds available to the Company in the near-term. A description of Total Liquidity Position and reconciliation to the most directly comparable U.S. GAAP measure are provided below under “Non-GAAP measures”.

As of December 31, 2016, we had cash and cash equivalents of $158.8 million, in addition to short-term deposits of $22.7 million. Our Total Liquidity Position as of December 31, 2016 was $181.5 million. We believe that our Total Liquidity Position as of December 31, 2016 will be sufficient to fund our operations, including currently anticipated research and development activities and planned capital spending, for at least the next twelve months.

Cash Flows

The following table summarizes the results of our cash flows for the year ended December 31, 2016 and December 31, 2015, six months ended December 31, 2015 and 2014 and the years ended June 30, 2015 and 2014 (in thousands).

	Year ended December 31,		Six months ended December 31,		Year ended June 30,	
	2016	2015	2015	2014	2015	2014
Net cash (used in)/provided by operating activities	(48,168)	(31,609)	(18,062)	(16,123)	(29,666)	36,835
Net cash provided by / (used in) investing activities	17,755	(41,427)	(9,838)	(27,248)	(58,837)	(1,366)
Net cash provided by financing activities	17	175,989	—	98,872	274,861	14,714
Cash, cash equivalents and restricted cash	162,796	198,771	198,771	101,664	229,046	51,179

Operating Activities

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.

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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 $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.

Net cash provided by operating activities of $36.8 million for the year ended June 30, 2014 comprised a net loss of $11.6 million offset by noncash items of $0.5 million and a net cash inflow of $47.9 million from changes in operating assets and liabilities. The noncash items consisted primarily of depreciation expense on plant and equipment of $0.2 million and equity-settled share-based compensation expense of $0.3 million.

Investing Activities

Net cash used in investing activities was $17.8 million, $9.8 million, $58.8 million and $1.4 million for the year ended December 31, 2016, six months ended December 31, 2015 and the years ended June 30, 2015 and 2014, respectively. These amounts included purchases of property and equipment of $11.5 million, $9.6 million, $5.1 million and $1.4 million for the year ended December 31, 2016, the six months ended December 31, 2015 and the years ended June 30, 2015 and 2014, respectively, and acquisition of intangibles of $1.3 million and $0.2 million for the year ended December 31, 2016 and the six months ended December 31, 2015. The purchases of property, plant and equipment for the year ended December 31, 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 in the year ended December 31, 2016, the six months ended December 31, 2015 and the year ended June 30, 2015 also included the investment in short-term cash deposits with maturities greater than three months but less than 12 months of $42.8 million, $16.6 million and $53.9 million, respectively, offset by cash inflows from maturity of short-term deposits of $73.4 million and $16.6 million in the year ended December 31, 2016 and the six months ended December 31, 2015.

Financing Activities

Net cash from financing activities was $17,000, $0, $274.9 million and $14.7 million for year ended December 31, 2016, six months ended December 31, 2015 and years ended June 30, 2015 and 2014, respectively.

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

Net cash from 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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Net cash from financing activities for the year ended June 30, 2014 consisted of proceeds of $15.8 million from issuing ordinary shares and cash received upon exercise of share options of $0.2 million offset by a repayment of an overdraft facility of $1.3 million.

Non-GAAP Measures

Total Liquidity Position (a non-GAAP financial measure)

Total Liquidity Position (a non-GAAP financial measure) is defined as cash and cash equivalents plus short-term deposits. Each of these components appears in the consolidated balance sheet. The U.S. GAAP financial measures most directly comparable to Total Liquidity Position are cash and cash equivalents and short-term deposits as reported in the consolidated financial statements (in thousands).

	December 31, 2016	December 31, 2015
Cash and cash equivalents	$ 158,779	$ 194,263
Short-term deposits	22,694	54,620
Total Liquidity Position	**$ 181,473**	**$ 248,883**

The Company believes that the presentation of Total Liquidity Position provides useful information to investors because management reviews Total Liquidity Position as part of its management of overall liquidity, financial flexibility, capital structure and leverage.

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 14 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, 2016 (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)	$ 32,586	$ 2,112	$ 6,116	$ 6,375	$ 17,983
Purchase obligations(2)	67,215	40,382	18,468	6,796	1,569
Total contractual cash obligations	**$ 99,801**	**$ 42,494**	**$ 24,584**	**$ 13,171**	**$ 19,552**

(1) As of December 31, 2016, 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 July 2015, the Company entered into a long-term lease agreement, with an early termination option at 123 months, for offices and research facilities in Philadelphia, U.S. In October 2016, the lease commenced upon completion of construction. The related lease commitments are included in the table above.

In September 2015, the Company entered into an agreement for a 25-year lease, with early termination options, for a research and development facility in Oxfordshire, United Kingdom. In October 2016, the Company entered into the lease for that facility following the completion of construction. The related lease commitments are included in the table above.

Purchase obligations

On September 26, 2016, the Company announced that it 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. The Company and MD Anderson will collaborate in a number of studies including clinical and preclinical development of Adaptimmune's SPEAR T-cell therapies targeting NY-ESO, MAGE-A10 and 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 alliance agreement, Adaptimmune has committed funding of at least US $19,644,000 to fund studies under the alliance agreement. 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 will make payments to MD Anderson as

certain milestones are achieved. 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 5 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, the Company entered into a Research Collaboration and License Agreement relating to gene editing and HLA-engineering technology with Universal Cells. The Company 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 the Company will make further payments of up to $44 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 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. 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 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 currently arises from the GSK Collaboration and License Agreement entered into in May 2014 and amended in February 2016, 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.

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.

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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. 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 $5,615,000 in the year ended December 31, 2016, compared to the revenue that would have been recognized based on previous estimates. The changes in estimate will also result in a decrease in revenue amortization of $2,237,000 in the year ended December 31, 2017 and an increase in revenue amortization of $939,000, $900,000 and $6,053,000 in the years ended December 31, 2018, 2019 and 2020, respectively, compared to the revenue that would have been recognized based on previous estimates.

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 $1.2 million for the year ended December 31, 2016.

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.

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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.

R&D Tax and Expenditure Credits

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 development expenditure credit (RDEC) scheme. Under the RDEC scheme tax relief is given at 11% of 130% of allowable R&D costs.

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 difference between our estimates and the amount actually reimbursed.

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 recognized directly in equity, in which case it is recognized in equity.

Current tax is the expected tax payable or receivable on the taxable income or loss for the period 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. At December 31, 2016, we have deferred tax assets of $19.8 million, offset by deferred tax liabilities of $2.2 million and a valuation allowance of $17.6 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, 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 and is forecast to generate taxable income in future periods. In determining whether the deferred tax asset that 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 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.

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% 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.

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. Due to the Company's lack of sufficient history as a publicly traded company, management's estimate of expected volatility is based on the average volatilities of seven public companies with similar attributes to the Company.

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Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market risk arises from our exposure to fluctuation in interest rates and currency exchange rates. These risks are managed by maintaining an appropriate mix of cash deposits in various currencies, placed with a variety of financial institutions for varying periods according to expected liquidity requirements.

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

Interest Rate Risk

As of December 31, 2016, we had cash and cash equivalents of $158.8 million and short-term deposits of $22.7 million. Our exposure to interest rate sensitivity is impacted by changes in the underlying U.K. and U.S. bank interest rates. Our surplus cash and cash equivalents are invested in interest-bearing savings and money market accounts from time to time. We have not entered into investments for trading or speculative purposes. Due to the conservative nature of our investment portfolio, which is predicated on capital preservation of investments with short-term maturities, 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. The exchange rate as at December 31, 2016, the last business day of the reporting period, was £1.00 to $1.233. The exchange rate on February 28, 2016 was £1.00 to $1.243. 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.

Credit Risk

The Company held cash and cash equivalents of $158.8 million and short-term deposits of $22.7 million as of December 31, 2016. The cash and cash equivalents and short-term deposits are held with multiple banks and the Company monitors the credit rating of those banks.

There are no material trade receivables as of December 31, 2016. Trade receivables may arise in future periods in relation to the GSK Collaboration and License Agreement. The Company has 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, 2016.

Commodity Price Risk

We are exposed to commodity price risk as a result of our operations. However, given the size of our operations, the costs of managing exposure to commodity price risk exceed any potential benefits. We will revisit the appropriateness of this policy should our operations change in size or nature. We have no exposure to equity securities price risk as we hold no listed or other equity investments.

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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 on Form 10-K 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 on Form 10-K. 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 Form 10-K.

Summarized unaudited quarterly data for 2016 and 2015 are as follows (in thousands, except per share data):

	Three months ended			
	March 31, 2015	June 30, 2015	September 30, 2015	December 31, 2015
Revenue	$ 2,728	$ 2,783	$ 4,948	$ 4,031
Operating loss	(5,607)	(11,107)	(8,308)	(18,101)
Net loss	(1,945)	(14,568)	(6,242)	(16,757)
Net loss attributable to ordinary shareholders	(8,379)	(16,797)	(6,242)	(16,757)
Net loss per ordinary share, basic and diluted	$ (0.05)	$ (0.05)	$ (0.01)	$ (0.04)
Weighted average shares outstanding, basic and diluted	181,370,100	316,559,989	424,711,900	424,711,900

	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	(15,576)	(22,095)	(18,494)	(15,414)
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

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Item 9. Changes in and Disagreements with A ccountants 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, 2016.

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 2016 that has materially affected, or is reasonably likely to materially affect, internal control over financial reporting.

Item 9B. Other Information

None

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PART III

Item 10. Directors, Executive Office rs 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, 2016.

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, 2016.

Item 12. Security Ownership of Certain B eneficial 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, 2016.

Item 13. Certain Relationships and Related Tr ansactions, 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, 2016.

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, 2016.

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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*	Letter of Appointment, dated May 23, 2016 and effective June 23, 2016, between the Company and Barbara Duncan (incorporated by reference to Exhibit 99.1 to our Form 8-K filed with the SEC on June 23, 2016).
10.2*	Letter of Appointment, dated August 9, 2016 and effective August 11, 2016, between the Company and David M. Mott (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on August 12, 2016).
10.3*	Letter of Appointment, dated August 9, 2016 and effective August 11, 2016, between the Company and Lawrence M. Alleva (incorporated by reference to Exhibit 10.2 to our Form 8-K filed with the SEC on August 12, 2016).
10.4*	Letter of Appointment, dated August 9, 2016 and effective August 11, 2016, between the Company and Ali Behbahani (incorporated by reference to Exhibit 10.3 to our Form 8-K filed with the SEC on August 12, 2016).
10.5*	Letter of Appointment, dated August 9, 2016 and effective August 11, 2016, between the Company and Ian M. Laing (incorporated by reference to Exhibit 10.4 to our Form 8-K filed with the SEC on August 12, 2016).
10.6*	Letter of Appointment, dated August 9, 2016 and effective August 11 2016, between the Company and Elliott Sigal (incorporated by reference to Exhibit 10.5 to our Form 8-K filed with the SEC on August 12, 2016).
10.7*	Letter of Appointment, dated August 9, 2016 and effective August 11, 2016, between the Company and Peter Thompson (incorporated by reference to Exhibit 10.6 to our Form 8-K filed with the SEC on August 12, 2016).
10.8*	Letter of Appointment, dated October 26, 2016 and effective November 1, 2016, between the Company and Giles Kerr (incorporated by reference to Exhibit 10.7 to our Form 10-Q filed with the SEC on November 10, 2016).
10.9*	Letter of Appointment, dated November 7, 2016 and effective November 14, 2016, between the Company and Tal Zaks (incorporated by reference to Exhibit 10.8 to our Form 10-Q filed with the SEC on November 10, 2016).
10.10*	First Amendment to Employment Agreement, dated September 6, 2016 and effective April 6, 2015, between Adaptimmune LLC and Adrian Rawcliffe (incorporated by reference to Exhibit 10.9 to our Form 10-Q filed with the SEC on November 10, 2016).
10.11*††	Services Agreement, dated September 13, 2016, by and between Adaptimmune Limited and PCT, LLC (incorporated by reference to Exhibit 10.10 to our Form 10-Q filed with the SEC on November 10, 2016).
10.12*††	Strategic Alliance Agreement, dated September 23, 2016, by and between Adaptimmune LLC and The University Of Texas M.D. Anderson Cancer Center (incorporated by reference to Exhibit 10.11 to our Form 10-Q filed with the SEC on November 10, 2016).
10.13*	Lease, dated October 24, 2016, by and between MEPC Milton Park No. 1 Limited and MEPC Milton Park No. 2 Limited, Adaptimmune Limited and Adaptimmune Therapeutics plc relating to 60 Jubilee Avenue Milton Park (incorporated by reference to Exhibit 10.12 to our Form 10-Q filed with the SEC on November 10, 2016).
10.14*††	Clinical Trial Collaboration and Supply Agreement, dated October 27, 2016, by and between Merck Sharp & Dohme B.V. and Adaptimmune Limited (incorporated by reference to Exhibit 10.13 to our Form 10-Q filed with the SEC on November 10, 2016).

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10.15*	Letter, dated September 12, 2016, and effective November 8, 2016, between the Company and Immunocore Limited recording mutual agreement to terminate target collaboration agreement with termination effective on March 1, 2017 (incorporated by reference to Exhibit 10.14 to our Form 10-Q filed with the SEC on November 10, 2016).
10.16**††	Co-Development and Co-Commercialisation Agreement, dated December 16, 2016, by and between Bellicum Pharmaceuticals, Inc. and Adaptimmune Limited.
10.17**	Service Agreement, dated March 10, 2017, and effective March 10, 2017, between Adaptimmune Therapeutics plc and James Noble.
10.18**	Employment Agreement, dated March 10, 2017, and effective March 10, 2017, between Adaptimmune LLC and Rafael Amado.
10.19**	Employment Agreement, dated March 10, 2017, and effective March 10, 2017, between Adaptimmune LLC and Gwendolyn Binder-Scholl.
10.20**	Employment Agreement, dated March 10, 2017, and effective March 10, 2017, between Adaptimmune LLC and Adrian Rawcliffe.

10.21**	Executive Severance policy of Adaptimmune Therapeutics plc, dated March 10, 2017, and effective March 10, 2017.
10.22*	Adaptimmune Limited Share Option Scheme (Incorporating Management Incentive Options), dated May 30, 2008, as amended January 13, 2016 (incorporated by reference to Exhibit 4.28 to our Transition Report on Form 20-F (file no. 001-37368).
10.23*	Adaptimmune Limited 2014 Share Option Scheme (Incorporating Enterprise Management Incentive Options), dated April 11, 2014, as amended January 13, 2016 (incorporated by reference to Exhibit 4.29 to our Transition Report on Form 20-F (file no. 001-37368).
10.24*	Adaptimmune Limited Company Share Option Plan, dated December 16, 2014, as amended January 13, 2016 (incorporated by reference to Exhibit 4.30 to our Transition Report on Form 20-F (file no. 001-37368).
10.25*	Adaptimmune Therapeutics plc 2015 Share Option Scheme, dated March 16, 2015, as amended April 15, 2015, as further amended January 13, 2016 (incorporated by reference to Exhibit 4.31 to our Transition Report on Form 20-F (file no. 001-37368).
10.26*	Adaptimmune Therapeutics plc Company Share Option Plan, dated March 16, 2015, as amended April 15, 2015, as further amended January 13, 2016 (incorporated by reference to Exhibit 4.32 to our Transition Report on Form 20-F (file no. 001-37368).
10.27*	Adaptimmune Therapeutics plc 2016 Employee Share Option Scheme, dated January 14, 2016 (incorporated by reference to Exhibit 4.33 to our Transition Report on Form 20-F (file no. 001-37368).
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.
101.SCH**	XBRL Taxonomy Extension Schema Document.
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document.

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101.LAB**	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document.

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

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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 13, 2017.

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 13, 2017, in the capacities indicated.

Signature	Title	Date
/s/ James Noble James Noble	Chief Executive Officer and Director *(Principal Executive Officer)*	March 13, 2017
/s/ Adrian Rawcliffe Adrian Rawcliffe	Chief Financial Officer (*Principal Accounting and Financial Officer*)	March 13, 2017
/s/ David M. Mott David M. Mott	Chairman of the Board of Directors	March 13, 2017
/s/ Lawrence M. Alleva Lawrence M. Alleva	Director	March 13, 2017
/s/ Ali Behbahani, MD Ali Behbahani, MD	Director	March 13, 2017
/s/ Barbara Duncan Barbara Duncan	Director	March 13, 2017
/s/ Giles Kerr Giles Kerr	Director	March 13, 2017
/s/ Elliott Sigal, MD, PhD Elliott Sigal, MD, PhD	Director	March 13, 2017
/s/ Peter Thompson, MD Peter Thompson, MD	Director	March 13, 2017
/s/ Tal Zaks, MD, PhD Tal Zaks, MD, PhD	Director	March 13, 2017

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Index to the Financial Statements:

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders Adaptimmune Therapeutics plc:

We have audited the accompanying consolidated balance sheets of Adaptimmune Therapeutics plc and subsidiaries as of December 31, 2016, December 31, 2015 and June 30, 2015, and the related consolidated statements of operations, comprehensive loss, changes in equity and cash flows for the year ended December 31, 2016, the six month period ended December 31, 2015 and the years ended June 30, 2015 and June 30, 2014. These consolidated financial statements are the responsibility of Adaptimmune Therapeutic plc's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Adaptimmune Therapeutics plc and subsidiaries as of December 31, 2016, December 31, 2015 and June 30, 2015, and the results of their operations and their cash flows for the year ended December 31,

2016, the six month period ended December 31, 2015 and the years ended June 30, 2015 and June 30, 2014 in conformity with U.S. generally accepted accounting principles.

/s/ KPMG LLP

Reading, United Kingdom
March 13, 2017

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

	December 31, 2016	December 31, 2015	June 30, 2015
Assets			
Current assets			
Cash and cash equivalents	$ 158,779	$ 194,263	$ 229,046
Short-term deposits	22,694	54,620	55,292
Accounts receivable, net of allowance for doubtful accounts of $-, $- and $- (including amounts due from related parties of $-, $2 and $3)	1,480	744	4
Other current assets and prepaid expenses (including current portion of clinical materials)	15,798	13,420	10,740
Total current assets	**198,751**	**263,047**	**295,082**
Restricted cash	4,017	4,508	—
Clinical materials	2,580	4,736	—
Property, plant and equipment, net	27,899	13,225	5,393
Intangibles, net	1,268	305	178
Total assets	**$ 234,515**	**$ 285,821**	**$ 300,653**
Liabilities and stockholders' equity			
Current liabilities			
Accounts payable (including amounts due to related parties of $326, $- and $143)	$ 11,350	$ 7,884	$ 1,982
Accrued expenses and other accrued liabilities (including amounts due to related parties of $39, $288 and $2)	17,528	7,518	3,877
Deferred revenue	11,392	12,487	20,906
Total current liabilities	**40,270**	**27,889**	**26,765**
Deferred revenue, non-current	24,962	22,939	14,885
Accrued expenses, non-current	3,141	—	—
Total liabilities	**68,373**	**50,828**	**41,650**
Contingencies and commitments — Note 8			
Stockholders' equity			
Common stock - Ordinary shares par value £0.001, 574,711,900 authorized and 424,775,092 issued and outstanding (December 31, 2015 and June 30, 2015: 574,711,900 authorized and 424,711,900 issued and outstanding)	683	682	682
Additional paid in capital	341,200	332,363	328,795
Accumulated other comprehensive loss	(14,249)	(8,139)	(3,561)
Accumulated deficit	(161,492)	(89,913)	(66,913)
Total stockholders' equity	**166,142**	**234,993**	**259,003**
Total liabilities and stockholders' equity	**$ 234,515**	**$ 285,821**	$ 300,653

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, 2016	Six months ended December 31, 2015	Year ended June 30, 2015	Year ended June 30, 2014
Revenue	**$ 14,198**	**$ 8,979**	**$ 9,871**	**$ 825**
Operating expenses				
Research and development	(63,789)	(25,472)	(24,137)	(9,575)
General and administrative	(23,208)	(9,917)	(10,375)	(2,771)
Total operating expenses (including purchases from related parties, net of reimbursements, of $2,067, $1,609, $2,443 and $2,018)	**(86,997)**	**(35,389)**	**(34,512)**	**(12,346)**
Operating loss	**(72,799)**	**(26,410)**	**(24,641)**	**(11,521)**
Interest income	1,110	489	504	—
Other income (expense), net	1,002	2,866	2,323	(5)

Loss before income taxes	**(70,687)**	**(23,055)**	**(21,814)**	**(11,526)**
Income taxes	(892)	55	(244)	(75)
Net loss	**(71,579)**	**(23,000)**	**(22,058)**	**(11,601)**
Deemed dividend on convertible preferred shares	—	—	(14,735)	—
Net loss attributable to ordinary shareholders	**$ (71,579)**	**$ (23,000)**	**$ (36,793)**	**$ (11,601)**
Net loss per ordinary share basic and diluted (Note 2)	**$ (0.17)**	**$ (0.05)**	**$ (0.17)**	**$ (0.08)**
Weighted average shares outstanding, basic and diluted	**424,713,997**	**424,711,900**	**214,704,593**	**148,335,529**

See accompanying notes to consolidated financial statements.

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ADAPTIMMUNE THERAPEUTICS PLC
CONSOLIDATED STATEMENTS OF COMPREHENSI VE LOSS
(in thousands)

	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015	Year ended June 30, 2014
Net loss	**$ (71,579)**	**$ (23,000)**	**$ (22,058)**	**$ (11,601)**
Other comprehensive loss, net of tax				
Foreign currency translation adjustments	(6,110)	(4,578)	(3,835)	377
Total comprehensive loss for the period	**$ (77,689)**	**$ (27,578)**	**$ (25,893)**	**$ (11,224)**

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	Additional paid in capital	Accumulated other comprehensive (loss) income	Accumulated deficit	Total stockholders' equity
Balance at July 1, 2013	109,783,500	$ 177	$ 16,290	$ (103)	$ (18,519)	$ (2,155)
Issuance of common stock	70,208,600	112	15,700	—	—	15,812
Issuance of common stock upon exercise of share options	1,378,000	2	190	—	—	192
Other comprehensive income, net of tax	—	—	—	377	—	377
Net loss	—	—	—	—	(11,601)	(11,601)
Share-based compensation expense	—	—	332	—	—	332
Balance at June 30, 2014	**181,370,100**	**$ 291**	**$ 32,512**	**$ 274**	**$ (30,120)**	**$ 2,957**

	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 at June 30, 2015	**424,711,900**	**$ 682**	**$ —**	**$ 328,795**	**$ (3,561)**	**$ (66,913)**	**$ 259,003**

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

	Common stock	Common stock	Additional paid in capital	Accumulated other comprehensive loss	Accumulated deficit	Total stockholders' equity
Balance at July 1, 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 at December 31, 2015	**424,711,900**	**$ 682**	**$ 332,363**	**$ (8,139)**	**$ (89,913)**	**$ 234,993**

	Common stock	Common stock	Additional paid in capital	Accumulated other comprehensive loss	Accumulated deficit	Total stockholders' equity
Balance at January 1, 2016	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 at December 31, 2016	**424,775,092**	**$ 683**	**$ 341,200**	**$ (14,249)**	**$ (161,492)**	**$ 166,142**

See accompanying notes to consolidated financial statements.

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

	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015	Year ended June 30, 2014
Cash flows from operating activities				
Net loss	$ (71,579)	$ (23,000)	$ (22,058)	$ (11,601)
Adjustments to reconcile net income to net cash (used in) provided by operating activities:				
Depreciation	3,126	1,176	705	240
Amortization	160	69	30	—
Loss on disposal	122	—	—	—
Share-based compensation expense	8,821	3,568	7,078	332
Unrealized foreign exchange (gains) losses	(1,314)	(2,867)	13	—
Changes in operating assets and liabilities:				
Increase in receivables and other operating assets	(6,533)	(4,243)	(7,812)	(1,481)
Decrease (increase) in non-current operating assets	2,221	(4,736)	—	—
Increase (decrease) in payables and deferred revenue	16,808	11,971	(7,622)	49,345
Net cash (used in) provided by operating activities	**(48,168)**	**(18,062)**	**(29,666)**	**36,835**
Cash flows from investing activities				
Acquisition of property, plant and equipment	(11,506)	(9,628)	(5,080)	(1,366)
Acquisition of intangibles	(1,279)	(210)	—	—
Proceeds from sale of property, plant and equipment	—	—	122	—
Maturity of short-term deposits	73,377	16,645	—	—
Investment in short-term deposits	(42,837)	(16,645)	(53,879)	—
Net cash provided by (used in) investing activities	**17,755**	**(9,838)**	**(58,837)**	**(1,366)**
Cash flows from financing activities				
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 $13,387	—	—	175,989	—
Proceeds from issuance of common stock	—	—	—	15,812
Proceeds from exercise of stock options	17	—	—	192
Bank overdraft repaid	—	—	—	(1,290)
Net cash provided by financing activities	**17**	**—**	**274,861**	**14,714**
Effect of currency exchange rate changes on cash and cash equivalents	(5,579)	(2,375)	(8,491)	996
Net (decrease) increase in cash, cash equivalents and restricted cash	(35,975)	(30,275)	177,867	51,179
Cash, cash equivalents and restricted cash at start of period	198,771	229,046	51,179	—
Cash, cash equivalents and restricted cash at end of period	**$ 162,796**	**$ 198,771**	**$ 229,046**	**$ 51,179**

Supplemental cash flow information				
Interest received	$ 1,191	$ 326	$ —	$ —
Income taxes paid	34	95	280	—
Deemed dividends	—	—	14,735	—
Investment in restricted cash	—	4,666	—	—
Allowance for tenant improvements	2,607	—	—	—

See accompanying notes to consolidated financial statements.

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ADAPTIMMUNE THERAPEUTICS PLC
NOTES TO CONSOLIDATED F INANCIAL STATEMENTS

Note 1 - General

Adaptimmune Therapeutics plc is registered in England and Wales. Its registered office is 101 Park Drive, Milton Park, Abingdon, Oxfordshire, OX14 4RY, United Kingdom. Adaptimmune Therapeutics plc and its subsidiaries, Adaptimmune Limited and Adaptimmune LLC, (collectively "Adaptimmune" or the "Company") is a clinical-stage biopharmaceutical company focused on novel cancer immunotherapy products based on its proprietary SPEAR (Specific Peptide Enhanced Affinity Receptor) T-cell platform. It has developed a comprehensive proprietary platform that enables it to identify cancer targets, find and genetically engineer T-cell receptors ("TCRs"), and produce TCR therapeutic candidates for administration to patients. The Company engineers TCRs to increase their affinity to cancer specific peptides in order to destroy cancer cells in patients.

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 trials, 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 $161.5 million as of December 31, 2016.

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 9. 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 reimbursements from research and development ("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

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

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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) Reclassifications

Property and insurance costs relating to research and development facilities of $1,377,000 and $1,162,000 in the six months ended December 31, 2015 and the year ended June 30, 2015, respectively, were misclassified as general and administrative expenses in prior periods. These costs have been presented within research and development in the current period and the Company has reclassified prior period expenses to conform the presentation to the current period.

Legal expenses for patent applications of $149,000, $303,000 and $171,000 in the six months ended December 31, 2015 and the years ended June 30, 2015 and 2014,

respectively, were misclassified as research and development expenditure in prior periods. These expenses have been presented within general administrative expenses in the current period and the Company has reclassified prior period expenses to conform the presentation to the current period.

The Company has assessed the materiality of the classification errors in prior periods in accordance with the SEC's guidance on assessing materiality, Staff Accounting Bulletin No. 99, *Materiality,* and determined that the errors are quantitatively and qualitatively not material.

The operating expenses for comparative periods as previously reported and as presented after the reclassifications are as follows (in thousands):

	Six months ended December 31, 2015		Year ended June 30, 2015		Year ended June 30, 2014	
	As previously reported	After reclassification	As previously reported	After reclassification	As previously reported	After reclassification
Research and development	$ 24,244	$ 25,472	$ 23,278	$ 24,137	$ 9,746	$ 9,575
General and administrative	11,145	9,917	11,234	10,375	2,600	2,771
Total operating expenses	**$ 35,389**	**$ 35,389**	**$ 34,512**	**$ 34,512**	**$ 12,346**	**$ 12,346**

(e) 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).

The aggregate foreign currency transaction gain included in determining net income was $1,002,000, $12,596,000, $11,200,000 and $254,000 for the year ended December 31, 2016, the six months ended December 31, 2015 and the years ended June 30, 2015 and 2014, respectively.

(f) 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

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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 Company's financial instruments consist primarily of cash and cash equivalents, short-term deposits, restricted cash, accounts receivable, accounts payable and accrued expenses. The carrying amounts of the Company's financial instruments approximate fair value because of the short-term nature of these instruments.

(g) Accumulated other comprehensive income (loss)

Accumulated other comprehensive income (loss) consists of foreign currency translation adjustments. There were no reclassifications out of other comprehensive income during the periods presented.

(h) 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 and 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, 2016	December 31, 2015	June 30, 2015
Cash and cash equivalents	$ 158,779	$ 194,263	$ 229,046
Restricted cash	4,017	4,508	—
Total cash, cash equivalents, and restricted cash shown in the statement of cash flows	**$ 162,796**	**$ 198,771**	**$ 229,046**

(i) Short-term deposits

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

(j) Accounts receivable

Accounts receivable are amounts due from customers. At December 31, 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. At December 31, 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:

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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 at December 31, 2016 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.

(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 currently arises from a collaboration and license agreement with GSK entered into in May 2014 and amended in February 2016 (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.

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

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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 expenditure

Research and development expenditures are expensed as incurred.

Expenses related to clinical trials are recognized as services are received. Nonrefundable advance payments for services are deferred and recognized in the consolidated statement of operations as the services are rendered. This determination is based on an estimate of the services received and there may be instances when the payments to vendors exceed the level of services provided resulting in a prepayment of the clinical expense. If the actual timing of the performance of services varies from our estimate, the accrual or prepaid expense is adjusted accordingly.

Upfront and milestone payments to third parties for in-licensed products or technology which has not yet received regulatory approval and which does not have alternative future use in R&D projects or otherwise are expensed as incurred. The Company expensed acquired in-process R&D of $3.0 million, $2.5 million, $- and $- in the year ended December 31, 2016, the six months ended December 31, 2015 and the years ended June 30, 2015 and 2014, 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 $414,000, $905,000, $613,000 and $241,000 in the year ended December 31, 2016, the six months ended December 31, 2015 and the years ended June 30, 2015 and 2014, respectively. Reimbursable R&D tax and expenditure credits were $6,891,000, $1,506,000, $1,497,000 and $1,027,000 in the year ended December 31, 2016, the six months ended December 31, 2015 and the years ended June 30, 2015 and 2014, 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 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.

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.

(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

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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.

(s) Retirement benefits

The Company operates a defined contribution pension scheme 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 year ended December 31, 2016, six months ended December 31, 2015 and the years ended June 30, 2015 and 2014 were $976,000, $122,000, $240,000 and $139,000, 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 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 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.

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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.

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

	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015	Year ended June 30, 2014
Numerator for basic and diluted loss per share				
Net loss	$ (71,579)	$ (23,000)	$ (22,058)	$ (11,601)
Deemed dividend on convertible preferred shares	—	—	(14,735)	—
Net loss attributable to ordinary shareholders	**$ (71,579)**	**$ (23,000)**	**$ (36,793)**	**$ (11,601)**
Denominator for basic and diluted loss per share				
Weighted average number of shares used to calculate basic and diluted loss per share	424,713,997	424,711,900	214,704,593	148,335,529

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, 2016	Six months ended December 31, 2015	Year ended June 30, 2015	Year ended June 30, 2014
Weighted average number of share options(1)	45,882,791	31,203,477	31,473,477	10,057,700
Weighted average number of Preferred Shares(2)	—	—	122,848,381	—

(1) The Company granted a total of 15,543,040 options from January 1, 2017 through to March 8, 2017.

(2) Adaptimmune Limited issued 1,758,418 Series A Preferred Shares in September 2014. In April 2015, as part of the Company reorganization, the Series A Preferred Shares of Adaptimmune Limited were exchanged for Series A Preferred Shares of Adaptimmune Therapeutics Limited on a one-for-100 basis. 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.

(w) Related parties

Adaptimmune and Immunocore Limited ("Immunocore") have a shared history, some overlap in board membership (which ceased on December 31, 2016) and substantial overlap in shareholder base. The Company has entered into several agreements with Immunocore regarding the shared use of certain services including licensing and research collaboration.

During the periods presented Immunocore and the Company have invoiced each other in respect of a transitional services agreement (under which certain staff resources and other administration services are supplied by each company to the other company for a transitional period). Additionally, during the periods presented Immunocore has invoiced the Company in respect of services provided under a target collaboration agreement (under which certain target identification services were provided by Immunocore), costs related to joint patents and in respect of property rent.

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The target collaboration agreement between Immunocore and the Company was terminated, by mutual consent, effective March 1, 2017. The companies entered into the target collaboration agreement in January 2015, to facilitate joint target identification activities and specific T-cell cloning work, and jointly create a target database of

peptides. Both companies will continue to have access to the target database and associated target information after termination of the target collaboration agreement. The Company now has its own dedicated target identification capability and as a result has no requirement for ongoing target collaboration with Immunocore. The companies' decision to end the target collaboration agreement has no impact on other agreements between them. In particular, the companies will continue to co-own the patents, patent applications and know-how relating to the underlying core TCR technology under a previously executed and irrevocable assignment and license agreement.

New accounting pronouncements

Adopted in the period

Restricted Cash

The Company has adopted Accounting Standards Update ("ASU") 2016-18 -*Statement of Cash Flows: Restricted Cash* issued by the Financial Accounting Standards Board ("FASB") in November 2016, which amends the presentation of restricted cash within the statement of cash flows. The guidance requires that the statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents rather than only cash and cash equivalents, as previously required. The guidance has been adopted retrospectively to all periods presented, which has resulted in a decrease in net cash used in investing activities of $4,666,000 in the six months ended December 31, 2015. The total of cash, cash equivalents and restricted cash is described in Note 2(h). The adoption of the guidance did not have any impact on the Company's financial position or result of operations.

Classification of certain cash receipts and cash payments

The Company has adopted ASU 2016-15 -*Statement of Cash Flows - Classification of Certain Cash Receipts and Cash Payments*, issued by the FASB in August 2016, which provides clarification on the classification of certain cash receipts and cash payments where current U.S. GAAP either is unclear or does not include specific guidance. The guidance has been adopted using a retrospective transition method to all periods presented. The adoption of the guidance did not have any impact on the Company's financial position, result of operations or cash flows.

Customer's accounting for fees paid in a cloud computing arrangement

The Company has adopted Accounting Standards Update 2015-05 -*Internal-Use Software: Customer's Accounting for Fees Paid in a Cloud Computing Arrangement* issued by the FASB in April 2015, which clarifies a customer's accounting for fees paid in a cloud computing arrangement. The guidance considers whether a cloud computing arrangement includes a software license and clarifies that the customer should account for the software license element of the arrangement consistent with the acquisition of other software licenses. If a cloud computing arrangement does not include a software license, the customer should account for the arrangement as a service contract. The guidance has been adopted prospectively to all arrangements entered into or materially modified after January 1, 2016. The adoption of this guidance did not have any impact on the Company's financial position, results of operations or cash flows.

To be adopted in future periods

Intra-Entity Transfers of Assets Other Than Inventory

In October 2016, the FASB issued ASU 2016-16 - Income Taxes: Intra-Entity Transfers of Assets Other Than Inventory, 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 is effective for annual reporting periods beginning after December 15, 2017, including interim reporting periods within those annual reporting periods. Early adoption is permitted for all entities as of the beginning of an annual reporting period for which financial statements (interim or annual) have not been issued or made available for issuance. The guidance should be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The Company does not believe the adoption of the guidance will have a material impact on the consolidated financial statements.

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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.

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.

Revenue from contracts with customers

In May 2014, the FASB issued ASU 2014-09 -*Revenue from Contracts with Customers* 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. 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 guidance is effective for the fiscal year beginning January 1, 2018, including interim reporting periods within that reporting period. Earlier application is permitted. The Company intends to adopt the guidance with effect from January 1, 2018. The guidance can be adopted retrospectively to each prior reporting period presented, subject to certain practical expedients, or retrospectively with the cumulative effect of initially applying the guidance recognized at the date of initial application.

The Company is in the process of assessing the impact of the guidance as it relates to the GSK Collaboration and License Arrangement. The Company's preliminary assessment is substantially complete but there are several complex issues that are being considered. Once these issues are resolved, the Company will determine the transition method which will be applied and evaluate the disclosure requirements. The adoption of ASU 2014-09 may have a material effect on the Company's financial statements but the quantitative effect cannot be reasonably estimated at this time. The Company continues to monitor additional changes, modifications, clarifications or interpretations undertaken by the FASB, which may impact its assessment.

Note 3 — Revenue

GSK Collaboration and License Agreement

Revenue represents recognized income from the GSK Collaboration and License Agreement. The GSK Collaboration and License Agreement contains the following significant deliverables, which are separate accounting units: (i) the development of, and option to obtain an exclusive license to, the Company's NY-ESO SPEAR T-cells, and (ii) the development of, and option to obtain an exclusive license to a second target, PRAME. In addition, GSK also has the right to nominate three additional target peptides, excluding those where the Company has already initiated development of a SPEAR T-cell candidate, which is not considered to be a deliverable at the inception of the arrangement because it represents a substantive option not

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priced at a significant and incremental discount. The Company received an upfront payment of $42.1 million (£25 million) in June 2014 and has achieved non-substantive development milestones of $17.4 million in the year ended December 31, 2016, $14.4 million in the six months ended December 31, 2015 and $7.2 million in the year ended June 30, 2015. The Company is entitled to further non-substantive milestone payments based on the achievement of specified development milestones by the Company. When, and if, GSK exercises its option to obtain an exclusive license to a target, an option exercise fee will be payable and the Company will be entitled to further development and commercialization milestone payments based on achievement of specified milestones by GSK. 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 together with internal data regarding the cost of providing services for each deliverable.

In addition to the development milestones, the Company is entitled to royalties from GSK on all GSK sales of TCR therapeutic products licensed under the agreement, varying between a mid-single-digit percentage and a low-double-digit percentage of net sales. No royalties have been received as of December 31, 2016. 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. 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 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.

In February 2016, the terms of the GSK Collaboration and License Agreement were expanded to accelerate the development of the Company's NY-ESO SPEAR T-cells towards pivotal trials in synovial sarcoma, as well as the exploration of development of NY-ESO SPEAR T-cells in myxoid round-cell liposarcoma. The amendment also provides the opportunity for up to eight combination studies using NY-ESO SPEAR T-cells and increases the potential development milestones that the Company is eligible to receive. These development milestones will be allocated to the separate standalone deliverables within the arrangement once the milestone is achieved.

The revenue recognized to date relates to the upfront fee and non-substantive development milestones payments received, which are being 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 period until GSK's option to obtain licenses expires. 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. The Company recognized revenue of $14,198,000, $8,979,000, $9,871,000 and $825,000 in the year ended December 31, 2016, the six months ended December 31, 2015 and years ended June 30, 2015 and 2014, respectively.

The Company regularly reviews, and when a change in facts or circumstances occurs, adjusts the estimate of the period over which the Company will deliver services under the GSK Collaboration and License Agreement. In prior periods this has not resulted in a significant impact on revenue recognized. However, 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 due to a change in facts and circumstances. These changes in estimate resulted in a decrease in revenue of $5,615,000 in the year ended December 31, 2016 compared to the revenue that would have been recognized based on previous estimates. The changes in estimate will also result in a decrease in revenue amortization of $2,237,000 in the year ended December 31, 2017 and an increase in revenue amortization of $939,000, $900,000 and $6,053,000 in the years ended December 31, 2018, 2019 and 2020, respectively, compared to the revenue that would have been recognized based on previous estimates.

Note 4 — Financial instruments

The Company's financial instruments consist primarily of cash and cash equivalents, short-term deposits, restricted cash, accounts receivable, accounts payable and accrued expenses. The carrying amounts of the Company's financial instruments approximate to the fair value because of the short-term nature of these instruments.

Significant concentration of credit risk

The Company held cash and cash equivalents of $158,779,000, short-term deposits of $22,694,000 and restricted cash of $4,017,000 at December 31, 2016. The cash and cash equivalents, short-term deposits and restricted cash are held with multiple banks and the Company monitors the credit rating of those banks.

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The Company has one customer as a result of the Collaboration and License Agreement with GSK. 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 at December 31, 2016.

Foreign exchange risk

We are exposed to foreign exchange rate risk because we currently operate in the U.K. and the U.S. 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 U.K. and the U.S. 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. The exchange rate as at December 31, 2016, the last business day of the reporting period, was £1.00 to $1.233. The exchange rate as at February 28, 2017 was £1.00 to $1.243. 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.

Note 5 - Property, plant and equipment, net

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

	December 31, 2016	December 31, 2015	June 30, 2015
Computer equipment	$ 1,904	$ 1,182	$ 649
Laboratory equipment	11,423	11,016	3,547
Office equipment	265	258	192
Leasehold improvements	4,498	1,631	1,926
Assets under construction	14,332	1,147	—
	32,422	15,234	6,314
Less accumulated depreciation	(4,523)	(2,009)	(921)
	$ 27,899	**$ 13,225**	**$ 5,393**

Depreciation expense was $3,126,000, $1,176,000, $705,000 and $240,000 for the year ended December 31, 2016, six months ended December 31, 2015 and the years ended June 30, 2015 and 2014, respectively.

The Company has disposed of leasehold improvements resulting in a loss on disposal of $122,000, which is included within general and administrative expenses in the statement of operations.

Note 6 — Intangible assets, net

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

	December 31, 2016	December 31, 2015	June 30, 2015
Acquired software licenses	$ 1,310	$ 399	$ 208
Licensed IP rights — completed technology	183	—	—
	1,493	399	208
Less accumulated amortization	(225)	(94)	(30)
	$ 1,268	**$ 305**	**$ 178**

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Amortization expense was $160,000, $69,000, $30,000 and $nil for the year ended December 31, 2016, six months ended December 31, 2015 and the years ended June 30, 2015 and 2014, respectively. The estimated aggregate amortization expense in respect of these assets for each of the five years ended 2021 is $331,000, $387,000,$349,000, $116,000 and $22,000, respectively.

Note 7 — Accrued expenses and other current liabilities

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

	December 31, 2016	December 31, 2015	June 30, 2015
Accrued clinical and development expenses	$ 4,938	$ 3,143	$ 1,790
Accrued employee compensation and benefits payable	4,539	2,748	248
Accrued capital expenditure	3,954	42	973
Value added tax	2,014	744	—
Other accrued purchases	1,003	841	826
Other current liabilities	1,080	—	40
	$ 17,528	**$ 7,518**	**$ 3,877**

Note 8 — Contingencies and commitments

Leases

Future minimum lease payments under operating leases at December 31, 2016 are presented below (in thousands):

	December 31, 2016
2017	2,112
2018	2,755
2019	3,361
2020	3,245
2021	3,130
Thereafter	17,983

	$ 32,586

The Company leases property under operating leases expiring through 2027. Lease expenses amounted to $2,255,000, $841,000, $610,000 and $287,000 for the year ended December 31, 2016, six months ended December 31, 2015 and years ended June 30, 2015, and 2014, respectively, which is included within research and development and general and administrative expenses in the Company's consolidated statement of operations.

In July 2015, the Company entered into a long-term lease agreement, with an early termination option at 123 months, for offices and research facilities in Philadelphia, U.S. In October 2016, the lease commenced upon completion of construction. The related lease commitments are included in the table above.

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. The related lease commitments are included in the table above.

Capital commitments

At December 31, 2016, the Company had commitments for capital expenditure totaling $8,093,000, which the Company expects to incur within one year.

Purchase commitments for clinical materials, clinical trials and contract manufacturing

At December 31, 2016, the Company had non-cancellable commitments for purchase of clinical materials, executing and administering clinical trials, and for contract manufacturing of $50,972,000, of which the Company expects to pay $34,164,000 within

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one year, $8,443,000 in one to three years, $6,796,000 in three to five years, and $1,569,000 after five years. The timing of these payments varies depending on the rate of progress of development and clinical trial enrollment rates. Our subcontracted costs for clinical trials and contract manufacturing were $23,565,000, $8,585,000, $8,818,000 and $5,886,000 for the year ended December 31, 2016, six months ended December 31, 2015 and years ending June 30, 2015 and 2014, respectively.

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 our 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.

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 the agreement, 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 (known as MSD outside the United States and Canada), 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. 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. 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.

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 will collaborate in a number of studies including clinical and preclinical development of the Company's SPEAR T-cell therapies targeting NY-ESO, MAGE-A10 and 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, sarcoma, esophageal and gastric cancers.

Under the terms of the alliance agreement, the Company has committed funding of at least $19,644,000 to fund studies under the alliance agreement. 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 will make payments to MD Anderson as certain milestones are achieved and these costs will be expensed to research and development as MD Anderson renders the services under the strategic alliance. The timing and amount of future payments is uncertain.

The alliance agreement may be terminated by either party for material breach by the other party. Individual studies may be terminated inter alia for material breach, health and safety concerns or where the institutional review board, the review board at the clinical site with oversight of the clinical study, requests termination of any study. Where any legal or regulatory authorization is finally withdrawn or terminated, the relevant study will also terminate automatically.

Universal Cells Research, Collaboration and License Agreement

On November 25, 2015, the Company entered into a Research, Collaboration and License Agreement relating to gene editing and 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 and a milestone payment of $3.0 million in February 2016. Further milestone payments of up to $44 million are payable if certain development and product milestones are achieved. Universal Cells

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would also receive a profit-share payment for the first product, and royalties on sales of other products utilizing its technology. The upfront and start-up fee was 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 9 — 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 Directors have the authority to allot new shares or to grant rights to subscribe for or to convert any security into shares in the Company up to a maximum aggregate nominal amount of £149,937 at December 31, 2016. This authority will expire on December 17, 2020.

Initial public offering

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.

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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 10 — 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 14 January 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.

Generally, the vesting dates for the options granted under these plans 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 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 our 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 our 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 our employees who are not eligible to receive EMI options, and to our 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.

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(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 our 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.

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 of directors, 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, 2016	Six months ended December 31, 2015	Year ended June 30, 2015	Year ended June 30, 2014
Research and development	$ 4,185	$ 1,587	$ 5,426	$ 121
General and administrative	4,636	1,981	1,652	211
	$ 8,821	$ 3,568	$ 7,078	$ 332

At December 31, 2016, December 31, 2015 and June 30, 2015, there were 3,074,600, 2,774,600 and 2,774,600 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 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 and $44,000 in the years ended 2015 and 2014, respectively relating to share options granted to nonemployees.

At December 31, 2016, there was $7,918,000 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 0.8 years.

There were 19,404,373, 21,779,577 and 5,627,700 options granted in the years ended December 31, 2016, June 30, 2015 and 2014, 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, 2016, June 30, 2015 and 2014 were $0.74, $0.64 and $0.13, respectively.

The following table summarizes all stock option activity for the year ended December 31, 2016:

	Options	Weighted average exercise price per option	Average remaining contractual term (years)	Aggregate intrinsic value (thousands)
Outstanding at January 1, 2016	31,203,477	£ 0.41		
Changes during the period:				
Granted	19,404,373	£ 0.89		
Exercised	(63,192)	£ 0.22		
Forfeited	(1,307,368)	£ 1.04		
Outstanding at December 31, 2016	49,237,290	£ 0.58	8.2	$ 8,205
Exercisable at December 31, 2016	17,167,747	£ 0.41	7.5	$ 4,906

The following table summarizes information about stock options outstanding as of December 31, 2016:

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	9,858,104	6.6	£ 0.11	6,482,204	£ 0.11
0.26 – 0.50	19,156,064	8.1	0.42	8,975,893	0.42
0.51 – 0.75	1,646,000	9.9	0.58	—	—
0.76 – 1.00	15,493,264	9.5	0.93	559,049	0.89
1.01 – 1.50	1,498,243	9.4	1.06	—	—
1.51 – 2.00	1,585,615	8.4	1.82	1,150,601	1.82
Total	**49,237,290**	**8.2**	**£ 0.58**	**17,167,747**	**£ 0.41**

There were 63,192 and 2,265,000 share options exercised in the years ended December 31, 2016 and June 30, 2014, respectively. No share options were exercised in the six months ended December 31, 2015 and year ended June 30, 2015. In the year ended December 31, 2016 the total intrinsic value of stock options exercised was $40,000 and the cash received from exercise of stock options was $17,000. In the year ended June 30, 2014 the total intrinsic value of stock options exercised was $130,000 and the cash received from exercise of stock options was $192,000. 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 $8,000 for the year ended December 31, 2016 and nil for the six months ended December 31, 2015 and the years ended June 30, 2015 and 2014. 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, 2016	Year ended June 30, 2015	Year ended June 30, 2014
Expected term (years)	5 years	5 years	5 years
Expected volatility	68-73%	60%	60%
Risk free rate	0.17-1.07%	1.04-1.54%	1.73%
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 is based on the average volatilities of seven public companies with similar attributes to the Company. The risk free rate is based on the Bank of England's estimates of gilt yield curve as of the respective grant dates.

Note 11 — Income taxes

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

	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015	Year ended June 30, 2014
U.S.	$ (3,373)	$ (1,771)	$ (1,108)	$ 1,941
U.K.	(67,314)	(21,284)	(20,706)	(13,467)
Loss before income taxes	**(70,687)**	**$ (23,055)**	**$ (21,814)**	**$ (11,526)**

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

	Year ended December 31, 2016	Six months ended December 31, 2015	Year ended June 30, 2015	Year ended June 30, 2014
United States:				
Federal	$ 752	$ 33	$ 121	$ 75
State and local	140	(88)	123	—
U.K.	—	—	—	—
Total current tax expense (benefit)	**$ 892**	**$ (55)**	**$ 244**	**$ 75**
United States:				
Federal	—	—	—	—
State and local	—	—	—	—

U.K.	—	—	—	—
Total deferred tax expense (benefit)	—	—	—	—
Total income tax expense (benefit)	**$ 892**	**$ (55)**	**$ 244**	**$ 75**

At December 31, 2016, December 31, 2015 and June 30, 2015 the tax effects of temporary differences that give rise to deferred tax assets and liabilities were as follows (in thousands):

	December 31, 2016	December 31, 2015	June 30, 2015
Property, plant and equipment:	$ (1,880)	$ (2,080)	$ (888)
Accruals	(326)	(8)	—
Deferred tax liabilities	**(2,206)**	**(2,088)**	**(888)**
Share-based compensation expense	4,632	2,721	1,557
Intangible assets	348	443	—
Deferred rent	144	—	—
Deferred revenue	—	—	115
Other accruals	82	37	30
Net operating loss and expenditure credit carryforwards	14,613	8,318	7,508
Deferred tax assets	**19,819**	**11,519**	**9,210**
Valuation allowance	(17,613)	(9,431)	(8,322)
	2,206	**2,088**	**888**
Net deferred tax asset (liability)	**$ —**	**$ —**	—

The valuation allowances related primarily to operating loss carry-forwards and temporary differences relating to share-based compensation expense, 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, taxable temporary

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differences, and prudent and feasible tax-planning strategies.

The valuation allowance increased by $8,182,000 in the year ended December 31, 2016, due to net deferred tax expense related to our continuing operations of $10,107,000, offset by foreign currency translation adjustments of $1,925,000.

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, 2016	Six months ended December 31, 2015	Year ended June 30, 2015	Year ended June 30, 2014
U.K. tax rate	20%	20%	20.8%	22.5%
Permanent differences relating to foreign exchange	—	(8.7)%	3.4%	—
Surrender of R&D expenditures for R&D tax credit refund	(5.9)%	(4.5)%	(5.5)%	(12.1)%
Change in valuation allowances	(14.7)%	(10.8)%	(20.7)%	(16.2)%
Other	(0.7)%	4.2%	0.9%	5.0%
Effective income tax rate	**(1.3)%**	**0.2%**	**(1.1)%**	**(0.8)%**

The Company is headquartered in the United Kingdom and the effective U.K. corporate tax rate for the year ended December 31, 2016, six months ended December 31, 2015 and years ended June 30, 2015 and 2014 was 20%, 20%, 20.75% and 22.5%, respectively. The U.S. federal corporate tax rate was 34% for the year ended December 31, 2016, six months ended December 31, 2015 and years ended June 30, 2015 and 2014.

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 adopted a 17% tax rate at December 31, 2016 in respect of the measurement of deferred taxes arising in the U.K., which reflects the currently enacted tax rate and the anticipated timing of the unwinding of the deferred tax balances. This has reduced from 18% at December 31, 2015. The Company has adopted a 34% tax rate at December 31, 2016 in respect of the measurement of deferred taxes arising in the U.S., which has reduced from 40% at December 31, 2015 due to the U.S. subsidiary being granted an exemption from certain state and local taxes in 2016, which we anticipate being in place for the next several years. The effect of the change in tax rates on the consolidated statement of operations is $nil, after consideration of the change in valuation allowance.

At December 31, 2016, we do not have unremitted earnings in our U.S. subsidiary.

At December 31, 2016, we had U.K. net operating loss and expenditure credit carryforwards of approximately $86.0 million that can be carried forward indefinitely. However, draft legislation has been published in the U.K. for inclusion in the Finance Bill 2017 that would, if enacted, restrict the use of operating loss and expenditure credit carryforwards from April 1, 2017, such that they would not be available for offset against more than 50% of taxable profits in any accounting period (subject to a £5 million annual allowance). We do not have any U.S. net operating loss carryforwards.

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 U.K. 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, 2015. The Company is subject to examinations by tax authorities in the U.S. for all tax years 2011 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. At December 31, 2016, December 31, 2015 and June 30, 2015 the Company had no unrecognized tax benefits.

Note 12 — Geographic information

Operations by geographic area

Revenue represents recognized income from the GSK Collaboration and License agreement. All revenue was derived in the U.K.

Long-lived assets (excluding intangibles and financial instruments) were located as follows (in thousands):

	December 31, 2016	December 31, 2015	June 30, 2015
U.K.	15,719	$ 12,124	$ 4,898
U.S.	12,180	1,101	494
Total long-lived assets(1)	**27,899**	**$ 13,225**	**$ 5,392**

(1) Clinical materials of $2,580,000, $4,736,000 and $nil, included within non-current assets at December 31, 2016, December 31, 2015 and June 30, 2015, are not included within the table above because they can easily be transferred between geographic location.

Major customers:

During the year ended December 31, 2016, six months ended December 31, 2015 and the years ended June 30, 2015 and 2014 revenues were generated from one customer, which was GSK. GSK accounted for 100% of revenue.

CO-DEVELOPMENT AND CO-COMMERCIALISATION AGREEMENT

BETWEEN

ADAPTIMMUNE LIMITED

AND

BELLICUM PHARMACEUTICALS, INC.

Execution Copy

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Exhibits

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CO-DEVELOPMENT AND CO-COMMERCIALISATION AGREEMENT

THIS CO-DEVELOPMENT AND CO-COMMERCIALISATION AGREEMENT ("**Agreement**") is made and entered into on December 16, 2016 (" **Effective Date**") BETWEEN

(A) **ADAPTIMMUNE LIMITED** having its principal place of business at 101 Park Drive, Milton Park, Abingdon, Oxon, OX14 4RX, United Kingdom ("**Adaptimmune**"); and

(B) BELLICUM PHARMACEUTICALS, INC., having its principal place of business at 2130 W. Holcombe Blvd., #800, Houston, TX 77030, United States of America ("**Bellicum**").

Bellicum and Adaptimmune are sometimes referred to herein individually as a " **Party**" and collectively as the " **Parties**."

BACKGROUND:

(A) Adaptimmune is a biotechnology company that is engaged in research and development of TCR therapies for pharmaceutical therapy use.

(B) Bellicum is a biopharmaceutical company that is engaged in the research, development, manufacture and anticipated commercialisation of pharmaceutical immunotherapies, and has specific technologies which it is interested in combining with Adaptimmune's TCR therapies.

(C) Bellicum and Adaptimmune desire to collaborate in relation to the development of certain T cell therapies wherein such T cell bears a membrane bound exogenous TCR and which T cell therapies include technologies developed by both Parties.

(D) Based on the foregoing premises and the mutual covenants and obligations set forth below, the Parties agree as follows.

THE PARTIES AGREE:

ARTICLE 1 DEFINITIONS

Capitalized terms used in this Agreement, whether used in the singular or plural, shall have the meanings set forth below or elsewhere herein, unless otherwise specifically indicated herein.

Accounting Standard	means, either (a) International Financial Reporting Standards ("IFRS") or (b) US generally accepted accounting principles ("GAAP"), in either case, which standards or principles (as applicable) are currently used at the applicable time, and as consistently applied, by the applicable Party;
Adaptimmune Background IP	means Background IP Controlled by Adaptimmune or its Affiliates;
Adaptimmune Candidate	means any Candidate (including the Joint Selected Candidate) directed to the Adaptimmune Target;
Adaptimmune Foreground IP	means any Foreground IP Controlled by Adaptimmune or its Affiliates, and as defined further in Article 12;

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Adaptimmune Licensed Know-How	means, as Controlled by Adaptimmune or its Affiliates as of the Effective Date or during the Term, any Intellectual Property Rights specific to any Selected Target, Therapy or Candidate or otherwise necessary for the performance of any Co-Development Plan or for performing any manufacturing or commercialisation activities for such Therapy or Candidate, but in all cases excluding any Patents;
Acquiring Third Party	means a Third Party (including in each case any entity which directly or indirectly controls, is controlled by, or is under common control with such Third Party) which, as at the date of the Change of Control, controls or owns ***
Adaptimmune Licensed Patents	means any Patents Controlled by Adaptimmune or its Affiliates as of the Effective Date or during the Term and which either (a) Cover a Therapy or Joint Selected Candidate or Selected Target, or a method related to use thereof; or (b) which would, in the absence of the licences under this Agreement, be infringed by the performance of the Co-Development Plan or manufacture or commercialisation of any Therapy or Candidate;
Adaptimmune Reserved Activities	is defined in Clause 5.6;
Adaptimmune Target	means the Initial Target or the Target jointly agreed between the Parties to be the Adaptimmune Target for the purposes of development of Adaptimmune Candidates under the Co-Development Phase and as designated in accordance with Clause 4.1.1;
Adaptimmune Technology	shall have the meaning given in Exhibit 4A;
Adaptimmune Therapy	has the meaning provided for in Exhibit 3;
Additional HLA Candidates	means, on a Selected Target-by-Selected Target basis, a Candidate directed to an epitope derived from such Selected Target presented by a different HLA Type than the HLA Type used to develop the Joint Selected Candidate directed to such Selected Target;
Affiliate	means any Person that, directly or indirectly (through one or more intermediaries) controls, is controlled by, or is under common control with a Party. For purposes of this Clause, "control" means the direct or indirect ownership of more than fifty percent (50%) of the voting stock or other voting interests or interest in the profits of the Party;

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

Agreed FTE Rates	means the rates set out in Exhibit 2 as amended by the Parties from time to time.
Agreement	means this Co-Development and Pre-Commercialisation Agreement;
Alliance Manager	means the individual appointed by each Party as the principal point of contact for communication between the Parties under this Agreement;
Applicable Laws	means all applicable international, multi-national, national, regional, state, provincial and local laws, rules, regulations, ordinances, declarations, requirements, directives, guidance, policies and guidelines which are in force during the Term and in any jurisdiction in which any Clinical Trial or other activity under this Agreement is performed or in which any Therapy is manufactured, sold or supplied to the extent in each case applicable to any Party to this Agreement, including, as applicable to activities hereunder, the regulations and regulatory guidance promulgated by the FDA, the Consolidated Guidance E6 on Good Clinical Practice adopted by the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use, as ratified by the FDA, the Clinical Trials Directive (Directive 2001/20/EC of 4th April 2001) and the Data Protection Directive (Directive 95/46/EC of 24th October 1995) and the respective implementing legislation, the conditions and requirements imposed by the related ethics committee and any of the foregoing which relate to ethical business conduct, the import or export of goods, technical data or other items, and data protection and privacy rules, as any of the foregoing may be amended from time to time;

Background IP	means all Intellectual Property Rights Controlled by either Party as of the Effective Date or during the Term, but excluding the Foreground IP;
Bellicum Background IP	means Background IP Controlled by Bellicum or its Affiliates;
Bellicum Candidate	means any Candidate (including the Joint Selected Candidate) directed to the Bellicum Target;
Bellicum Foreground IP	means any Foreground IP Controlled by Bellicum or its Affiliates, and as defined further in Article 12;
Bellicum Licensed Know-How	means, as Controlled by Bellicum or its Affiliates as of the Effective Date or during the Term, any Intellectual Property Rights specific to any Selected Target, Therapy or Candidate or otherwise necessary for the performance of any Co-Development Plan or for performing any manufacturing or commercialisation activities for such Therapy or Candidate, but in all cases excluding any Patents;
Bellicum Licensed Patents	means any Patents Controlled by Bellicum or its Affiliates as of the Effective Date or during the Term and which either (a) Cover a Therapy or Joint Selected Candidate or Selected Target, or a

	method related to use thereof; or (b) which would, in the absence of the licences under this Agreement, be infringed by the performance of the Co-Development Plan or manufacture or commercialisation of any Therapy or Candidate;
Bellicum Reserved Activities	is defined in Clause 5.6;
Bellicum Target	means the Target jointly agreed between the Parties to be the Bellicum Target for the purposes of development of Bellicum Candidates under the Co-Development Phase and as designated in accordance with Clause 4.1.1;
Bellicum Technology	shall have the meaning given in Exhibit 4B;
Candidate	means any starting TCR, as well as any product or Therapy that comprises T cells bearing a corresponding membrane bound exogenous TCR, and in each case which is developed under any Co-Development Plan;
Change of Control	means with respect to a Party, (a) the sale or disposition to an Acquiring Third Party of all or substantially all of the business or assets of such Party to which the subject matter of this Agreement relates, including all of or substantially all of the Licensed Intellectual Property under which such Party has granted rights to the other Party under this Agreement; or (b) (i) the acquisition by an Acquiring Third Party of more than fifty percent (50%) of the issued voting shares or stock in such Party, or (ii) the acquisition, merger or consolidation of such Party with or into an Acquiring Third Party. A Change of Control will not include an acquisition, merger or consolidation or similar transaction of a Party in which the holders of the voting shares in such Party immediately prior to such acquisition, merger, consolidation or transaction, will beneficially own, directly or indirectly, at least fifty percent (50%) of the voting shares in the Acquiring Third Party or the surviving entity in such acquisition, merger, consolidation or transaction, as the case may be, immediately after such acquisition, merger, consolidation or transaction;
Clinical Trial	means a Phase I Clinical Trial, Phase II Clinical Trial, Phase III Clinical Trial, or Phase IV Clinical Trial, as the case may be, and any clinical studies specifically including pediatric subjects, or any other equivalent, combined or other trial in which any Therapy is administered to a human subject;
CMC	means chemistry, manufacturing and control;
Co-Commercialisation Agreement	is defined in Clause 7.2;
CoC Party	is defined in Clause 17.5.4;
Co-Development Phase	means the phases of the Co-Development Plan in which a Candidate or Joint Selected Candidate is being developed including pre-clinical testing and Clinical Trials using such Joint Selected Candidate;

Co-Development Plan	means a program of activities and work for the development of Candidates directed to a Selected Target and including a Joint Selected Candidate;
CMO	means a Third Party with which a Party has contracted to conduct manufacturing (including process development and scale-up) of a Joint Selected Candidate or Therapy on behalf of such Party;
Commercially Reasonable Efforts	means, on a Party-by-Party basis, that level of efforts and resources required to carry out a particular task or obligation in an active and sustained manner, consistent with the general practice followed by the Party in the exercise of its reasonable business discretion relating to other pharmaceutical therapies or products owned by it, or to which it has exclusive rights, which are of similar market potential at a similar stage in their development or life, taking into account issues of patent coverage, safety and efficacy, therapy profile, the competitiveness of any therapy in development and in the marketplace, supply chain management considerations, the proprietary position of the product or therapy, the regulatory structure involved, the profitability of the applicable therapies (including pricing and reimbursement status achieved), and other relevant factors, including technical, legal, scientific and/or medical factors;
Completion	means (a) in relation to any POC Plan or Co-Development Plan, or any phase of any such plan, substantial completion of all activities under such plan or phase of such plan, including as relevant delivery of any final report and the attainment of any mutually agreed success criteria for such phase; and (b) in relation to any Clinical Trial, provision of a final report in relation to such Clinical Trial in accordance with the applicable Clinical Trial protocol;
Confidential Information	means non-public, proprietary information (of whatever kind and in whatever form or medium, including copies thereof), tangible materials or other deliverables (a) disclosed by or on behalf of a Party in connection with this Agreement, whether prior to or during the Term and whether disclosed orally, electronically, by observation or in writing, or (b) created by, or on behalf of, either Party and provided to the other Party, or created jointly by the Parties, in the course of this Agreement; provided, that, notwithstanding the foregoing, to the extent a Party is allocated ownership of Intellectual Property Rights embodied by or containing a given piece of information under this Agreement in accordance with Article 12, such information shall be deemed to be solely the Confidential Information of such Party regardless of which Party initially disclosed or created such information;
Control or **Controlled by**	means the rightful possession by a Party, whether directly or indirectly and whether by ownership, license (other than pursuant to this Agreement) or otherwise, as of the Effective Date or during the Term, of the right (excluding where any required Third Party consent cannot be obtained) to grant a license, sublicense or other right to exploit as provided herein, without violating the terms of any agreement with any Third Party;

Covers or **Covered** or **Covering**	means, with respect to a particular Patent and in reference to a particular compound, process, Candidate or Therapy (whether alone or in combination with one or more other ingredients) that the use, manufacture, sale, supply, import, offer for sale of such compound, Candidate or Therapy or use of such process would infringe a Valid Claim of such Patent in the absence of any license granted under this Agreement or in the case of a patent application would infringe the claim of such patent application if such patent application was a granted patent;
Development Costs	is defined in Clause 10.2.3;
Dispute	is defined in Clause 18.1;
Effective Date	is defined in the Preamble;
EMA	means the European Medicines Agency and any successor thereto;
Enforcement	is defined in Clause 12.6.3;
EU	means the member states of the European Union and Switzerland, or any successor entity thereto performing similar functions;
Exclusive License	is defined in Clause 8.2.1;
FDA	means the US Food and Drug Administration, or any successor entity thereto performing similar functions;

Field	means any and all uses, including human and animal therapeutic, palliative, prophylactic and diagnostic uses, of a product or therapy that comprises T cells bearing a membrane bound exogenous TCR, therefore expressly excluding any product or therapy that comprises soluble TCRs;
Foreground IP	means any Intellectual Property Rights created in the performance of this Agreement including under any POC Plan or Co-Development Plan;
FTE	means the equivalent of the work of one employee full time (equivalent to a twelve month period of work), including experimental laboratory work, recording and writing up results, reviewing literature and references, holding scientific discussions, managing and leading scientific staff, conducting development activities, carrying out related management duties, and training (including health and safety training);
GMP	means all current Good Manufacturing Practices applicable to biopharmaceuticals in the US and/or in the European Union, as are in effect from time to time during the Term and in each case as applicable to the activities being carried out under this Agreement;

GLP	means all applicable current Good Laboratory Practice standards for laboratory activities for pharmaceuticals, as set forth in the FDA's Good Laboratory Practice regulations as defined in 21 C.F.R. Part 58 and/or the Good Laboratory Practice principles of the Organization for Economic Co-Operation and Development ("OECD"), and such standards of good laboratory practice as are required by the European Union and other organizations and governmental agencies in countries in which the relevant activity under this Agreement is being performed;
GxP	means any of the following as applicable to this Agreement: GLP and GMP;
HLA	means a human leukocyte antigen;
HLA Type	means a human leukocyte antigen type;
iCasp9 Switch	means Bellicum's proprietary, inducible iCasp9 safety switch *** that has a binding site which is activated with rimiducid to fully or partially eliminate the cells;
iCasp9 Technology	means any technology utilizing a small molecule to dimerize caspase-9 molecule(s);
iMC Switch	means Bellicum's proprietary, inducible iMC safety switch *** that has a binding site which is activated with rimiducid to fully or partially eliminate the cells;
iMC Technology	means any technology utilizing a small molecule to dimerize co-stimulatory molecule(s);
IND	means an investigational new drug application filed with the FDA pursuant to 21 CFR Part 312 before the commencement of Clinical Trials of a Therapy, or any comparable or equivalent filing (including any Clinical Trial Authorization filed in the EU) with any relevant regulatory authority in any other jurisdiction required before the commencement of any Clinical Trial in such jurisdiction;
Indemnitee	is defined in Clause 16.3;
Indemnitor	is defined in Clause 16.3;
Infringement	is defined in Clause 12.6.1;
Initial Success Criteria	means the criteria mutually agreed between the Parties in writing, the fulfillment of which indicate initial success in POC Phase;

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Intellectual Property Rights	means Patents, rights to discoveries, inventions, copyrights and related rights, trademarks, trade names and domain names, rights in designs, rights in computer software, database rights, rights in confidential information (including know-how) and any other intellectual property rights, in each case whether registered or unregistered and including all applications (or rights to apply) for, and renewals or extensions of, such rights and all similar or equivalent rights or forms of protection which subsist or will subsist now or in the future in any part of the world;

JCC	is defined in Clause 2.4.1;
JDC	is defined in Clause 2.3.1;
Joint IP	is defined in Clause 12.1.2;
Joint Selected Candidate	means a Candidate selected by the JDC for pre-clinical development in accordance with Clause 5.1.5, and includes any Candidate that is mutually agreed to replace any previously designated Joint Selected Candidate in accordance with Clause 5.1.5;
JPT	is defined in Clause 2.5;
JSC	is defined in Clause 2.2.1;
Licensed Intellectual Property	means, as applicable, the Bellicum Licensed Know-How, Bellicum Licensed Patents, Adaptimmune Licensed Know-How and Adaptimmune Licensed Patents;
Loss or **Losses**	is defined in Clause 16.1;
MAA or **Marketing Approval Application**	means a BLA, sBLA, NDA, sNDA and any equivalent thereof in the US or any other country or jurisdiction. As used herein: "**BLA**" means a Biologics License Application and amendments thereto filed pursuant to the requirements of the FDA, as defined in 21 C.F.R. § 600 et seq., for FDA approval of a Therapy and "**sBLA**" means a supplemental BLA; and "**NDA**" means a New Drug Application and amendments thereto filed pursuant to the requirements of the FDA, as defined in 21 C.F.R. § 314 et seq., for FDA approval of a Therapy and "**sNDA**" means a supplemental NDA;
Non-Publishing Party	is defined in Clause 14.4.1;
Opt-Out Candidate/ Therapy	Is defined in Clause 17.2.1;
Party or **Parties**	is defined in the Preamble;

Patent(s)	means any and all patents and patent applications and any patents issuing therefrom or claiming priority therefrom, worldwide, together with any extensions (including patent term extensions and supplementary protection certificates) and renewals thereof, reissues, reexaminations, substitutions, confirmation patents, registration patents, invention certificates, patents of addition, renewals, divisionals, continuations, and continuations-in-part of any of the foregoing;
Person	means an individual, sole proprietorship, partnership, limited partnership, limited liability partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated association, joint venture or other similar entity or organization;
Phase I Clinical Trial	means a human clinical trial, the principal purpose of which is preliminary determination of safety of a Therapy in healthy individuals or patients as described in 21 C.F.R. §312.21(a), or similar clinical study in a country other than the US;
Phase II Clinical Trial	means a human clinical trial, the principal purpose of which is a preliminary determination of efficacy of a Therapy in patients being studied as described in 21 C.F.R. §312.21(b), or similar clinical study in a country other than the US; provided, that, to the extent there is any ambiguity as to whether a given human clinical trial constitutes a Phase II Clinical Trial or a "Phase I(b)" clinical trial, such trial shall be a Phase II Clinical Trial for the purposes of this Agreement;
Phase III Clinical Trial	means a human clinical trial, the principal purpose of which is to demonstrate clinically and statistically the efficacy and safety of a Therapy for one or more indications in order to obtain Marketing Approval of such Therapy for such indication(s), as further defined in 21 C.F.R. §312.21(c) or a similar clinical study in a country other than the US; provided, that, to the extent there is any ambiguity as to whether a given human clinical trial constitutes a Phase III Clinical Trial or a "Phase II(b)" clinical trial, such trial shall be a Phase III Clinical Trial for the purposes of this Agreement;

Phase IV Clinical Trial	means a human clinical trial, or other test or study, of a Therapy that is (a) commenced after receipt of the initial Regulatory Approval for such Therapy in the country for which such clinical trial is being conducted, and that is conducted within the parameters of the Regulatory Approval for such Therapy (and which may include investigator sponsored clinical trials), including a clinical trial conducted due to the request or requirement of a Regulatory Authority or as a condition of a previously granted Regulatory Approval, but shall not include any Phase III Clinical Trial (including any "Phase III(b)" trial), (b) an investigator sponsored clinical trial approved by the JCC that does not fall within the parameters of a Therapy's Regulatory Approval, or (c) any REMS (Risk Evaluation and Mitigation Strategy)/RMP (Risk Management Plan) related study of a Therapy in a country in the Territory after Regulatory Approval of such Therapy has been obtained from an appropriate Regulatory Authority in such country. Phase IV Clinical Trials may include trials or studies conducted in support of post-Regulatory Approval exploitation of such Therapy (for example only, pricing/reimbursement, epidemiological studies, modeling and pharmacoeconomic studies, post-marketing surveillance studies and health economics studies);
POC Criteria	means the criteria mutually agreed between the Parties in writing the fulfillment of which will constitute successful Completion of the POC Phase;
POC Phase	means the initial proof of concept phase performed in accordance with the POC Plan;
POC Plan	means the plan for the POC Phase as set out in Exhibit 1 as amended from time to time in accordance with this Agreement;
POC Target	means the Target that is the subject of the POC Plan;
Prosecute or **Prosecute and Maintain** or **Prosecution and Maintenance**	means, with respect to a Patent, all activities associated with the preparation, filing, prosecution and maintenance of such Patent , as well as activities associated with re-examinations, reissues, applications for patent term adjustments and extensions, supplementary protection certificates and the like with respect to that Patent, together with the conduct of interferences, derivation proceedings, pre- and post-grant proceedings, the defense of oppositions and other similar proceedings with respect to that Patent;
Prosecuting Party	means the Party responsible for Prosecution under Clauses 12.2 and 12.3 of this Agreement;
Publishing Party	is defined in Clause 14.4.1;
Quality Agreement	means, as relevant in the context of this Agreement, a written agreement that documents the responsibilities and quality expectations between (a) Bellicum and any internal or external supplier, contract manufacturer or service provider (including, to the extent applicable, Adaptimmune) or (b) Adaptimmune and any internal or external supplier, contract manufacturer or service provider (including, to the extent applicable, Bellicum);

Regulatory Approval	means the technical, medical and scientific licenses, registrations, authorizations and approvals required for marketing or use of a Therapy (including approvals of, BLAs, IND applications, pre- and post- approvals, and labeling approvals and any supplements and amendments to any of such approvals) of any national, supra-national, regional, state or local regulatory agency, department, bureau, commission, council or other governmental entity, necessary for the development, manufacture, distribution, marketing, promotion, offer for sale, use, import, export or sale of a Therapy in a regulatory jurisdiction. In the US, Regulatory Approval means approval of any Marketing Approval Application or equivalent by the FDA. Regulatory Approval shall include obtaining any pricing reimbursement or other pricing approval requirement;
Regulatory Authority	means the FDA, EMA, any other regulatory authority or body with regulation or governance over the performance of any part of the activities under this Agreement;
Release	is defined in Clause 14.1;

Reserved Activities	is defined in Clause 5.6;
Rules	is defined in Clause 18.2.1;
SAE	means a serious adverse effect resulting from any Clinical Trial or administration of a Therapy;
Selected Target	is defined in Clause 4.1.2;
Sublicensee	means a Third Party or Affiliate who has been granted a sublicense under any license under this Agreement;
SUSAR	means a suspected unexpected serious adverse reaction resulting from any Clinical Trial or administration of any Therapy to a human being;
Target	means the protein from which a peptide antigen is derived to form an HLA-peptide antigen epitope (including all HLA Types);
Target List	is defined in Clause 3.1.3;
TCR	means T-cell receptor;
Term	is defined in Clause 17.1;
Therapy	means a therapy (including T cell products and the production and/or delivery of T cells to human or animal subjects) utilising the genetic engineering of T-cells to express an affinity-optimized membrane bound exogenous TCR, and comprising a Joint Selected Candidate;

Third Party	means any entity other than Adaptimmune or Bellicum or an Affiliate of either of them;
Third Party Claims	is defined in Clause 16.1;
Third Party Infringement Claim	is defined in Clause 12.7.1;
Title 11	is defined in Clause 17.4;
US	means the United States of America and its territories and possessions;
Valid Claim	means, with respect to a particular country, a claim in an unexpired Patent within the Licensed Intellectual Property in such country that has not lapsed or been disclaimed, revoked, held unenforceable, unpatentable or invalid by a decision of a court or other governmental agency of competent jurisdiction, unappealable or unappealed within the time allowed for appeal, and that has not been admitted to be invalid or unenforceable through re-examination, re-issue, disclaimer or otherwise, or lost in an interference proceeding; and
VAT	means, in the EU, value added tax calculated in accordance with Council Directive 2006/112/EC and, in a jurisdiction outside the EU, any equivalent tax.

ARTICLE 2 GOVERNANCE

2.1 **Governance Generally**. Up to three (3) voting committees (the JSC, JDC and JCC) may be formed, and two non-voting teams (one for the Adaptimmune Candidate and one for the Bellicum Candidate; each, a JPT) will be set up, to govern and act as reporting bodies during the Term.

2.2 **Joint Steering Committee**.

2.2.1 **Formation and Composition**. As soon as reasonably possible and in any event within *** after the Effective Date, Adaptimmune and Bellicum shall establish a joint steering committee (the "**JSC**") to monitor and coordinate the communication and activities of both Parties under this Agreement. The JSC shall be composed of at least *** but no more than *** representatives designated by each Party and in each case an equal number of representatives from each Party. Representatives must be appropriate for the tasks then being undertaken and the stage of development or commercialisation applicable, in terms of their seniority, decision-making authority, availability, function in their respective organizations, training and experience. Each Party may replace its JSC representatives from time to time upon written notice to the other Party; provided, however, if a Party's JSC representative is unable to attend a JSC meeting, such Party may designate an alternate to attend such JSC meeting by providing notification in writing to the other Party's Alliance Manager and following provision of such written notification the alternate will be entitled to perform the functions of such JSC representative at such JSC meeting. The Alliance Managers may attend meetings of the JSC but shall have no right to vote on any decisions of the JSC.

2.2.2 **JSC Responsibilities**. In addition to its overall responsibility for monitoring the

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activities of the Parties under this Agreement, the JSC shall, in particular:

(a) work to resolve, through good faith discussions, any dispute, controversy or claim between the Parties arising during the performance of any POC Plan or Co-Development Plan and related to the matters under the authority of the JSC;

(b) review and, pending or after consultation of a Party's JSC representatives with its own management team regarding any material changes in an existing allocation, approve the allocation of each Party's resources and efforts necessary to perform the POC Plan or Co-Development Plan to the extent not agreed by the applicable JPT;

(c) review and approve any material amendments to any POC Plan or Co-Development Plan proposed by the JDC or the applicable JPT;

(d) review and approve any criteria (and amendments to such criteria) for development of any Candidate including criteria required for any Candidate to proceed to the next phase of development;

(e) oversee the implementation of the POC Phase;

(f) oversee the implementation of the Co-Development Plan(s);

(g) ensure that each Party is regularly informed regarding all material activities performed by the other Party under any Co-Development Plan(s), and all material re-allocations under and/or amendments to any POC Plan or Co-Development Plan;

(h) perform such other functions as may be agreed to by the Parties in writing (in each case subject to Clause 2.3) or as specified in this Agreement.

2.2.3 **Decision making for JSC**. Each Party will discuss and attempt to resolve any potential or evolving disagreement related to a POC Plan or Co-Development Plan through its respective Alliance Managers and/or the applicable JPT before it is brought before the JSC for resolution. With respect to the responsibilities of the JSC, each Party shall have one vote on all matters brought before the JSC. The JSC shall operate as to matters within its responsibility by unanimous vote. ***

. If the JSC is unable to achieve a unanimous vote within *** of any matter being brought before the JSC , then such matter may be referred in writing to the Alliance Managers under Clause 18.1 at either Party's discretion; provided, that, for clarity, the arbitration provisions in Clause 18 shall not apply and, unless otherwise provided explicitly in this Agreement, neither Party shall have final decision-making authority with respect to such matter. Unless otherwise provided explicitly in this Agreement and subject to Clause 2.2.4, where any decision regarding such disagreement is not made within a period of *** of such referral to the Party's Alliance Managers in accordance with Clause 18.1 then:

(i) In the case of a decision ***

decision-making authority;

(ii) in the case of a decision ***
decision-making authority;

(iii) in the case of a decision ***

decision-making authority;

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(iv) in the case of a decision ***

decision-making authority.

2.2.4 Any JSC decisions, any decisions of the Party's senior managers under Clause 2.2.3, and any decision-making authority exercised by a Party under Clause 2.2.3, are subject to the following: (i) neither the JSC, the senior managers nor either Party shall have the unilateral or overriding authority to amend or modify, or waive a Party's own compliance with, this Agreement including in relation to the scope or terms of any license to Intellectual Property Rights; and (ii) ***

; and (iii) neither the JSC, the senior managers nor either Party will have the unilateral or overriding authority to amend any POC Plan or Co-Development Plan in any way which would introduce additional safety or ethical concerns in relation to any Clinical Trial; and (iv) neither the JSC, the senior managers nor either Party will have the unilateral or overriding authority to require the other Party to carry out any act which it is not already required to perform under any Co-Development Plan.

2.3 **Joint Development Committee**.

2.3.1 **Formation and Composition**. As soon as reasonably possible after *** , Adaptimmune and Bellicum shall establish a joint development committee (the "**JDC**") to monitor and coordinate the communication and activities of both Parties under each Co-Development Plan. The JDC shall be composed of at least *** but no more than *** representatives designated by each Party and in each case an equal number of representatives from each Party. Representatives must be appropriate for the tasks then being undertaken and the applicable stage of research, pre-clinical development or clinical development, in terms of their seniority, decision-making authority, availability, function in their respective organisations, training and experience. Each Party may replace its JDC representatives from time to time upon written notice to the Alliance Manager of the other Party; provided, however, if a Party's JDC representative is unable to attend a JDC meeting, such Party may designate an alternate to attend such JDC meeting by providing notification in writing to the other Party's Alliance Manager and following provision of such written notification the alternate will be entitled to perform the functions of such JDC representative at such JDC meeting. The Alliance Managers may attend meetings of the JDC but shall have no right to vote on any decisions of the JDC.

2.3.2 **JDC Responsibilities for a Co-Development Plan**. The JDC shall have overall responsibility for monitoring the activities of the Parties under this Agreement during co-development (including Clinical Trials) of any Joint Selected Candidates or Therapies containing any Joint Selected Candidates. The JDC shall, in particular:

(a) work to resolve, through good faith discussions, any dispute, controversy or claim related to the matters under the authority of the JDC;

(b) approve each initial POC Plan and Co-Development Plan and recommend to the JSC any material changes to the POC Plan or a Co-Development Plan, including updating the POC Plan or a Co-Development Plan;

(c) monitor performance of the POC Plan or any Co-Development Plan;

(d) review any data arising from any Clinical Trials being conducted under a Co-Development Plan, including any SUSARs and SAEs;

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(e) discuss any material regulatory submissions or material correspondence related to Therapies containing a Joint Selected Candidate;

(f) discuss protocols for any Clinical Trial of a Therapy utilising a Joint Selected Candidate, including patient numbers, location numbers, Clinical Trial site and any modifications or amendments to such protocols;

(g) receive reports on any investigation or audit carried out by either Party or by any Regulatory Authority, to the extent such investigation or audit is initiated in connection with any Joint Selected Candidate or any Therapy utilising a Joint Selected Candidate or any facility used for the manufacture of such Joint Selected Candidate or such Therapy, or any Clinical Trial involving such Joint Selected Candidate or such Therapy; and

(h) report to the Parties on the progress of any corrections to any identified non-compliances with Applicable Laws to the extent relevant to any Co-Development Plan.

2.3.3 **JDC Decision Making**.

(a) With respect to the responsibilities of the JDC, each Party shall have one vote on all matters brought before the JDC and the JDC shall operate by unanimous vote. If the JDC is unable to achieve a unanimous vote within *** of any matter being brought before the JDC, then such matter may be referred in writing to the JSC at either Party's discretion. Each Party shall make decisions within the JDC in good faith and on a timely basis; provided that any JDC decisions shall be subject to the conditions applied to JSC decisions, as set forth in Clause 2.2.4, and to Clause 5.7.

2.4 **Joint Commercialisation Committee**.

2.4.1 **Formation and Composition**. In the event that a Phase III Clinical Trial for a Therapy utilising a Joint Selected Candidate is initiated, as soon as reasonably practicable after ***

, Adaptimmune and Bellicum shall establish a joint commercialisation committee (the "**JCC**"). As of the Effective Date, the Parties anticipate that the JCC will monitor and coordinate the communication and activities of both Parties relating to the further supply, manufacture and commercialisation of such Therapy utilising a Joint Selected Candidate, and any subsequent Therapies containing a Joint Selected Candidate that enter Phase III Clinical Trials. Unless otherwise set forth in a Co-Commercialisation Agreement executed by the Parties, the JCC shall function in accordance with the remainder of this Clause 2.4 (for clarity, to the extent this Clause 2.4 is inconsistent with the Co-Commercialisation Agreement, the Co-Commercialisation Agreement shall control). The JCC shall be composed of at least *** but no more than *** representatives designated by each Party and in each case an equal number of representatives from each Party. Representatives must be appropriate for the tasks then being undertaken and the stage of development and commercialisation, in terms of their seniority, decision-making authority, availability, function in their respective organisations, training and experience. Each Party may replace its JCC representatives from time to time upon written notice to the Alliance Manager of the other Party; provided, however, if a Party's JCC representative is unable to attend a JCC meeting, such Party may designate an alternate to attend such JCC meeting by providing notification in writing to the other Party's Alliance Manager and following provision of such written notification the alternate will be entitled to perform the functions of such JCC representative at such JCC meeting. The Alliance Managers may attend meetings of the JCC but shall have no right to vote on any decisions of the JCC.

2.4.2 **JCC Responsibilities**. In addition to its overall responsibility for monitoring the

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activities of the Parties under this Agreement with respect to Therapies containing a Joint Selected Candidate, following initiation of Phase III Clinical Trials thereof and during the supply, manufacture and commercialisation of any Therapy utilising a Joint Selected Candidate resulting from such Phase III Clinical Trials, the JCC shall, in particular, with respect to each such Therapy utilising such Joint Selected Candidates):

(a) review and approve an initial worldwide commercialisation plan;

(b) review and approve changes to the then-current worldwide commercialisation plan;

(c) receive reports regarding material submissions to Regulatory Authorities pertaining to any Therapy utilising a Joint Selected Candidate, as needed;

(d) review manufacturing and commercial supply plans pertaining to any Therapy utilising a Joint Selected Candidate ;

(e) review and, to the extent permitted by Applicable Laws, approve any applicable policies with respect to pricing reimbursement required for sale and supply of any Therapy utilising a Joint Selected Candidate;

(f) subject to the Co-Commercialisation Agreement, discuss and agree to mechanisms for co-promotion of any Therapy utilising a Joint Selected Candidate in those specific countries where co-promotion will occur in accordance with the Co-Commercialisation Agreement;

(g) discuss pre-marketing and marketing activities pertaining to any Therapy utilising such Joint Selected Candidate;

(h) discuss launch of any Therapy utilising such Joint Selected Candidate;

(i) receive from each Party reports on Net Sales of any Therapy utilising such Joint Selected Candidate; and

(j) perform such other responsibilities as are assigned to the JCC in this Agreement or in the Co-Commercialisation Agreement.

2.4.3 **Decision making for JCC**. Each Party will discuss and attempt to resolve any potential or evolving disagreement related to commercialisation of any Therapy utilising a Joint Selected Candidate through its Alliance Managers before it is brought before the JCC for resolution. With respect to the responsibilities of the JCC, each Party shall have one vote on all matters brought before the JCC. Each JCC shall operate as to matters within its responsibility by unanimous vote. Each Party shall make decisions in good faith and on a timely basis, provided that any JCC decisions shall be subject to the conditions applied to JSC decisions, as set forth in Clause 2.2.4. If the JCC is unable to achieve a unanimous vote within *** of any matter being brought before the JCC, then such matter may be referred to Alliance Managers under Clause 18.1 at either Party's discretion. Where any matter or dispute remains unresolved for a further *** after such referral, the matter or dispute may be referred in writing to the JSC at either Party's discretion.

2.5 **JPT**. The Parties shall also set-up up joint project teams for each Party's Candidates (each, a " **JPT**") as and when required, the first to be set up as soon as practicable after ***

. Each JPT shall be specific to a Selected Target and to the corresponding Co-Development Plan, save that the Parties may nominate the same representatives to be present on more than one JPT. The JPT for each Selected Target and corresponding Co-Development Plan shall be responsible for governing the day to day performance of the relevant Co-Development Plan including ensuring that activities thereunder are performed in accordance with the approved timelines and budgets and, as

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relevant, agreeing to any non-material changes to such Co-Development Plan and for producing the final report and recommendations on completion of the relevant Co-Development Plan. The Parties shall each nominate up to *** representatives (and in each case an equal number of representatives) to represent it on each JPT. Each Party may replace its JPT representatives from time to time upon written notice to the other Party; provided, however, if a Party's JPT representative is unable to attend a JPT meeting, such Party may designate an alternate to attend such JPT meeting by providing notification in writing to the other Party's representatives on such JPT and following provision of such written notification the alternate will be entitled to perform the functions of such JPT representative at such JPT meeting. The JPT shall report regularly to the JDC. The final report and recommendations following completion of any phase of a Co-Development Plan shall be provided to the JDC within a maximum of *** following completion of the relevant phase and the Parties shall provide all support to the applicable JPT as may be reasonably necessary to meet such timelines. The JPT in relation to any Selected Target shall automatically cease to exist on completion or termination of the Co-Development Plan for such Selected Target.

2.6 **Ad-hoc Committees**. The JSC, JDC or JCC, as appropriate, may also authorise the setting up of sub-committees in relation to particular or specific aspects of any Co-Development Plan or other performance of this Agreement, for example CMC. Such sub-committees shall act in the same way as the JPT and regularly report into the relevant JSC, JDC or JCC.

2.7 **Meetings**.

2.7.1 **JSC Meetings**. During the POC Phase and Co-Development Phase, the JSC shall meet at least *** at Adaptimmune's facilities in Abingdon, Oxfordshire, England or at Bellicum's facilities in Houston, TX, USA, or via teleconference or otherwise, in each case as agreed by the JSC. During the Co-Commercialisation Phase, the JSC shall meet at least *** at Adaptimmune's facilities in Abingdon, Oxfordshire, England or at Bellicum's facilities in Houston, TX, USA, or via teleconference or otherwise, in each case as agreed by the JSC. Where possible, meetings will be held by telephone conference with only *** meetings per *** being face to face and at either Adaptimmune's or Bellicum's facility, unless the Parties decide otherwise. Where necessary, for example to resolve any dispute or to agree upon changes to any POC Plan or Co-Development Plan, the JSC shall meet more frequently.

2.7.2 **JCC and JDC Meetings**. The JCC or JDC shall meet at least *** at Adaptimmune's facilities in Abingdon, Oxfordshire, England or at Bellicum's facilities in Houston, TX, USA, or via teleconference or otherwise, in each case as agreed by the JDC or JCC. Where possible, meetings will be held by telephone conference with only *** meetings per *** being face to face and at either Adaptimmune's or Bellicum's facility, unless the Parties decide otherwise. Where necessary, for example to resolve any dispute or to agree upon changes to any Co-Development Plan, as applicable, the JDC shall meet more frequently. The JCC shall meet more regularly where reasonably necessary.

2.7.3 **Meeting Agendas and Minutes**. Not later than *** after each of the JSC, JDC, JCC and/or JPT, as applicable, are formed, the respective committees shall each hold an organizational meeting by videoconference or teleconference to establish their respective operating procedures, including establishment of agendas, and preparation and approvals of minutes. The Parties shall alternate responsibility for taking the meeting minutes; provided that Bellicum shall be responsible for taking the meeting minutes at the first meeting of each committee or team. Meeting minutes shall be sent to both Parties promptly (and in any event within ***) after a meeting for review, comment and approval by each Party. Where minutes are not approved by both Parties, the dispute shall be resolved at the next committee or team meeting. A decision that is made at any meeting shall be recorded in meeting minutes.

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2.7.4 **General**. Employees of each Party, other than its nominated committee or team representatives, may attend meetings of the JSC, JDC, JCC or JPT as applicable, as non-voting participants. A Party's consultants and advisors involved in a POC Plan or Co-Development Plan may attend meetings of the JSC, JDC, JCC or JPT as non-voting observers; provided that such consultants and advisors are under obligations of confidentiality and non-use applicable to the Confidential Information of the other Party as required by Clause 13.3(e). Each Party shall be responsible for all of its own expenses of participating in the JSC, JDC, JCC or JPT. In addition each Party may nominate the same individuals as representatives on multiple committees.

2.8 **Dissolution.**

2.8.1 **Dissolution of JSC**. The JSC shall dissolve on termination of this Agreement or by mutual agreement of the Parties.

2.8.2 **Dissolution of JDC**. The JDC shall automatically dissolve on completion of all Co-Development Plans or, if earlier, termination of this Agreement.

2.8.3 **Dissolution of JCC**. The JCC shall continue for so long as there is any Joint Selected Candidate (or Therapies containing such Joint Selected Candidates) undergoing Phase III Clinical Trials and/or being commercialized hereunder and, at such time as there are no Joint Selected Candidates (or Therapies containing such Joint Selected Candidates) undergoing Phase III Clinical Trials and/or being commercialized hereunder, the JCC will have no further responsibilities or authority under this Agreement and the JCC will be deemed dissolved by the Parties. The JCC will also be deemed dissolved by the Parties if all Co-Development Plans are terminated or if all Therapies resulting from any Co-Development Agreement fail to obtain at least one Regulatory Approval in at least one country.

2.8.4 **Dissolution of JPT**. Each JPT will be deemed dissolved by the Parties on completion or termination of the applicable Co-Development Plan.

2.8.5 **Dissolution of Ad-hoc sub-committees**. Each Ad-hoc sub-committee will be deemed dissolved by the Parties on completion of the relevant activity in relation to which the sub-committee was set up.

2.9 **Alliance Managers**. Within *** of the Effective Date, each Party shall appoint an Alliance Manager to be the principal point of contact for communications under this Agreement. The Alliance Managers shall facilitate the flow of information and collaboration between the Parties and assist in the resolution of potential and pending issues and potential disputes in a timely manner to enable the JSC, JDC, JCC and JPT, in each case for so long as such committee(s) are in existence, and the Parties to reach consensus and avert escalation of such issues or potential disputes. Either Party may replace its Alliance Manager at any time upon prior written notice (including by email) to the other Party's Alliance Manager. Each Party shall ensure that its Alliance Manager is capable of performing the obligations required of an Alliance Manager under this Agreement.

ARTICLE 3 POC PHASE

3.1 **Commencement of POC Phase**

3.1.1 Within *** of the Effective Date (or such longer time as mutually agreed by the Parties in writing), the Parties shall commence activities in furtherance of the POC Plan. The POC Plan will describe with specificity *** . As of ***

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. Each Party will perform a battery of tests during the POC Phase, as set forth in greater detail in the POC Plan, with the intention that the Parties will conduct mirrored testing where practicable.

3.1.2 Adaptimmune and Bellicum shall use Commercially Reasonable Efforts to perform the activities assigned to them under the POC Plan in accordance with the agreed timescales, including making resources available as and when required and supplying any product, equipment or materials as and when required for performance of the POC Plan. Each Party shall reasonably assist the other Party to facilitate the performance of the POC Plan. Each Party is responsible for the costs incurred by it in performing activities assigned to it under the POC

Plan.

3.1.3 As part of the performance of the POC Plan, and with respect to Targets other than the POC Target, the Parties will jointly identify Target criteria that will support the Parties' development and commercialization of viable Candidates. On achievement of Initial Success Criteria for the POC Phase and following mutual agreement to the related Target criteria identified in accordance with this Clause 3.1.3, Adaptimmune will provide to Bellicum a list of at least *** Targets ("**Target List**") and supporting validation information, with the mutually desired objective that such Targets on the Target List will meet the agreed Target criteria. Bellicum understands that the Targets on the Target List provided by Adaptimmune will be provided from its internal Target projects and that not all provided Targets will be fully validated; however, as part of Adaptimmune's identification and presentation of the Target List, the Parties will reach a consensus as to what constitutes "validation" of a Target, and then Bellicum will have a right to review all of Adaptimmune's available documentation for each such Target, including but not limited to information relevant to Target validation status. Adaptimmune will select the Targets on the Target List for provision to Bellicum in good faith. The Parties will work together to agree upon which Targets from the Target List may be selected for further validation and development of Candidates during any subsequent Co-Development Phase.

3.1.4 Subject to the limitations set forth in Clause 2.2.4 (as applied to the JDC), and subject to Clauses 2.3.2(b) and 5.7, the JDC may amend in writing the POC Plan from time to time as the POC Phase progresses and results become available.

3.2 **Subcontractors**. A Party may subcontract portions of its work under the POC Plan to (i) any Affiliate or (ii) Third Parties; provided, that such subcontract is in writing and is consistent with the terms and conditions of this Agreement including the confidentiality provisions of Article 13 and any rights granted to such subcontractor are restricted to only those rights necessary for performance by such subcontractor of the portions of work on behalf of such subcontracting Party. Such subcontracting Party will remain fully responsible (at its cost) for all acts or omissions of any subcontractor it appoints (including any acts or omissions which result in a breach of the terms of this Agreement) and shall ensure that each subcontractor complies with the terms and conditions of this Agreement.

3.3 **Progress Reports**. Each Party shall keep the other Party (through the JPT and JDC) informed of its activities, results and accomplishments under the POC Plan and shall provide to the other Party's representatives on the JDC regular written summary updates (for example Word or Powerpoint documents) at each JDC meeting. All such reports, information and data provided by a Party shall be considered the providing Party's Confidential Information.

3.4 **Completion of POC Phase**. Completion of the POC Phase shall occur on *** under the POC Plan, or upon a JDC decision that no further activities are required ("**POC Phase Completion**"). Where POC Phase Completion has not been met within a period of *** from the estimated date of POC Phase Completion in accordance with the POC Plan, or where either Party believes at any time on a reasonable and scientifically supported basis that the Initial Success Criteria or POC Criteria will not be met, the Parties (whether directly or through a

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meeting of the JSC or JDC) shall discuss and mutually agree whether any further proof of concept work should be conducted (for example, in relation to an alternative Candidate or an alternative Target), or whether the POC Plan should terminate. Any termination of the POC Plan shall result in termination of this Agreement (and in this event, Clause 17.7 shall apply), and there shall be no obligation on either Party to carry out any further proof of concept work on any alternative Candidate or Target.

3.5 **Progression to Co-Development Phase**. Within *** of the date of POC Phase Completion, Adaptimmune shall provide to Bellicum *** . The Adaptimmune *** will be reviewed by the JDC and JSC, and the Parties will discuss in good faith and will mutually agree whether or not to proceed to the Co-Development Phase; provided that neither Party is required to proceed to the Co-Development Phase under discussion. The date of such mutual agreement of the Parties to proceed to the Co-Development Phase, as evidenced by minutes of the applicable JSC meeting, shall constitute "**Co-Development Start**". Where the JSC does not and/or the Parties do not agree to proceed to the Co-Development Phase within *** of provision of such Adaptimmune *** and the POC Phase results by Adaptimmune, then this Agreement shall automatically terminate in accordance with Clause 17.5 (and in this event, Clause 17.7 shall apply).

ARTICLE 4 SELECTION OF TARGETS

4.1 **Selected Targets**.

4.1.1 **Selected Target Identification**. During the POC Phase, the Parties shall consult on and discuss at the JSC any Target being considered by a Party, either by selection from the Target List or the POC Target. The JSC shall agree upon which two Targets will be selected for co-development. The date of such selection by the JSC, as evidenced in minutes of the applicable JSC meeting, shall be the "**Acceptance Date**" for such two Targets. The JSC shall also designate which of the two Selected Targets is the Bellicum Target and which is the Adaptimmune Target. Agreement of the JSC on both Selected Targets must, unless otherwise mutually agreed between the Parties in writing, be made at the latest by *** from Co-Development Start. Notwithstanding the foregoing, ***

4.1.2 **Target Exclusivity**. On the Acceptance Date, each of the two selected Targets shall thereafter be designated as a " **Selected Target**". As

of the Acceptance Date, a Selected Target will not be made available by Adaptimmune or Bellicum to any Third Party for development, and Adaptimmune will not develop any TCRs or Therapies to such Selected Targets for itself or for or on behalf of any Third Party.

4.1.3 **Target List**. Only Targets set out on the Target List shall be eligible for selection as a Selected Target.

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ARTICLE 5 CO-DEVELOPMENT PLAN

5.1 **Co-Development Plan**.

5.1.1 Within *** after the Acceptance Date (or such longer time as mutually agreed by the Parties in writing) with respect to a given Selected Target, the JPT shall draft and agree upon a Co-Development Plan for the generation of Candidates directed to each Party's Selected Target, which plan is intended to generate the data necessary to support an IND filing for such Party's Joint Selected Candidate. No activities will be performed in connection with a proposed Co-Development Plan (and accordingly, no costs will be incurred under Clause 10.2) before the applicable JPT has agreed upon such Co-Development Plan. Each of the two Co-Development Plans shall:

(a) be prepared on a global basis;

(b) include the responsibilities of each of the Parties under the Co-Development Plan including as relates to any manufacture of Therapy for Clinical Trials;

(c) include a high level plan setting out an anticipated route (including Phase III Clinical Trials and other required trials) to obtain Regulatory Approval for such Therapy including estimated timelines and estimated budget; and

(d) include the basis for calculation of any budgeted costs, including relevant FTE and FTE Rate information to be applied to such budget (which FTE Rate(s) shall be used to calculate any Development Costs reimbursable in accordance with Clause 10).

5.1.2 Under each Co-Development Plan, each Party shall use Commercially Reasonable Efforts to perform any part of the Co-Development Plan assigned to it, including making resources available as and when required and supplying any product, equipment or materials as and when required and specified under the Co-Development Plan. The Parties may supplement the terms of this Agreement, as necessary, with terms relating to manufacture and supply, quality and/or any other terms deemed necessary or reasonably useful by a Party to govern the Parties' co-development of such Party's respective Candidate. The Parties will negotiate any such supplemental terms in good faith and on a timely basis to prevent any unreasonable delay to activities performed under the Co-Development Plan.

5.1.3 Under each Co-Development Plan, Adaptimmune shall use Commercially Reasonable Efforts to develop and validate starting TCRs (" **Initial Candidates**") directed to each Party's Selected Target within the timescales agreed for the relevant Co-Development Plan. ***

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5.1.4 Subject to Clause 2.3.2(b), Clause 2.3.3 (which references the limitations set forth in Clause 2.2.4) and Clause 5.7, the JDC may amend in writing the Co-Development Plan for each Party's Initial Candidate and Joint Selected Candidate from time to time and will regularly update the Parties' Co-Development Plans as each phase of the plan progresses. It is envisioned that after ***

. Exhibit 6 outlines the anticipated responsibilities of each Party for any Co-Development Plan but may be amended for any particular Co-Development Plan.

5.1.5 The JDC shall also agree upon the criteria for any Initial Candidate to proceed

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through each Co-Development Phase and in particular the criteria for designation of an Initial Candidate as a Joint Selected Candidate for progression into preclinical development and onwards into Clinical Trials. Initial criteria are set out in Exhibit 7 and these will be amended and reviewed by the JDC as appropriate. Only one Joint Selected Candidate shall proceed to pre-clinical development for any Co-Development Plan at any one time, and an alternative Candidate will only be selected for pre-clinical development where such initial Joint Selected Candidate fails to achieve the agreed criteria for completion of pre-clinical development (such alternative Candidate will be deemed the Joint Selected Candidate upon replacement of the original Joint Selected Candidate). ***

.

5.2 **Subcontractors**. Each Party may subcontract portions of its work under the Co-Development Plan to (i) any Affiliate or (ii) Third Parties; provided in the case of a Third Party, (a) there are no reasonably based objections from the other Party regarding the use of said subcontractor, and (b) such subcontract is in writing and is consistent with the terms and conditions of this Agreement including the confidentiality provisions of Article 13 and any

rights granted to such subcontractor are restricted to only those rights necessary for performance by such subcontractor of the portions of work on behalf of the sub-contracting Party. The sub-contracting Party will remain fully responsible (at its cost) for all acts or omissions of any subcontractor it appoints (including any acts or omissions which result in a breach of the terms of this Agreement) and shall ensure that each subcontractor complies with the terms and conditions of this Agreement. Each Party shall notify the other Party in writing of any sub-contractor appointments other than Affiliates. In addition, either Party may audit any sub-contractor appointed by the other Party prior to such sub-contractor being appointed to perform any part of any Co-Development Plan, and on provision of written notice within *** of a Party becoming aware of such sub-contractor appointment. Such audit will occur as soon as reasonably practicable and in any event in accordance with any timelines set out in the applicable Co-Development Plan. The Party appointing such sub-contractor will provide reasonable assistance to enable the conduct of such audits (including interacting with such sub-contractors to substantiate the need and right to conduct such audits). To the extent any audit identifies any non-compliance with Applicable Laws (including non-compliance with GMP), the Party appointing such sub-contractor shall use reasonable efforts to procure correction of such non-compliance by sub-contractor or shall use an alternative sub-contractor where correction of such non-compliance is not possible or practicable. Each Party will put in place written Quality Agreements with any subcontractor performing GMP activities prior to them supplying materials or services supporting any relevant GMP activities under any Co-Development Plan. The other Party may request copies of such Quality Agreement to the extent necessary to satisfy its internal standard operating procedures or to satisfy obligations to any Regulatory Authority or under Applicable Laws.

5.3 **Completion of any Co-Development Plan**. The term for a particular Co-Development Plan shall commence on Acceptance, and shall continue, unless earlier terminated in accordance with Article 17, until the completion or waiver of all the tasks set out in the Co-Development Plan (on a Selected Target-by-Selected Target basis, the "**Co-Development Term**"). During the Co-Development Term and subject to reimbursement by the other Party under Clause 10.2, each Party shall be responsible for its own costs associated with the activities it conducts under the Co-Development Plan. The final report for each Co-Development Plan shall (i) identify all relevant data necessary for assessment by the JSC of whether the Candidate criteria have been met by any Joint Selected Candidate and (ii) include such data and research records that have been compiled and which may be required to support an IND filing for any Joint Selected Candidate.

5.4 **Reports; Records; and Inspections**.

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5.4.1 **Progress Reports**. Each Party shall keep the other Party regularly informed of its activities (if any) under each Co-Development Plan and shall provide to the other Party's representatives on the JDC regular written summary updates at each JDC meeting. If reasonably necessary for a Party to perform its work under a Co-Development Plan, that Party may request that the other Party provide more detailed information and data regarding the updates it earlier provided, and the other Party shall promptly provide the requesting Party with information and data as is reasonably available and reasonably necessary to conduct a Co-Development Plan, and such other information as the Parties agree. All such reports, information and data provided by a Party shall be considered the providing Party's Confidential Information.

5.4.2 **Development Records**. Each Party shall maintain records of its performance of each, if any, Co-Development Plan (or cause such records to be maintained) in sufficient detail and in good scientific manner as will properly reflect all work done and results achieved by or on behalf of such Party in the performance of such Co-Development Plan. All laboratory notebooks shall be maintained for no less than *** after creation of the relevant notebook entry. All other records shall be maintained by each Party during the applicable Co-Development Term and for a minimum of *** thereafter. All such records of a Party shall be considered such Party's Confidential Information. The Party responsible for any Clinical Trial shall also procure that any Third Parties involved in any Clinical Trial or Party itself maintain all records relevant to the Clinical Trial for a minimum of *** from completion of relevant Clinical Trial or such longer period required under Applicable Laws and that the other Party is given access to such records as may be reasonably necessary for such other Party to comply with Applicable Laws or perform its obligations hereunder. Records shall not be destroyed by either Party without prior written notification of such destruction being provided to other Party, and other Party being given the opportunity to take over the storage and responsibility for such records.

5.4.3 **Quality**. Each Co-Development Plan shall be performed at all times in accordance with all Applicable Laws including as applicable requirements of GxP. Each Party shall ensure that any manufacture and supply of Joint Selected Candidate for any Clinical Trials is carried out in accordance with cGMPs and applicable Quality Agreements.

5.4.4 **Inspections**. The Parties shall notify each other of any inspections carried out or requested by any Regulatory Authority that relates, and in each case to the extent such inspection or request relates, to any Joint Selected Candidate under any Co-Development Plan or to the facility at which any Joint Selected Candidate is being manufactured or stored or any Clinical Trial site or other Third Party site or facility relevant to any Joint Selected Candidate (including where such sites are managed by a CRO or other Third Party). From and after the initiation of the first Phase III Clinical Trial with respect to a given Therapy that is the subject of such Co-Development Plan, both Parties shall be entitled to be present at such inspections to the extent such inspections relate solely to such Therapy and to the extent reasonably practicable; provided, that the Party who is not in control of the relevant facility (either directly or through a subcontract) shall only be permitted to attend such inspections as a silent observer. Where any inspection identifies any non-compliance with Applicable Laws, then the Party responsible for the facility shall correct any such non-compliance and shall keep the other Party informed of the steps being taken to correct any non-compliance.

5.5 **Research Efforts**. Each Party shall assign such scientific and technical personnel and allocate such other resources as are reasonably necessary for performing the activities as are assigned to it in each Co-Development Plan and shall perform such activities in accordance with all Applicable Laws (including GxPs) in each case to the extent applicable to performance of the relevant Co-Development Plan activities by such Party, the terms and conditions of this Agreement, and within generally accepted professional standards. Each Party shall be solely responsible for the safety and health of its employees, consultants and visitors, and for compliance with all Applicable Laws related to health, safety and the

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environment, including providing its employees, consultants and visitors with all required information and training concerning any potential hazards involved in performing such activities and any precautionary measures to protect its employees from any such hazards at its own facilities and as regards its or its subcontractors performance of the Co-Development Plan. Each Party shall use Commercially Reasonable Efforts to train its personnel assigned to perform activities under this Agreement and ensure that any personnel so assigned shall be capable of professionally and competently performing the activities assigned to it in each Co-Development Plan. Each Party may request an on-site visit to the other Party and/or its Affiliates for the purpose of conducting a quality assessment and/or quality audit for any GMP activities, which visit the other Party will promptly accommodate. Each Party shall be entitled to request such on-site visit no more than *** in any *** (except in the case of any subsequent "for cause" audits) and any visit will be conducted to reasonably minimize interference to the other Party's business.

5.6 **Reserved Activities**. The following activities shall be reserved to Adaptimmune under any Co-Development Plan (" **Adaptimmune Reserved Activities**"):

(a) ***

;

(b) *** ;

(c) ***

;

(d) *** .

The following activities shall be reserved to Bellicum under any Co-Development Plan (" **Bellicum Reserved Activities**"); and as used herein, the term "**Reserved Activities**" means Adaptimmune Reserved Activities and/or Bellicum Reserved Activities, as the context may require:

(a) ***

;

(b) ***

.

For avoidance of doubt, each of the Parties may ***

.

5.7 **Changes to Co-Development Plan.** The Parties acknowledge and agree that each Co-Development Plan will change and develop as the applicable Joint Selected Candidate progresses through development, Clinical Trials and to Regulatory Approval. The JPT will be responsible for amending the Co-Development Plan in relation to any non-material changes. Subject to Clause 2.3.2(b) and Clause 2.3.3 (which references the limitations set forth in Clause 2.2.4), the JDC shall be responsible for reviewing and amending operational aspects and activities under each Co-Development Plan as necessary in relation to any material changes; provided that material changes to a Party's personnel, funding and/or resources necessary for performance of such Co-Development Plan must be mutually agreed by the Parties in writing (i.e., the JDC cannot make such decisions). Material changes will include

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any changes which significantly increase the resource requirement, significantly change the timescales for performance or increase the cost of the performance of the Co-Development Plan (as against budgeted costs) or any change of any Joint Selected Candidate. Each Party shall update its part of the budget for any Co-Development Plan on a regular basis and provide an update to such budget at each JDC meeting. Such budget will be discussed at the JDC and approved at the JDC. Any changes to a Co-Development Plan (including to the budget set out in such Co-Development Plan) will be made in good faith and with a bona fide intention that such changes are required for the successful development and commercialisation of any Joint Selected Candidate or Therapy utilising such Joint Selected Candidate. The Parties will also negotiate in good faith any amendments or additional terms required to this Agreement to address changes in scope of the Co-Development Plan as the applicable Joint Selected Candidate or Therapy utilising such Joint Selected Candidate progresses through to Regulatory Approval.

5.8 **Additional HLA Candidates.** Each Co-Development Plan shall initially focus on Candidates for only one HLA Type. Following completion of any Phase II Clinical Trial in relation to any Co-Development Plan, the Parties will discuss and agree whether development of any further Additional HLA Candidates is desirable and if so the terms on which such Additional HLA Candidates will be developed. Any Additional HLA Candidates will be mutually agreed between the Parties, and will require a related Co-Development Plan.

ARTICLE 6 REGULATORY

6.1 **Regulatory Matters**.

6.1.1 As between the Parties, (a) Bellicum shall be responsible for holding and applying for any Regulatory Approvals or MAAs in relation to the Bellicum Candidate and any Therapy comprising the Bellicum Candidate; and (b) Adaptimmune shall be responsible for holding and

applying for any Regulatory Approvals or MAAs in relation to the Adaptimmune Candidate and any Therapy comprising the Adaptimmune Candidate.

6.1.2 The Party holding the relevant Regulatory Approval in relation to a Therapy shall be primarily responsible, and act as the sole point of contact, for communications with Regulatory Authorities in connection with the development, commercialisation, and manufacturing of such Therapy. To the extent the other Party is required to provide any information or response to a Regulatory Authority, such response will be discussed with the responsible Party to the extent practicable and responding Party shall provide only such information as is necessary to comply with its legal obligations unless otherwise mutually agreed. The Parties shall copy each other on any material correspondence in relation to a Therapy (or anything which is likely to affect the safety or regulatory approval of any Therapy) received from a Regulatory Authority and where reasonably possible provide the other Party an opportunity to comment on such correspondence. Both Parties shall be entitled to be present at any scheduled meeting, interview or discussion with any Regulatory Authority relating to any Joint Selected Candidate or Therapy utilising such Joint Selected Candidate.

6.1.3 Notwithstanding the foregoing, each Party shall provide such assistance as may reasonably be requested by the other Party relating to regulatory matters (including preparation and filing for any INDs and MAAs and obtaining and maintaining Regulatory Approvals). Such assistance will include, without limitation, a right to ***

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6.1.4 Nothing in this Clause 6.1 shall require any Party to breach its obligations to any Regulatory Authority under Applicable Law.

ARTICLE 7 COMMERCIALISATION

7.1 **Commercialisation Generally**. Each of the Parties shall use its Commercially Reasonable Efforts to commercialise and promote any Therapy in accordance with its mutually agreed Co-Commercialisation Agreement and/or a subsequent detailing agreement (as outlined in Exhibit 3 and to be further described in a Co-Commercialization Agreement). Bellicum shall be primarily responsible for commercialisation, manufacture and promotion of the Therapy comprising the Bellicum Candidate, and Adaptimmune shall be primarily responsible for commercialisation, manufacture and promotion of the Therapy comprising the Adaptimmune Candidate.

7.2 **Co-Commercialisation Agreement**. Not later than *** after *** for any Therapy, the Parties shall negotiate in good faith and agree to commercially reasonable terms of an agreement, or an appropriate amending and restating of this Agreement, covering any co-commercialisation activities (if any) and the profit/loss sharing and governance that will apply to Therapies (such agreement or amended and restated iteration of this Agreement, "**Co-Commercialisation Agreement**"). Such Co-Commercialisation Agreement shall include the principles set out in Exhibit 3, unless otherwise mutually agreed in writing. Activities described in such Co-Commercialization Agreement will not be initiated unless and until the Parties agree regarding the terms and conditions of such Co-Commercialisation Agreement. Where any of the terms of such Co-Commercialization Agreement have not been agreed by the Parties following *** , then for a Bellicum Therapy, Bellicum shall be entitled to refer resolution of any non-resolved terms and conditions to arbitration in accordance with Clause 18.2, and for an Adaptimmune Therapy, Adaptimmune shall be entitled to refer resolution of any non-resolved terms and conditions to arbitration in accordance with Clause 18.2.

7.3 **Commercialisation Updates**. Each Party shall continue to keep the other Party informed of its commercialisation of any relevant Therapy and will provide regular updates to the JCC. Each Party shall also provide to the other Party, on or about *** . Each Party may address questions on the annual reports to the Alliance Managers or JCC following receipt of such written reports.

7.4 **Safety Event Reporting**. Additionally, each Party shall provide to the other Party prompt written notice of any material safety events pertaining to Therapies of which it becomes aware including any SUSARs or other material events which might have general applicability to the use of Candidates, TCRs or Therapies to treat patients. The Parties shall enter into a pharmacovigilance agreement on commercially reasonable terms to facilitate the reporting of such events.

ARTICLE 8 LICENSES

8.1 **Development License**. Commencing on the Effective Date and continuing in full force and effect until completion or termination of all Co-Development Plans, each Party hereby grants

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to the other Party a royalty-free, non-transferable (except to such other Party's agents performing the POC Plan or Co-Development Plan), non-exclusive license in the Field under such Party's Licensed Intellectual Property solely for the purposes of and to the extent necessary for (a) performing the POC Plan; and (b) performing each Co-Development Plan, including CMC activities (collectively, the "**Development License**"). The Development License shall be specific to the research and development activities and responsibilities of the licensee Party under the Co-Development Plan and directed to the applicable Selected Target, including any associated diagnostic assays and companion diagnostics developed for a Party's Joint Selected Candidate.

For clarity, the Development License does not include the right for Bellicum to conduct any Adaptimmune Reserved Activities, and does not include the right for Adaptimmune to conduct any Bellicum Reserved Activities.

8.2 **Exclusive License**.

8.2.1 **Exclusive License Grant**. As from the Acceptance Date, each Party grants to the other Party an exclusive license under such Party's Licensed Intellectual Property in each case to (i) make, have made, use, import and have imported Joint Selected Candidates and Therapies, and (ii) sell, have sold and offer for sale Therapies, in each case of sub-Clauses (i) and (ii), in the Field and directed to the corresponding Selected Target (each, an "**Exclusive License**"). Each such Exclusive License shall be subject to the following:

(a) The Exclusive License shall include a grant back to the licensor Party, to the extent applicable, of a right to perform co-development and co-commercialisation activities regarding any Therapy or Joint Selected Candidate as part of any POC Plan, Co-Development Plan or Co-Commercialisation Agreement;

(b) The Exclusive License shall not include the right for Bellicum to conduct any Adaptimmune Reserved Activity or for Adaptimmune to conduct any Bellicum Reserved Activity; and

(c) The Exclusive License shall not include:

(i) any right to modify, improve or otherwise materially alter any Candidate, Joint Selected Candidate or Therapy (save as reasonably necessary to address any requirement from any Regulatory Authority or to address any safety concern). For clarity, modification of any complementarity determining region of any TCR included within any Therapy or the sequence encoding such complementarity determining region shall constitute a material alteration; or

(ii) any right to generate any new TCR or new Candidate to any Selected Target or to any other Target under the Exclusive License; provided that the licensee Party retains the right to use its own technology (obtained independently of this Agreement) to modify, improve or alter its own Candidates, Joint Selected Candidate and Therapies.

8.2.2 **Sublicenses**. Each Party shall have the right to sublicense the licenses and rights granted under Clauses 8.1 and 8.2.1 to its Affiliates and permitted sub-contractors acting on its behalf; provided that in each case such sublicense:

(a) is consistent with the terms and conditions of this Agreement; and

(b) is in writing.

Each Party shall be responsible for all actions and omissions of any Sublicensee including where such actions and omissions result in a breach of the terms of this Agreement. Any other sub-licensing must be prior approved in writing by the licensor Party.

8.3 *** . During the term of this Agreement, and subject to the limitations set forth in this Clause 8.3, ***

.

8.4 **No Additional Licenses**. Except as expressly provided in this Agreement, nothing in this Agreement shall grant either Party any right, title or interest in and to the know-how, Patents or other Intellectual Property Rights of the other Party (either expressly or by implication or estoppel).

ARTICLE 9 TECHNOLOGY TRANSFER

9.1 **In** addition to any technology transfer contemplated by any Co-Development Plan, following completion of any Co-Development Plan and as part of any Co-Commercialisation Plan, Adaptimmune will:

(a) reasonably assist Bellicum in establishing a *** for any Therapy comprising a Bellicum Candidate, and will allow and

enable Bellicum to work with *** (to the extent relevant). Such assistance will include ***

;

and

(b) provide ongoing technical assistance in relation to Bellicum's development and manufacturing of the Bellicum Candidates and Therapies comprising a Bellicum Candidate as reasonably requested from time to time and during the Term.

The details of what technical assistance and transfer of technology will be required from Adaptimmune will be agreed upon by the Parties as part of a technology transfer plan to be initially prepared by Bellicum and approved by the JDC. The costs of such technical assistance and transfer shall be considered to be a Development Cost and subject to reimbursement in accordance with Article 10. Any technology transfer obligations and provision of confidential information will be subject to any Third Party restrictions relevant to such technology transfer and provision of confidential information.

9.2 In addition to any technology transfer contemplated by any Co-Development Plan, following completion of any Co-Development Plan and as part of any Co-Commercialisation Plan, Bellicum will:

(a) reasonably assist Adaptimmune in establishing a *** for any Therapy comprising an Adaptimmune Candidate, and will allow and enable Adaptimmune to work with *** (to the extent relevant). Such assistance will include ***

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; and

(b) provide ongoing technical assistance in relation to Adaptimmune's development and manufacturing of the Adaptimmune Candidates and Therapies comprising an Adaptimmune Candidate as reasonably requested from time to time and during the Term.

The details of what technical assistance and transfer of technology will be required from Bellicum will be agreed upon by the Parties as part of a technology transfer plan to be initially prepared by Adaptimmune and approved by the JDC. The costs of such technical assistance and transfer shall be considered to be a Development Cost and subject to reimbursement in accordance with Article 10. Any technology transfer obligations and provision of confidential information will be subject to any Third Party restrictions relevant to such technology transfer and provision of confidential information

ARTICLE 10 FINANCIAL TERMS

10.1 **Co-commercialisation Profit/Loss Sharing**. If a Co-Commercialisation Agreement is agreed upon by the Parties, the costs of Co-Commercialisation, manufacture and promotion of any Therapy shall be shared equally between the Parties as set forth in such Co-Commercialisation Agreement. The mechanism for such payments and the calculation of cost, profit and loss share shall be agreed as part of the Co-Commercialisation Agreement and in accordance with Exhibit 3.

10.2 **Reimbursement of Co-Development Costs under any Co-Development Plan** .

10.2.1 The budget established for each Co-Development Plan will control the reimbursable costs incurred by each Party in performing under such Co-Development Plan. The budget and/or the Co-Development Plan may allow for a certain percentage of excess spending over the budgeted amount, and/or may establish a cap on spending that may not be exceeded without amendment of such budget and/or the Co-Development Plan (as applicable). The Parties shall each pay 50% of the costs incurred in accordance with the relevant budget by each of the Parties in performance of the Co-Development Plan, including the costs of Clinical Trials, costs of CMC, costs of manufacture and any sub-contractor costs necessarily incurred in the performance of any Co-Development Plan. Agreed FTE Rates applicable to various levels of employees and agents utilized by a Party in connection with its performance under a Co-Development Plan are set forth in Exhibit B, and such Agreed FTE Rates may be further described in each Co-Development Plan.

10.2.2 The estimated costs and budget for any Co-Development Plan shall be set out in the initial Co-Development Plan prepared in accordance with Clause 5.1.1, and such Co-Development Plan and its budget shall be reviewed, updated and amended as required, in accordance with Clause 5.7. The Co-Development Plan expenses subject to reimbursement by a Party under this Clause 10.2 shall not exceed ***% of the expenses set forth in the then-current budget for the other Party's Co-Development Plan, unless the Parties otherwise mutually agree in writing.

10.2.3 No later than the *** after the end of each *** during the performance of any Co-Development Plan, each Party shall provide to the other Party a list of all costs and expenses reasonably incurred in accordance with the corresponding budget in the performance of the relevant Co-Development Plan ("**Development Costs**"). In addition to the following, each Co-Development Plan may describe in greater detail certain types of expenses, and a calculation of certain expenses, that are permitted within (or excluded from) Development Costs. Such Development Costs shall include ***

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. Development Costs shall not include, for example only, ***

. Each Party shall provide reasonable evidence supporting any claimed Development Costs on reasonable request from the other Party. Development Costs may be subject to annual increases to account for inflation, but such increases shall be based on a mutually agreed, objective, relevant inflation index (as set forth in the Co-Development Plan or its related budget).

10.2.4 Where Bellicum is owed reimbursement of Development Costs, Bellicum shall invoice Adaptimmune for such sums and Adaptimmune shall pay such invoice within *** of receipt of invoice. Where Adaptimmune is owed reimbursement of Development Costs, Adaptimmune shall invoice Bellicum for such sums and Bellicum shall pay such invoice within *** of receipt of invoice. Where any part of Development Costs is disputed, reimbursement of the non-disputed part of such Development Costs shall occur in accordance with this Clause 10.2.4 and the Parties shall resolve the dispute as expeditiously as possible in accordance with Clause 10.2.6.

10.2.5 In calculating any Development Costs the following principles will apply:

(a) ***

;

(b) ***

;

(c) ***

;

(d) ***

;

(e) ***

;

(f) ***

;

(g) ***

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; and

(h) ***

.

10.2.6 **Audit Right**. Where either Party disputes that any costs are not necessarily incurred in the performance of any Co-Development Plan, the dispute shall first be referred to senior managers in accordance with Clause 18.1. Where the dispute is not resolved within *** of such referral, either Party may request that such report be verified by the Party's then-current independent, certified and internationally recognized public accounting firm. Such right to request a verified report shall (i) be limited to the period covered by the disputed Development Costs being claimed; and (ii) not more frequently than once with respect to records covering any specific period of time. Each Party shall, upon timely written request and on at least *** advance written notice from Adaptimmune or Bellicum, as applicable, and at a mutually agreeable time during its regular business hours, make its records available for inspection by the relevant accounting firm at such place or places where such records are customarily kept, solely to verify the accuracy of the disputed Development Costs being requested under this Agreement. The accounting firm shall only state factual findings in its audit reports. The draft audit report shall be shared with both Parties at the same time. Following review and approval by all Parties of the draft audit, the final audit report shall be shared with Bellicum and Adaptimmune.

10.2.7 **Underpayment; Overpayment**. After reviewing the audit report delivered under Clause 10.2.6, any discrepancy in Development Costs and reimbursement of such costs shall be corrected by the relevant Party or Parties within *** of delivery of audit report under Clause 10.2.6. Any audit shall be at the requesting Party's expense unless such audit shows more than the greater of (a) a *** percent and

(b) $*** , discrepancy in the Development Costs being claimed.

10.2.8 **Payment and Related Matters**. All payments in connection with Development Costs will be handled in accordance with Clauses 11.1 – 11.4 inclusive.

ARTICLE 11 PAYMENTS

11.1 **Mode of Payment**.

11.1.1 All payments hereunder shall be made by wire transfer in immediately available funds to the account listed below (or such other account as the receiving Party shall designate before such payment is due):

If to Adaptimmune:

Payee: Adaptimmune Limited
Bank Name: ***
Bank address: ***
IBAN: ***
SWIFT/BIC: ***

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If to Bellicum:

Beneficiary's Bank: ***
Bank Address: ***
Bank Phone: ***

Beneficiary Name: Bellicum Pharmaceuticals, Inc.
Beneficiary Account Number: ***
Swift Code: ***
ABA Routing Number: ***

11.1.2 The Party paying any sum under this Agreement will be responsible for any bank costs or charges associated with any transfer of sums or reimbursement of costs including any currency conversion costs or transfer costs.

11.2 **Currency of Payments**. All payments under this Agreement shall be made in US dollars, unless otherwise expressly provided in this Agreement.

11.3 **Taxes**. Each Party shall comply with Applicable Laws regarding filing and reporting for tax purposes. Neither Party shall treat their relationship under this Agreement as a pass through entity for tax purposes. If any payments made by the Parties under this Agreement are subject to withholding taxes under Applicable Laws of any state, federal, provincial or foreign government, each Party shall be authorised to withhold such taxes as are required under such Applicable Laws, pay such taxes to the appropriate government authority, and remit the balance due to the other Party net of such taxes. The Party paying the taxes to the government authority shall secure and deliver to the other Party an official receipt for taxes paid. The Parties will fully cooperate with each other to enable each Party to more accurately determine its own tax liability and to minimize such liability to the extent legally permissible and administratively reasonable. Each Party shall provide and make available to the other Party any exemption certificates, resale certificates, information regarding out of state or out of country sales or use of equipment, materials or services, and any other information reasonably requested by the other Party to support the provisions of this Clause 11.3, including the appropriate organization of invoice formats and supporting documents to allow maximization of reclamation of VAT and other transaction taxes.

11.4 **Late Payment**. In relation to any undisputed amount required to be paid by a Party hereunder which is not paid by the payment date due, the other Party may charge interest at a monthly rate equal to *** percent (***%); provided, however, that in no event will such rate exceed the maximum legal interest rate then in effect. Such interest shall be computed on the basis of a month of 30 days for the actual number of days such payment is overdue.

ARTICLE 12 INTELLECTUAL PROPERTY; OWNERSHIP

12.1 **Disclosure; Ownership; Inventorship; Assignment and Cooperation**.

12.1.1 **Disclosure**. During the Term, each Party shall promptly disclose to the other Party in writing any registerable or potentially registerable Foreground IP (whether or not patentable) conceived or reduced to practice by or for the disclosing Party in the course of performance of this Agreement. Disclosure will be made via designated patent representatives for each Party.

12.1.2 **Ownership**. As between the Parties:

(a) Adaptimmune shall solely own any Foreground IP which primarily relates to the Adaptimmune Technology including any Foreground IP which claims or Covers any improvement to the Adaptimmune Technology ("**Adaptimmune Foreground IP**");

(b) Bellicum shall solely own any Foreground IP which primarily relates to the Bellicum Technology including any Foreground IP which claims or Covers

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any improvement to the Bellicum Technology (" **Bellicum Foreground IP**"); and

(c) The Parties shall jointly own any Foreground IP other than that set out in clause 12.1.2 (a) and (b) (" **Joint IP**").

In relation to any inventions, existence and ownership of inventions shall be determined in accordance with the laws of the United States. Without limiting the foregoing, each Party retains an undivided one-half interest in and to the Joint IP (including Patents therein). Subject to the licenses granted in Article 8, (i) each Party may exploit fully the Joint IP, in any field, and may grant licenses under the Joint IP, without obtaining consent from the other Party, and (ii) may transfer or encumber its ownership interest in any of the Joint IP, subject to obtaining the prior written consent of the other Party (which consent will not be unreasonably withheld, conditioned or delayed), in each case of sub-clauses (i) and (ii), without accounting to the other Party.

In the event of any dispute as to whether any Foreground IP primarily relates to either the Adaptimmune Technology or Bellicum Technology under Clauses 12.1.2(a) or 12.1.2(b) and where such dispute is not resolved by reference to senior executives in accordance with Clause 18.1, an independent patent expert ("**Patent Expert**") shall be appointed by the Parties to resolve such dispute. The decision of the Patent Expert shall be binding on the Parties in the absence of manifest error or fraud. The Patent Expert shall be mutually agreed between the Parties in writing within *** of expiry of the *** resolution period in Clause 18.1. Where the Parties cannot agree such Patent Expert, the Patent Expert shall be appointed by the American Arbitration Association under its Supplementary Rules for the Resolution of Patent Disputes. Any Patent Expert shall be a patent attorney and have at least 20 years' experience in relation to pharmaceutical or biotechnology patent matters. The fees of the Patent Expert shall be shared equally between the Parties and the Parties shall use reasonable efforts to ensure resolution occurs as quickly as possible after referral to such Patent Expert. The Parties shall reasonably cooperate with the Patent Expert, including providing such information as may reasonably be required by the Patent Expert to reach a decision.

Nothing in this clause shall affect or impact any ownership of either Party in relation to such Party's Background IP.

12.1.3 **Assignment; Cooperation**. Each Party shall execute such further documentation as may be necessary or appropriate, and provide reasonable assistance and cooperation, to implement the provisions of this Article 12. Each Party shall to the extent legally practicable and possible under relevant national or local laws use Commercially Reasonable Efforts to cause all of its employees, Affiliates and any Third Parties working pursuant to this Agreement on its behalf, to assign (or otherwise convey rights) to such Party any Patents and Know-How or other Foreground IP discovered, conceived or reduced to practice by such employee, Affiliate or Third Party, and to cooperate with such Party in connection with obtaining patent protection therefore.

12.2 **Patent Prosecution**.

12.2.1 **Adaptimmune Controlled Prosecution and Maintenance**.

(a) Adaptimmune shall, at its sole discretion and expense, have the right (but not the obligation) to Prosecute and Maintain Patents within the Adaptimmune Background IP.

(b) Adaptimmune shall, at its sole discretion and expense, have the right (but not the obligation) to Prosecute and Maintain Patents within the Adaptimmune Foreground IP, to the extent such Patents do not include any claim Covering

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(i) a Selected Target, or (ii) the composition of matter of a Candidate or Therapy. Without limiting the foregoing, in the event that Adaptimmune elects not to Prosecute and Maintain any Patents under this Clause 12.2.1(b), Adaptimmune shall not grant any Third Party the right to do so.

(c) Adaptimmune shall, at its sole discretion and expense, have the right (but not the obligation) to Prosecute and Maintain Patents within the Foreground IP, to the extent such Patents include any claim Covering (i) an Adaptimmune Selected Target; or (ii) the composition of matter of an Adaptimmune Candidate or Therapy comprising such Adaptimmune Candidate. Without limiting the foregoing, in the event that Adaptimmune elects not to Prosecute and Maintain any Patents under this Clause 12.2.1(c), Adaptimmune shall not grant any Third Party the right to do so.

12.2.2 **Bellicum Controlled Prosecution and Maintenance**.

(a) Bellicum shall, at its sole discretion and expense, have the right (but not the obligation) to Prosecute and Maintain Patents within the Bellicum Background IP.

(b) Bellicum shall, at its sole discretion and expense, have the right (but not the obligation) to Prosecute and Maintain Patents within the Bellicum Foreground IP, to the extent such Patents do not include any claim Covering (i) a Selected Target, or (ii) the composition of matter of a Candidate or Therapy. Without limiting the foregoing, in the event that Bellicum elects not to Prosecute and Maintain any Patents under this Clause 12.2.2(b), Bellicum shall not grant any Third Party the right to do so.

(c) Bellicum shall, at its sole discretion and expense, have the right (but not the obligation) to Prosecute and Maintain Patents within the Foreground IP to the extent such Patents include any claim Covering (i) a Bellicum Selected Target, or (ii) the composition of matter of a Bellicum Candidate or Therapy comprising a Bellicum Candidate. Without limiting the foregoing, in the event that Bellicum elects not to Prosecute and Maintain any Patents under this Clause 12.2.2(c), Bellicum shall not grant any Third Party the right to do so.

12.3 **Jointly Controlled Prosecution and Maintenance**:

12.3.1 In relation to any Joint IP not Prosecuted and Maintained by either Adaptimmune or Bellicum under Clauses 12.2.1 and 12.2.2, the Parties shall mutually agree upon which Party shall have the right to Prosecute and Maintain such Patents.

12.4 **Failure to Prosecute**. If the Prosecuting Party elects not to Prosecute and Maintain any Patents under Clauses 12.2.1, 12.2.2 or 12.3.1, the Prosecuting Party shall provide at least *** written notice to Non-Prosecuting Party describing with specificity such election. Thereafter, Non-Prosecuting Party shall have the right, but not the obligation, to Prosecute and Maintain any such notified Patents, at *** and in its sole discretion. Prosecuting Party will provide reasonable cooperation and assistance to Non-Prosecuting Party in relation to transferring such Prosecution and Maintenance. Clause 12.4 shall continue to apply in relation to ongoing Prosecution and Maintenance of any transferred Patents.

12.5 **Comments from Non-Prosecuting Party.** The Prosecuting Party will provide the Non-Prosecuting Party with copies of any filed patent application, filings and other material correspondence with applicable governmental authorities relating to any Foreground IP, and will keep the Non-Prosecuting Party reasonably informed of the status of such Prosecution and Maintenance, including providing Non-Prosecuting Party with copies of all communications received from or filed in patent offices within a reasonable period of time after receipt by Prosecuting Party. Prosecuting Party shall also consult with Non-Prosecuting Party regarding such activities and shall reasonably consider Non Prosecuting Party's input

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with respect thereto. The Prosecuting Party shall be responsible for the fees of Prosecution and Maintenance of the Foreground IP for which it is responsible.

12.6 **Enforcement Rights for Infringement by Third Parties**.

12.6.1 **Notice**. Each Party shall promptly notify, in writing, the other Party upon learning of any actual or suspected infringement of the Patents within the Background IP or Foreground IP to the extent such actual or suspected infringement is relevant to any Selected Target, Candidate or a Therapy, or, of any claim of invalidity, unenforceability, or non-infringement of any Patents within the Background IP (to the extent relevant to any Selected Target, Candidate or Therapy) or Foreground IP (each an "**Infringement**").

12.6.2 **Enforcement Actions**.

(a) The Parties shall consult in good faith as to potential strategies to terminate suspected or potential Infringement, and shall mutually agree on which Party shall have primary responsibility for any enforcement action, provided, that where the Parties cannot reach agreement within *** of the date of notification of any actual or suspect Infringement (or any applicable shorter period of time before enforcement rights lapse), the Prosecuting Party in relation to the relevant Patent or Party owning or Controlling the relevant intellectual property right in the case of other Foreground IP or Background IP shall have the first right, but not the obligation, to seek to abate any actual or suspected Infringement by a Third Party, or to file suit against any Third Party for Infringement. If the Prosecuting Party or owning or Controlling Party does not, within *** of receipt of a notice under Clause 12.4.1, take steps to abate the Infringement, or to file suit to enforce against such Infringement, then Non-Prosecuting Party shall have the right, but not the obligation, to take action to enforce against such Infringement; provided that if Prosecuting Party is diligently pursuing ongoing settlement discussions at the end of such *** period then Non-Prosecuting Party shall not be permitted to exercise such right unless such settlement discussions cease without reaching settlement or Prosecuting Party ceases to pursue such discussions diligently.

(b) The non-controlling Party shall reasonably cooperate with the Party controlling any such action to abate or enforce pursuant to this Clause 12.6.2 (as may be reasonably requested by the controlling Party and at the controlling Party's expense), including, if necessary, by being joined as a party; provided that the non-controlling Party shall be reimbursed by the controlling Party as to any costs or expenses incurred, and shall have the right to be represented by its own counsel at its own expense. The Party controlling any such action shall keep the other non-controlling Party updated with respect to any such action, including providing copies of all documents received or filed in connection with any such action.

12.6.3 **Settlement**. The Party controlling any such enforcement action described in Clause 12.6.2 (a " **Enforcement**"), at its sole discretion, may take reasonable actions to terminate any alleged infringement without litigation; provided, that if any such arrangement would adversely affect the non-controlling Party's rights under this Agreement or impose any obligation or requirement on the non-controlling Party, then that arrangement is subject to the non-controlling Party's prior written consent, which consent shall not to be unreasonably withheld, conditioned or delayed.

12.6.4 **Costs and expenses**. The Party controlling any Enforcement shall bear all of its costs and expenses, including litigation expenses, related to such Enforcement actions, except to the extent agreed otherwise in the Co-Commercialisation Agreement.

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12.6.5 **Damages**. Unless otherwise mutually agreed by the Parties in writing, and subject to the respective indemnity obligations of the Parties set forth in Article 16, all damages, amounts received in settlement (including royalty, milestone or other payments), judgment or other monetary awards recovered in Enforcement with respect to activities of the Third Party that occurred prior to the effective date of such award shall be shared as follows:

(a) first, to reimburse the controlling Party for costs and expenses incurred under Clause 12.4.4; and

(b) second, shall be apportioned ***% to the controlling Party and ***% to the other (non-controlling) Party.

12.7 **Third Party Infringement Claims**.

12.7.1 **Notice**. In the event that a Third Party shall make any claim, give notice, or bring any suit or other inter parties proceeding against Bellicum or Adaptimmune, or any of their respective Affiliates, subcontractors or customers, for infringement or misappropriation of any Intellectual Property Rights with respect to the research, development, making, using, selling, offering for sale, import or export of any Candidate or Therapy or with respect to any Selected Target ("**Third Party Infringement Claim**"), in each case, the Party receiving notice of a Third Party Infringement Claim shall promptly notify the other Party in writing and provide all evidence in its possession pertaining to the claim or suit that it is entitled to disclose.

12.7.2 **Defense**. The Parties shall consult as to potential strategies to defend against any Third Party Infringement Claim, consistent with the overall goals of this Agreement, including by being joined as a party. The Parties shall cooperate with each other in all reasonable respects in the defense of any Third Party Infringement Claim or raising of any counterclaim related thereto. Subject to the respective indemnity obligations of the Parties set forth in Article 16, (a) Bellicum shall be primarily responsible for defending such Third Party Infringement Claim including selection of counsel, venue, and directing all aspects, stages, motions, and proceedings of litigation to the extent such Third Party Infringement Claim relates to a Bellicum Candidate, Therapy comprising a Bellicum Candidate or the Bellicum Target; and (b) Adaptimmune shall be primarily responsible for defending such Third Party Infringement Claim including selection of counsel, venue, and directing all aspects, stages, motions, and proceedings of litigation to the extent such Third Party Infringement Claim relates to an Adaptimmune Candidate, Therapy comprising an Adaptimmune Candidate or the Adaptimmune Target. If the Party with primary responsibility does not, within *** of receipt of a notice under Clause 12.5.2, take steps to defend the Third Party Infringement Claim, then to the extent that such Third Party Infringement Claim is brought against the other Party, the other Party shall have the right, but not the obligation, to take action to enforce or defend against such Third Party Infringement Claim; provided that if the Party with primary responsibility is diligently pursuing ongoing settlement discussions at the end of such *** period, then other Party shall not be permitted to exercise such right unless such settlement discussions cease without reaching settlement or such responsible Party ceases to pursue such settlement discussions diligently. At the controlling Party's request and expense, the non-controlling Party shall cooperate with the controlling Party in connection with any such defense and counterclaim, provided that the non-controlling Party shall be reimbursed by the controlling Party as to any reasonable and documented costs or expenses, and shall have the right to be represented by its own counsel at its own expense. Any counterclaim or other similar action by a Party, to the extent such action involves any enforcement of rights under the Licensed Intellectual Property, Foreground IP or Joint IP, will be treated as an Enforcement subject to Clause 12.6. Nothing in this Clause 12.7 shall prevent any Party from complying with the terms of any court order relating to or arising out of any Third Party Infringement Claim.

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12.7.3 **Settlement**. If any such defense under Clause 12.7.2 would adversely affect the other Party's rights under this Agreement or impose a financial obligation upon the other Party or grant rights in respect, or affect the validity or enforceability, of the other Party's Patents or any Foreground IP, then any settlement, consent judgment or other voluntary final disposition of such Third Party Infringement Claim shall not be entered into without the consent of the other Party (such consent not to be unreasonably withheld, conditioned or delayed).

12.7.4 **Costs and Expenses**. The Party controlling the defense of any Third Party Infringement Claim shall bear all costs and expenses, including litigation expenses, to defend against any Third Party Infringement Claim.

ARTICLE 13 CONFIDENTIALITY

13.1 **Non-use and Non-disclosure of Confidential Information**. During the Term, and for the longer of (a) a period of *** from the Effective Date, or (b) *** after the date of expiration or termination of this Agreement, a Party shall (i) except to the extent permitted by this Agreement or otherwise agreed to by the Parties in writing, keep confidential and not disclose to any Third Party any Confidential Information of the other Party; (ii) except in connection with activities contemplated by, the exercise of rights permitted by or in order to further the purposes of, this Agreement or otherwise agreed to by the Parties in writing, not use for any purpose any Confidential Information of the other Party; and (iii) take all reasonable precautions to protect the Confidential Information of the other Party (including all precautions a Party employs with respect to its own confidential information of a similar nature).

13.2 **Exclusions Regarding Confidential Information**. Notwithstanding anything set forth in this Article 13 to the contrary, the obligations of Clause 13.1 above shall not apply to the extent that the Party seeking the benefit of the exclusion from the obligations set forth in Clause 13.1 (the receiving Party) can demonstrate that the Confidential Information of the other Party:

(a) was already known to the receiving Party, other than under an obligation of confidentiality, at the time of receipt by the receiving Party;

(b) was generally available to the public or otherwise part of the public domain at the time of its receipt by the receiving Party;

(c) became generally available to the public or otherwise part of the public domain after its receipt by the receiving Party other than through any act or omission of the receiving Party or those to whom the receiving Party discloses in breach of this Agreement;

(d) was received by the receiving Party without an obligation of confidentiality from a Third Party having the right (to the knowledge of the receiving Party) to disclose such information without restriction;

(e) was independently developed by or for the receiving Party without use of or reference to the Confidential Information of the other Party; or

(f) was released from the restrictions set forth in this Agreement and imposed on the receiving Party by express prior written consent of the other Party.

13.3 **Authorised Disclosures of Confidential Information**. Notwithstanding the foregoing, a receiving Party may use and disclose the Confidential Information of the other Party as follows:

(a) if required by law, rule or governmental regulation or by judicial order, including as may be required in connection with any filings made with, or by the disclosure policies of, a major stock exchange; provided that the receiving Party seeking to disclose the Confidential Information of the other Party (i)

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uses all reasonable efforts to inform the other Party of such requirement in writing prior to making any such disclosures and cooperates with the other Party's efforts to avoid or limit disclosure, or to seek a protective order, confidential treatment or other appropriate remedy (including redaction) and (ii) whenever possible, requests confidential treatment of such information that is disclosed;

(b) to the extent such use and disclosure is reasonably required in the Prosecution and Maintenance of a Patent within the Foreground IP in accordance with this Agreement; provided that such proposed disclosure is provided to the other Party in writing in advance and the other Party approves such disclosure;

(c) as reasonably necessary to obtain or maintain any Regulatory Approval, including to conduct preclinical studies and Clinical Trials and for pricing approvals, for any Therapies, provided, that, the disclosing Party shall take all reasonable steps to limit disclosure of the Confidential Information outside such Regulatory Agency and to otherwise maintain the confidentiality of the Confidential Information;

(d) to take any lawful action that it deems necessary to protect its interest under, or to enforce compliance with the terms and conditions of, this Agreement; or

(e) to the extent necessary, to permitted Sublicensees, collaborators (including collaborators, and potential collaborators, relating to use of Therapies in combination with other Therapies), vendors, consultants, agents, attorneys, contractors and clinicians under written agreements of confidentiality at least as restrictive as those set forth in this Agreement (or as restrictive as reasonably possible), who have a need to know such information in connection with such Party performing its obligations or exercising its rights under this Agreement. Further the receiving Party may disclose Confidential Information to existing or potential acquirers, merger partners, permitted sub-contractors and professional advisors only to the extent strictly necessary for the relevant transaction with such Third Parties, and provided in each case that such Third Parties agree to maintain the Confidential Information under written agreements of confidentiality at least as restrictive as those set forth in this Agreement.

13.4 **Terms of this Agreement**. The Parties agree that this Agreement and the terms hereof will be considered Confidential Information of both Parties.

13.5 **No License**. As between the Parties, Confidential Information disclosed hereunder shall remain the property of the disclosing Party. Disclosure of Confidential Information to the other Party shall not constitute any grant, option or license to the other Party, beyond those licenses expressly granted under Articles 8 and 17, under any patent, trade secret or other rights now or hereinafter held by the disclosing Party.

13.6 **Change of Control**. In the event of a Change of Control of a Party, and prior to any termination of the Agreement in accordance with Clause 17.5.4, the Party undergoing such Change of Control will adopt reasonable procedures to (i) prevent use of the other Party's Confidential Information by Acquiring Third Party or in any clinical or commercial program of such Acquiring Third Party; (ii) otherwise ensure compliance with the confidentiality obligations set out in this Clause 13; and (iii) keep the other Party's Confidential Information separate from any information relating to Acquiring Third Party's ***

. The Party undergoing such Change of Control shall require Acquiring Third Party to agree to terms of non-disclosure and non-use that are at least as restrictive as those set out in this Article 13, prior to disclosure of any of the other Party's Confidential Information to such Acquiring Third Party. Any right to disclose such Confidential Information of the other Party (excluding terms of this Agreement) to the Acquiring Third Party shall only apply after expiry

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of a period of *** from the date of such Change of Control or, if earlier, confirmation in writing from the other Party that it will not terminate the Agreement under Clause 17.5.4.

ARTICLE 14 PUBLICITY; PUBLICATIONS; USE OF NAME

14.1 **Publicity**. The Parties shall agree and issue a joint press release, as set out in Exhibit 5, concerning the execution of this Agreement on or within fourteen (14) days of the Effective Date. The text of any other press releases, public announcements or PowerPoint presentations concerning this Agreement, the subject matter hereof, or the research, development or commercial results of Therapies hereunder (a "**Release**") shall be addressed pursuant to Clauses 14.2 - 14.5, inclusive, as applicable.

14.2 **Releases during any Co-Development Plan**. Subject to Clause 14.3, and during the Co-Development Term, neither Party may issue a Release without the prior written consent of the other Party, which consent shall not be unreasonably withheld, conditioned or delayed, and any consent or refusal shall be provided within *** of request for such consent. In the absence of any reply to a request for consent (where delivery of such request has been confirmed) within such *** period, consent shall be deemed given. Releases related to any activities under the Co-Commercialisation Agreement will be addressed in the Co-Commercialisation Agreement.

14.3 **Releases required by Law or Regulation**. Each Party may issue any Release it is required to issue by Applicable Law (including requirements of any law or rule imposed by the US Securities and Exchange Commission or any securities exchange). For clarification, where any Party reasonably believes, after consultation with outside legal counsel or General Counsel, that any Release is required in order for it to comply with any securities exchange requirement, including a required release of any material information or an obligation to correct any market misstatement, such Party shall be entitled to issue such Release in accordance with such reasonable belief, without providing the other Party with any prior notification of such Release.

14.4 **Publications**. Notwithstanding Clauses 14.2 and 14.3, both Parties recognise that the publication or disclosure of papers, presentations, abstracts or any other written or oral presentations regarding results of and other information regarding the Candidates and Therapies may be beneficial to both

Parties, provided that such publications or presentations are subject to reasonable controls to protect Confidential Information, the patentability of inventions and other commercial considerations. Accordingly, the following shall apply:

14.4.1 Any proposed paper, presentation, or other public disclosure regarding any Candidate or Therapy (" **Publication**") by either Party ("**Publishing Party**") shall be provided to the other Party (" **Non-Publishing Party**") for review. The Non-Publishing Party shall review such proposed Publication within *** of receipt and may comment on and/or object to any content of the proposed Publication.

14.4.2 The Parties shall work together to resolve any comments and objections of the Non-Publishing Party on a timely basis and neither Party shall unreasonably withhold its consent to any proposed Publication, save that a Non-Publishing Party may request deletion of any of its Confidential Information from any such proposed Publication.

14.4.3 No Publication shall be made unless the contents of such Publication are mutually agreed between the Parties.

14.5 **No Use of Names**. Except as expressly provided herein, no right, express or implied, is granted by the Agreement to use in any manner the name of "Adaptimmune" or "Bellicum" or any of their Affiliates, or any other trade name, symbol, logo or trademark of the other Party or its Affiliates, in connection with the performance of this Agreement.

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ARTICLE 15 REPRESENTATIONS

15.1 **Mutual Representations and Warranties**. Each Party represents and warrants to the other Party that as of the Effective Date:

15.1.1 it is validly organized under the laws of its jurisdiction of incorporation;

15.1.2 it has obtained all necessary consents, approvals and authorizations of all governmental authorities and other persons or entities required to be obtained by it in connection with this Agreement;

15.1.3 the execution, delivery and performance of this Agreement have been duly authorised by all necessary corporate action on its part;

15.1.4 it has the legal right and power to enter into this Agreement and to fully perform its obligations hereunder;

15.1.5 the performance of its obligations under this Agreement will not conflict with such Party's charter or incorporation documents or any Third Party agreement, contract or other arrangement to which such Party is a party;

15.1.6 it will comply with all Applicable Laws in the performance of this Agreement;

15.1.7 it has not received any written letter threatening infringement or alleging any infringement in relation to any Background IP which to its actual knowledge will be required for performance of the POC Plan or any Co-Development Plan;

15.1.8 it will not use in the performance of this Agreement any person or personnel (whether directly or through a subcontractor) that has been debarred or otherwise prevented or restricted from performing any clinical research or has been convicted of any offence related to any Clinical Trial in any jurisdiction or otherwise prevented from performing any Clinical Trial by any Regulatory Authority; and

15.1.9 it has the legal right and power to extend the rights and licenses granted to the other Party hereunder.

15.2 **Disclaimers**. EXCEPT AS OTHERWISE EXPRESSLY STATED IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND WITH RESPECT TO PATENTS, KNOW-HOW, MATERIALS OR CONFIDENTIAL INFORMATION SUPPLIED BY IT TO THE OTHER PARTY HEREUNDER, AND EXPRESSLY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IN PARTICULAR BOTH PARTIES ACCEPT THAT, GIVEN THE NATURE OF THE CANDIDATES AND THERAPIES BEING GENERATED UNDER THIS AGREEMENT, THERE CAN BE NO GUARANTEE THAT ANY CANDIDATE CAN BE SUCCESSFULLY GENERATED OR THAT IF GENERATED, THE CANDIDATE OR ASSOCIATED THERAPY WILL BE CAPABLE OF OBTAINING REGULATORY APPROVAL.

ARTICLE 16 INDEMNIFICATION

16.1 **Indemnification by Adaptimmune**. Subject to Clause 16.3, Adaptimmune shall indemnify, defend and hold Bellicum, its Affiliates, their Sublicensees and their respective directors, officers, and employees and the successors and assigns of any of the foregoing harmless from and against any and all liabilities, damages, settlements, penalties, fines, costs or expenses (including reasonable attorneys' fees and other reasonable expenses of litigation) (collectively, "**Loss**" or "**Losses**") to the extent arising out of or in connection with any Third Party claims, suits, actions, demands or judgments (" **Third Party Claims**") relating to (a) the negligence or willful misconduct of Adaptimmune or its Affiliates, Sublicensees or any of its or

their sub-contractors; and (b) any breach of Applicable Laws by Adaptimmune or its Affiliates, Sublicensees or any of its or their sub-contractors except, in each case, to the extent caused by the negligence or willful misconduct of Bellicum or its Affiliates or breach of this Agreement by Bellicum or its Affiliates.

16.2 **Indemnification by Bellicum**. Subject to Clause 16.3, Bellicum shall indemnify, defend and hold Adaptimmune, its Affiliates and their respective directors, officers, and employees and the successors and assigns of any of the foregoing harmless from and against any and all Losses to the extent arising out of or in connection with any Third Party Claims relating to (a) the negligence or willful misconduct of Bellicum, its Sublicensees or any sub-contractor of Bellicum (including its Affiliates); and (b) any breach of Applicable Laws by Bellicum, its Affiliates, Sublicensees or sub-contractors except,

in each case, to the extent caused by the negligence or willful misconduct of Adaptimmune or its Affiliates or breach of this Agreement by Adaptimmune or its Affiliates.

16.3 **Procedure**. If a Party intends to claim indemnification under this Agreement (the "**Indemnitee**"), it shall promptly notify the other Party (the "**Indemnitor**") in writing of such alleged Loss and the Third Party Claim. The Indemnitor shall have the right to control the defense thereof with counsel of its choice as long as such counsel is reasonably acceptable to Indemnitee. Any Indemnitee shall have the right to retain its own counsel at its own expense for any reason in connection with such Third Party Claim, provided, however, that if the Indemnitee shall have reasonably concluded, based upon a written opinion from outside legal counsel, that there is a conflict of interest between the Indemnitor and the Indemnitee in the defense of such action, the Indemnitor shall pay the fees and expenses of one law firm serving as counsel for the Indemnitee in relation to such Third Party Claim. The Indemnitee, its employees and agents, shall reasonably cooperate with the Indemnitor and its legal representatives in the investigation of any Third Party Claims covered by this Agreement. The obligations of this Article 16 shall not apply to any settlement of any Third Party Claims if such settlement is effected without the consent of both Parties, which shall not be unreasonably withheld or delayed. The failure to deliver written notice to the Indemnitor within a reasonable time after the commencement of any such action, to the extent prejudicial to its ability to defend such action, shall relieve the Indemnitor of any obligation to the Indemnitee under this Clause 16.3. It is understood that only Bellicum and Adaptimmune may claim indemnity under this Agreement (on its own behalf or on behalf of its Indemnitees), and other Indemnitees may not directly claim indemnity hereunder.

16.4 **Insurance**.

16.4.1 **Insurance Coverage**. Each Party shall obtain and maintain comprehensive general liability insurance customary in the industry for companies of similar size conducting similar business.

16.4.2 **Evidence of Insurance**. No earlier than *** after signing this Agreement, each Party shall provide, upon request therefor, the other Party with its certificate of insurance evidencing the insurance coverage set forth Clause 16.4.1.

16.4.3 **Therapy / Clinical Trial Liability Insurance** . Commencing not later than first patient enrolment in a Clinical Trial using the first Therapy comprising the Bellicum Candidate, Bellicum shall have and maintain such type and amounts of Therapies / clinical trial liability insurance covering the development of Therapies as is normal and customary in the industry generally for parties similarly situated, but, in any event, with a minimum combined single limit per occurrence for clinical trials liability as follows: a minimum limit of *** US dollars ($***) for any period during which Bellicum or any of its Sublicensees is conducting a clinical trial(s) with any Therapy(s) or as otherwise required in order to comply with Applicable Laws. Commencing not later than first patient enrolment in a Clinical Trial using the first Therapy comprising the Adaptimmune Candidate, Adaptimmune shall have and maintain such type and amounts of Therapies / clinical trial liability insurance covering the development of Therapies as is normal and customary in the industry generally for parties similarly situated, but, in any

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event, with a minimum combined single limit per occurrence for clinical trials liability as follows: a minimum limit of *** US dollars ($***) for any period during which Adaptimmune or any of its Sublicensees is conducting a clinical trial(s) with any Therapy(s) or as otherwise required in order to comply with Applicable Laws. Such insurance policies of each Party shall be primary insurance.

16.5 **Limitation of Damages**. NEITHER PARTY HERETO WILL BE LIABLE FOR INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, EXEMPLARY, OR PUNITIVE DAMAGES, INCLUDING LOST PROFITS, ARISING FROM OR RELATING TO THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF SUCH DAMAGES, EXCEPT IN RESPECT OF ANY BREACH OF (1) A PARTY'S OBLIGATIONS UNDER ARTICLE 12 OR 13, OR (2) INDEMNIFICATION OBLIGATIONS UNDER THIS ARTICLE 16 FOR THIRD PARTY CLAIMS. FOR THE AVOIDANCE OF DOUBT, NOTHING IN THIS CLAUSE SHALL LIMIT OR EXCLUDE ANY LIABILITY TO A THIRD PARTY FOR FRAUD BY ANY PARTY OR ANY LIABILITY ARISING AS A RESULT OF PERSONAL INJURY OR DEATH CAUSED BY NEGLIGENCE OF ANY PARTY. NOTHING IN THIS CLAUSE 16.5 SHALL LIMIT EITHER PARTY'S RIGHT TO PURSUE AND OBTAIN EQUITABLE RELIEF.

16.6 **Therapy Recall**. Bellicum shall be responsible for investigating any SUSAR or other complaint in relation to any Therapy comprising a Bellicum Candidate. Adaptimmune shall be responsible for investigating any SUSAR or other complaint in relation to any Therapy comprising an Adaptimmune Candidate. The responsible Party shall report its finding to the JDC or JCC, as relevant, once it has identified the reason for such complaint, SUSAR or has identified any requirement to recall any Therapy or any batch of Therapy. The responsible Party shall be responsible for carrying out any Therapy recall but shall keep the JDC or JCC, as relevant, informed of the status and process for such recall including any material correspondence with any Regulatory Authority. Where such recall is during the performance of any POC Plan or Co-development Plan, the costs associated with such recall will be shared between the Parties in the same way as other Co-Development Plan costs unless (a) such recall is due to any failure of responsible Party arising out of the manufacture or supply of Therapy or any part of the Therapy; or (b) any such costs are covered by applicable insurance policies. The costs associated with any recall during commercialisation of any Therapy and after Completion of the relevant Co-Development Plan shall be shared in accordance with the terms of the Co-Commercialisation Agreement or if none, Exhibit 3.

ARTICLE 17 TERM AND TERMINATION

17.1 **Term**. The term of this Agreement (the "**Term**") shall commence on the Effective Date and, unless sooner terminated as provided in this Article 17, shall continue in full force and effect, on a country-by-country and Therapy-by-Therapy basis until such Therapy ceases being commercialized by either Party, at which time this Agreement shall expire with respect to such Therapy in such country (except for such provisions of this Agreement as continue beyond its natural expiration). The Term shall expire on the date this Agreement has expired in its entirety with respect to all Therapies in all countries in the world.

17.2 **Opt-out Rights**. Following the start date of any Co-Development Plan of the other Party or the start date of any Co-Commercialisation Agreement, and without prejudice to the termination rights set out in Clauses 17.3 - 17.5 below, a Party ("**Notifying Party**") may notify the other Party (" **Non-notifying Party**") in writing that it wishes to opt-out of its funding obligation under any such Co-Development Plan or Co-Commercialisation Agreement, as appropriate ("**Opt-out Notice**"). Any Opt-out Notice shall be subject to the following:

17.2.1 Any Opt-out Notice may only be provided by the Notifying Party in relation to, in the case of Adaptimmune, any Bellicum Candidate or Bellicum Therapy, and in the case of Bellicum, any Adaptimmune Candidate or Adaptimmune Therapy (such Candidate or Therapy in relation to which the Opt-out Notice has been provided, the "**Opt-Out Candidate/ Therapy**").

17.2.2 The Opt-out Notice shall take effect on the date notified by the Notifying Party in the Opt-out Notice, such date to be no earlier than *** from date of receipt of Opt-out Notice by Non-notifying Party ("**Opt-out Date**"). During such period between delivery of the Opt-out Notice and the Opt-out Date, the Non-notifying Party may only incur expenses in accordance with the then-current budget for such Opt-Out Candidate/ Therapy, and the Notifying Party shall continue to bear its share of expenses for such Opt-Out Candidate/ Therapy in accordance with Article 10.

17.2.3 From and after the Opt-out Date:

(a) The Notifying Party (including its Affiliates) shall have no further obligation to reimburse the costs arising under the Co-Development Plan for such Opt-Out Candidate/ Therapy, save that the obligation to reimburse under Section 10.2 shall continue in relation to any costs and expenses incurred prior to the Opt-out Date.

(b) The Notifying Party shall have no further license under the Non-notifying Party's intellectual property rights in such Opt-Out Candidate/ Therapy, save as required for any remaining performance under Section 17.2.3(g) below.

(c) The Notifying Party shall have no further right to commercialize or develop (including conducting any clinical trials) such Opt-Out Candidate/ Therapy.

(d) The Notifying Party shall have no right or obligation to share in any profit or loss, respectively, arising from sale of such Opt-Out Candidate/ Therapy, save that any right or obligation to share in any profit or loss arising from the sale of such Opt-Out Candidate/ Therapy prior to the Opt-out Date shall continue as provided under this Agreement or under the Co-Commercialisation Agreement (if separate).

(e) The Non-notifying Party shall continue to be licensed and entitled to proceed with the development or commercialisation of such Opt-Out Candidate/ Therapy in accordance with Article 8 of this Agreement.

(f) The continuing Non-notifying Party shall be fully responsible for the remaining development and commercialization of such Opt-Out Candidate/ Therapy, save as provided in Section 17.2.3(g) below;

(g) The Non-notifying Party may request that the Notifying Party continue to perform certain of its obligations under the Co-Development Plan for such Opt-Out Candidate/ Therapy, particularly to the extent such obligations relate to any Reserved Activity of the Notifying Party, or to the Adaptimmune Technology or Bellicum Technology, as applicable to the Notifying Party, or to any safety reporting by the Notifying Party that has relevance to such Opt-Out Candidate/ Therapy. At the Non-notifying Party's sole expense (for resources expended by the Notifying Party, including payments for personnel on an FTE basis, at the FTE rates set forth in Exhibit 2), the Notifying Party shall perform its obligations under the Co-Development Plan, including with respect to such Reserved Activities and/or to the Adaptimmune Technology or Bellicum Technology, as applicable to the Notifying Party, as reasonably and specifically requested by the Non-notifying Party in writing, and in each case as reasonably necessary for the further development and commercialization of such Opt-Out Candidate/ Therapy. The Notifying Party shall ensure that it transfers to the Non-notifying Party, at the Non-notifying Party's expense, any items and rights controlled by the Notifying Party that are necessary for the Non-notifying Party to advance such Opt-Out Candidate/ Therapy on its own

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through development and commercialization; provided that (a) this obligation does not include ***

; and (b) this obligation does not include ***

. Performance of activities (excluding co-funding activities) by the Notifying Party pursuant to this Clause 17.2.3(g) shall continue to be made in accordance with the provisions of this Agreement and the applicable Co-Development Plan.

(h) Provisions of this Agreement as are applicable to the continuing rights and activities of either Party following the Opt-out Date, for any Candidate or Therapy of a Party in relation to which no Opt-out Notice has been provided, shall continue in full force and effect, including in relation to any Opt-Out Candidate/ Therapy, and shall include Article 5, Article 6, Article 8 (as amended in this Clause 17.2.3), Article 9, Article 11 (in relation to any payments which remain due and owing or are payable under Clause 17.2.4 below), Article 12, Article 13, and Article 16. The provisions of Article 2, to the extent they relate to an Opt-Out Candidate/ Therapy, shall cease to apply, save that Clause 2.9 shall continue and survive.

17.2.4 Non-notifying Party will pay to Notifying Party ***
for its use of the Notifying Party's Licensed Intellectual Property in relation to an Opt-Out Candidate/ Therapy. The *** shall be *** until ***

. For clarity, such

*** shall be payable ***

.

If the Parties enter into a related agreement that includes non-financial terms and conditions regarding use of the Notifying Party's Licensed Intellectual Property (which shall be consistent with the terms and conditions of this Agreement), the*** set forth above (but no other financial terms) shall be incorporated into such agreement.

17.3 **Termination by Either Party for Material Breach**. Either Party may terminate this Agreement (i) in its entirety, (ii) with respect to any Exclusive License granted by such Party, (iii) with respect to a given Selected Target (and Candidates directed to such Selected Target), or (iv) on a country-by-country basis, by written notice delivered to the other Party for any material breach of this Agreement by the other Party if, in the case of remediable breach, such material breach is not cured within sixty (60) days (thirty (30) days for payment defaults) after the breaching Party receives written notice of such breach from the non-breaching Party describing such breach and demanding its cure; provided, that if such breach is not capable of being cured within such 90-day (or 30-day) period, the cure period shall be extended for such amount of time that the Parties may agree in writing is reasonably necessary to cure such breach, so long as (1) the breaching Party is making Commercially Reasonable Efforts to do so, and (2) the Parties agree on an extension within such 90-day (or 30-day) period. For clarity, this Agreement may be terminated in its entirety under this Clause 17.3 only if the material breach affects the fundamental purpose of this Agreement. Notwithstanding anything to the contrary herein, if the allegedly breaching Party in good faith either disputes (a) whether a breach is material or has occurred or (b) the alleged failure to cure or remedy such material breach, and provides written notice of that dispute to the other Party within the above time periods, then the matter will be addressed under the dispute resolution provisions in Article 18, and the notifying Party may not so terminate this Agreement until it has been determined under Article 18 that the allegedly breaching Party is in material breach of this

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Agreement, and such breaching Party further fails to cure such breach within 90-days (or such longer period as determined by the arbiter of such dispute resolution) after the conclusion of that dispute resolution procedure.

17.4 **Termination by Either Party for Insolvency or Bankruptcy**. Either Party may terminate this Agreement effective ten (10) business days after delivery of written notice to the other Party upon the liquidation, dissolution, winding-up, insolvency, bankruptcy, or filing of any petition therefor, appointment of a receiver, custodian or trustee, or any other similar proceeding, by or of the other Party where such petition, appointment or similar proceeding is not dismissed or vacated within ninety (90) calendar days. All rights and licenses granted pursuant to this Agreement are, for purposes of Clause 365(n) of Title 11 of the United States Code or any foreign equivalents thereof (as used in this Clause 20.3, "**Title 11**"), licenses of rights to "intellectual property" as defined in Title 11. Each Party in its capacity as a licensor hereunder agrees that, in the event of the commencement of bankruptcy proceedings by or against such bankrupt Party under Title 11, (a) the other Party, in its capacity as a licensee of rights under this Agreement, shall retain and may fully exercise all of such licensed rights under this Agreement (including as provided in this Clause 17.4) and all of its rights and elections under Title 11, and (b) the other (licensee) Party shall be entitled to a complete duplicate of all embodiments of such intellectual property, and such embodiments, if not already in its possession, shall be promptly delivered to the other (licensee) Party (i) upon any such commencement of a bankruptcy proceeding, unless the bankrupt Party elects to continue to perform all of its obligations under this Agreement, or (ii) if not delivered under (i), immediately upon the rejection of this Agreement by or on behalf of the bankrupt Party.

17.5 **Termination by Either Party, or Automatically Under Clause 3.5**

17.5.1 Bellicum may terminate:

(a) the Exclusive License granted by Adaptimmune relating to any Bellicum Candidate at any time by providing written notice to Adaptimmune, such termination to be effective ninety (90) days after provision of such notice; and

(b) the Exclusive License relating to any particular Adaptimmune Candidate at any time after start of Phase II Clinical Trials for such Adaptimmune Candidate by providing written notice to Adaptimmune, where Adaptimmiune has materially ceased the commercialisation or development of such Adaptimmune Candidate or Adaptimmune Therapy comprising such Adaptimmune Candidate, and such cessation is not due to significant safety or efficacy concerns with the relevant Adaptimmune Therapy, such termination to be effective ninety (90) days after provision of such notice.

17.5.2 Adaptimmune may terminate

(a) the Exclusive License granted by Bellicum relating to any Adaptimmune Candidate at any time by providing written notice to Bellicum; such termination to be effective ninety (90) days after provision of such notice; and

(b) the Exclusive License relating to any particular Bellicum Candidate at any time after start of Phase II Clinical Trials for such Bellicum Candidate by providing written notice to Bellicum, where Bellicum has materially ceased the commercialisation or development of such Bellicum Candidate or Bellicum Therapy comprising such Bellicum Candidate, and such cessation is not due to significant safety or efficacy concerns with the relevant Bellicum Therapy, such termination to be effective ninety (90) days after provision of such notice.

17.5.3 Either Party (in the case of the following clauses (a) and (b)), and the licence-granting Party (in the case of the following clause (c)) may terminate

(a) Any Exclusive License granted to it, and such Party's associated Co-Development Plan, where it believes that continuing with the applicable Candidate and Therapy comprising such Candidate causes or is likely to cause significant safety or efficacy concerns, and following written notification of such concerns to the other Party. Any termination under this Clause 17.5.3(a) shall be effective ninety (90) days after the other Party's receipt of such notice;

(b) The Agreement in accordance with Clause 3.4, on provision of 30 days written notice to the other Party; and

(c) The Exclusive Licence under which a licence has been granted to the other Party to use any of such Party's Licensed Intellectual Property, if the other Party or its Affiliates or Sublicensees commences proceedings (whether before a regulatory or administrative body or a court) anywhere in the world, or voluntarily assists any Third Party in commencing or participating in such proceedings (whether before a regulatory or administrative body or a court) alleging that any claim in any Patent within such Licensed Intellectual Property that is licensed to the other Party by such Party (including the Adaptimmune Background IP or Bellicum Background IP, as applicable) is invalid, unenforceable or otherwise not patentable, and such proceedings are not withdrawn within thirty (30) days after receipt of a written notice to withdraw . Notwithstanding the foregoing, a licence-granting Party shall have no right to terminate any Exclusive License pursuant to this Clause 17.5.3(c) if any proceedings are brought as a defense (including an affirmative defense) in relation to a claim of infringement brought against the other Party or its Affiliates or Sublicensees.

17.5.4 A Party may terminate the Exclusive License(s) granted to the Party undergoing a Change of Control (the " **CoC Party**"), such termination being subject to the following: (a) provision of written notice to such Party by the CoC Party within fourteen (14) days after the Change of Control is consummated; and (b) provision by such Party to the CoC Party of written notice of termination of such Exclusive License(s) granted by such Party within thirty (30) days of becoming notified of the Change of Control of the CoC Party; provided that such termination right will apply only with respect to any Candidate(s) that has not been designated as a Joint Selected Candidate of the CoC Party (i.e., a Candidate that has not been selected by the JDC for advancement to pre-clinical and clinical development) at the date of consummation of the Change of Control. For clarity, and with respect to Joint Selected Candidates of the CoC Party that exist at the date of consummation of the Change of Control, any Exclusive Licenses granted to the CoC Party for its existing Joint Selected Candidates shall remain in full force and effect after such Change of Control. To the extent the Party that is not the CoC Party determines earlier than expiry of the period of thirty (30) days from being notified of such Change of Control that it will not terminate the Exclusive License(s) granted by it, it will notify the CoC Party accordingly in writing, and such right to terminate the Exclusive License(s) granted to the CoC Party for such Change of Control shall cease on receipt of such written notice by the CoC Party.

17.5.5 Termination of the Agreement will also occur automatically in accordance with Clause 3.5.

17.6 **Accrued Rights and Obligations**. Expiration or termination of this Agreement in its entirety, or with respect to a particular Exclusive License, a given Therapy or Candidate, or a given country for any reason, shall not release either Party hereto from any liability which, as of the effective date of such expiration or termination, had already accrued to the other Party or which is attributable to a period prior to such termination, nor preclude either Party from

pursuing any rights and remedies it may have hereunder or at law or in equity which accrued or are based upon any event occurring prior to the effective date of such expiration or termination.

17.7 **Effects of Termination**. The effects of termination set forth in this Clause 17.7 shall apply either with respect to this Agreement in its entirety, if the Agreement is terminated in its entirety, or only with respect to a specific Therapy, Candidate or Exclusive License or country, if this Agreement is only terminated with respect to a specific Therapy, Candidate or Exclusive License or country, in all cases as applicable. For clarity, this Clause 17.7 shall not apply to any given Therapy and country with respect to which the Term naturally expires.

17.7.1 **Termination of Licenses**.

(a) Upon termination of a particular Exclusive License granted by Adaptimmune pursuant to Clause 17.3, Clause 17.5, such Exclusive License and the related Development License to any Selected Target, Therapy or Candidate covered by such Exclusive License shall terminate as of the effective date of such termination. Bellicum shall ensure that it transfers to Adaptimmune all items and rights necessary for Adaptimmune to advance on its own, through development and commercialization, the Candidate/ Therapy that was the subject of the terminated Exclusive License. The exclusivity to the relevant Target under Clause 4.1.2 shall also cease as of the effective date of such termination;

(b) Upon termination of a particular Exclusive License granted by Bellicum pursuant to Clause 17.3, Clause 17.5, such Exclusive License and the related Development License to any Selected Target, Therapy or Candidate covered by such Exclusive License shall terminate as of the effective date of such termination. Adaptimmune shall ensure that it transfers to Bellicum all items and rights necessary for Bellicum to advance on its own through development and commercialization the Candidate/ Therapy that was the subject of the terminated Exclusive License. The exclusivity to the relevant Target under Clause 4.1.2 shall also cease as of the effective date of such termination; and

(c) Upon termination of the Agreement in its entirety by either Party pursuant to Clause 17.3, Clause 17.4, Clause 17.5.4 or Clause 17.5.3(b), or an automatic termination of the Agreement as described in Clause 17.5.5, all licenses and options granted under this Agreement shall terminate as of the effective date of such termination.

17.7.2 **Clinical Trials**. The Parties shall ensure that where termination of any Exclusive License or this Agreement occurs during any Clinical Trial, that any such Clinical Trial shall be wound down in accordance with the protocol for such Clinical Trial and in such a way as to minimize any patient harm and at all times in accordance with all Applicable Laws.

17.7.3 **Return of Confidential Information**. Following expiry or any early termination of this Agreement, the Party that has Confidential Information of the other Party shall to the extent reasonably possible destroy (at such Party's written request) or put beyond use all such Confidential Information in its possession as of the effective date of expiration or termination (with the exception of one copy of such Confidential Information, which may be retained by the legal department of the Party that received such Confidential Information solely for purposes of ensuring compliance with confidentiality obligations), provided that each Party may retain and continue to use such Confidential Information of the other Party to the extent necessary to exercise any surviving rights, licenses or obligations under this Agreement or any obligation under Applicable Laws. This clause shall not require return or destruction of any Confidential Information which is held on back-up servers or archive systems, provided such back-ups have been made as part of the routine business of a Party and such back-ups are not accessible other than

by members of the IT team at such Party. Any retained Confidential Information will continue to be subject to the confidentiality provisions of this Agreement.

17.7.4 **Inventory at Termination**. Subject to Clause 17.7.5, upon termination of this Agreement or any Exclusive License under Clause 17.3, Clause 17.4, Clause 17.5.1(b) or Clause 17.5.2(b), and for a period of *** months following such termination, any non-breaching Party and its permitted Affiliates and Sublicensee/s shall have the right to sell or otherwise dispose of all inventory of Therapies in all countries then in its stock, subject to payment of its share of co-commercialisation receipts due under this Agreement, and any other applicable provisions of this Agreement, and the other Party covenants not to sue such non-breaching Party or its permitted Sublicensee/s for infringement under, or misappropriation of, any of the Licensed Intellectual Property that were licensed by other Party to non-breaching Party immediately prior to such termination with respect to such activities conducted by non-breaching Party or its permitted Sublicensee/s pursuant to this Clause 17.7.4. To the extent any continuing requirement to supply exists after such termination, the Parties may mutually agree that the non-breaching Party can continue to supply to the breaching Party to fulfill any such continuing supply requirement.

17.7.5 **Right to take over Manufacture, Sell and Supply**. On termination of any Exclusive License where such termination is for a material breach by the other Party under Clause 17.3 or in the event of insolvency under Clause 17.4 or under Clause 17.5.1(b) or Clause 17.5.2(b) or under Clause 17.5.3(c), and upon the Parties' negotiation and execution of a corresponding written agreement containing mutually agreed, commercially reasonable terms and conditions pursuant to Clause 17.7.6, the terminating Party shall be entitled to take over the manufacture, supply and development of the relevant Joint Selected Candidate and any Therapy utilising the Joint Selected Candidate that are the subject of the terminated Exclusive License. The other (terminated) Party shall provide to the terminating Party reasonable assistance, documentation (including manufacturing process information) as may be reasonably required by the terminating Party for the ongoing manufacture and supply of the relevant (terminated) Joint Selected Candidate or Therapy (to the extent that the terminated Party can do so without violating its obligations to Third Parties), at terminating Party's sole cost and expenses (subject to *** as set out below). Such assistance shall include, to the extent relevant and depending on the stage of research and development of the relevant (terminated) Therapy or Joint Selected Candidate:

(a) transfer of any INDs and Regulatory Approvals regarding the terminated Therapy or Joint Selected Candidate held by other (terminated) Party to the terminating Party (which terminating Party shall promptly accept);

(b) provision of all CMO and CRO details and other sub-contractor details regarding the terminated Therapy or Joint Selected Candidate, where not already known to terminating Party, and where reasonably possible transfer of all related sub-contractor agreements (to the extent such transfer is requested by terminating Party), subject where relevant to the consent of any relevant Third Party;

(c) provision of all master drug files and records or documentation regarding the terminated Therapy or Joint Selected Candidate and required by terminating Party to continue with any Clinical Trials or Regulatory Approvals of such terminated Therapy or Joint Selected Candidate or as may otherwise be required in order to comply with Applicable Laws in this regard;

(d) transfer of sponsorship for any Clinical Trials and transfer of any Third Party agreements associated with such Clinical Trials regarding the terminated Therapy or Joint Selected Candidate, subject where relevant to the consent of any relevant Third Party;

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(e) provision of all reasonable assistance and technical training as may be reasonably required by terminating Party to enable transfer of manufacture, ongoing Clinical Trials and supply of the terminated Therapy or Joint Selected Candidate to the terminating Party as soon as reasonably possible; and

(f) provision of any documentation relating to any associated diagnostics and diagnostic assays regarding the terminated Therapy or Joint Selected Candidate, to the extent not covered by any transfer of a Third Party agreement to terminating Party.

17.7.6 On termination of any Exclusive License and transfer of the terminated Therapy or Joint Selected Candidate under Clause 17.7.5 pursuant to a written agreement containing commercially reasonable terms and conditions that are negotiated and executed by the Parties on a timely basis, and where such termination occurs after completion of the Co-Development Phase, the Parties shall negotiate and agree, in good faith, upon appropriate ***

. The terminating Party shall have no rights to take over the manufacture, sale and supply of any Joint Selected Candidate or Therapy utilizing such Joint Selected Candidate under Clause 17.7.5 unless and until such agreement is executed by the Parties. Such agreement between the Parties shall also include terms relating to the transfer of manufacture, supply and development of such terminated Joint Selected Candidate or Therapy. Neither Party shall unreasonably delay negotiation of such agreement, and any negotiations shall be in good faith at all times. Where any agreement terms have not been finalised within ninety (90) days of the effective date of termination, such unresolved terms may be forwarded to the respective officers of the Parties set out in Clause 18.1 for resolution. Where such respective officers remain unable to resolve any unresolved terms within a further sixty (60) days of the date of referral to such respective officers, then (i) in relation to any unresolved terms that relate to the compensation which breaching Party should receive under such agreement, then such unresolved terms shall be determined by arbitration in accordance with Clause 18.2. The Parties shall incorporate the *** terms, once agreed upon by the Parties or determined through arbitration, in such agreement.

17.8 **Survival**. In addition to any provisions specified in this Agreement as surviving under the applicable circumstances, the following provisions shall survive: Articles 6, 10 (to the extent any reimbursement of any shared costs remains outstanding), 11, 12, 13, 14, 15, 16, 18, 19, 20, 21 and Clauses 5.4.2, 7.4, 10.2.6, 10.2.7, 17.6, 17.7, and 17.8. In addition to those provisions specifically referenced in this Clause 17.8, those provisions which by their nature are intended to survive, as well as any other provisions necessary to interpret or implement any other surviving provisions (including, to the extent applicable, the definitions in Article 1), shall survive.

ARTICLE 18 DISPUTE RESOLUTION

18.1 **Disputes**. Adaptimmune and Bellicum recognize that a dispute, controversy or claim of any nature whatsoever arising out of or relating to this Agreement, or the breach, termination or invalidity thereof (each, a "**Dispute**"), may from time to time arise during the Term. Unless otherwise

specifically recited in this Agreement, such Disputes between Adaptimmune and Bellicum will be resolved as recited in this Article 18. In the event of the occurrence of such a Dispute, the Parties shall first refer such Dispute to their respective Alliance Managers for attempted resolution by such Alliance Managers within *** after such referral. If such Dispute is not resolved within such *** period, either Adaptimmune or Bellicum may, by written notice to the other, have such Dispute referred to their respective officers designated below, or their respective designees, for attempted resolution within ***

after such notice is received. Such designated officers are as follows:

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For Bellicum — Chief Executive Officer

For Adaptimmune — Chief Executive Officer

In the event the designated officers, or their respective designees, are not able to resolve such Dispute, and if resolution of such Dispute is not explicitly provided for herein through any other means, then within *** of such other Party's receipt of such written notice, either Party may initiate the dispute resolution procedures set forth in Clause 18.2.

18.2 **Arbitration**.

18.2.1 **Rules**. Except as otherwise expressly provided in this Agreement (including under Clause 18.3 with respect to Patent-related matters), the Parties agree that any Dispute not resolved internally by the Parties pursuant to Clause 18.1 shall be resolved through binding arbitration conducted by the International Chamber of Commerce in accordance with the then prevailing Rules of Arbitration of the International Chamber of Commerce (for purposes of this Article 18, the "**Rules**"), except as specifically modified in this Agreement, applying the substantive law specified in Clause 21.1.

18.2.2 **Arbitrators; Location**. Each Party shall select one (1) arbitrator, and the two (2) arbitrators so selected shall choose a third arbitrator. All three (3) arbitrators shall serve as independent arbitrators and have at least ten (10) years of (a) dispute resolution experience (including judicial experience) and/or (b) legal or business experience in the biotech or pharmaceutical industry. In any event, at least one (1) arbitrator shall satisfy the foregoing experience requirement under Clause (b). If a Party fails to nominate its arbitrator, or if the Parties' arbitrators cannot agree on the third, the necessary appointments shall be made in accordance with the Rules. Once appointed by a Party, such Party shall have no ex parte communication with its appointed arbitrator. The arbitration proceedings shall be conducted in New York, New York. The arbitration proceedings and all pleadings and written evidence shall be in the English language. Any written evidence originally in another language shall be translated into English and accompanied by the original or a true copy thereof.

18.2.3 **Procedures; Awards**. Each Party agrees to use reasonable efforts to make all of its current employees available to the arbitrators, if reasonably needed, and agrees that the arbitrators may determine any person as necessary. The arbitrators shall be instructed and required to render a written, binding, non-appealable resolution and award on each issue that clearly states the basis upon which such resolution and award is made. The written resolution and award shall be delivered to the Parties as expeditiously as possible, but in no event more than *** after conclusion of the hearing, unless otherwise agreed by the Parties. Judgment upon such award may be entered in any competent court or application may be made to any competent court for judicial acceptance of such an award and order for enforcement. Each Party agrees that, notwithstanding any provision of Applicable Law or of this Agreement, it will not request, and the arbitrators shall have no authority to award, punitive or exemplary damages against any Party. All information disclosed and generated in the course of such arbitration proceeding shall be treated as confidential information by each of the Parties.

18.2.4 **Costs**. The prevailing Party, as determined by the arbitrators, shall be entitled to (a) its share of fees and expenses of the arbitrators and (b) its reasonable attorneys' fees and associated costs and expenses. In determining which Party "prevailed," the arbitrators shall consider (i) the significance, including the financial impact, of the claims prevailed upon and (ii) the scope of claims prevailed upon, in comparison to the total scope of the claims at issue. If the arbitrators determine that, given the scope of the arbitration, neither Party "prevailed," the arbitrators shall order that the Parties (1) share equally the fees and expenses of the arbitrators and (2) bear their own attorneys' fees and associated costs and

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

expenses.

18.2.5 **Interim Equitable Relief**. Notwithstanding anything to the contrary in this Clause 18.2, in the event that a Party reasonably requires relief on a more expedited basis than would be possible pursuant to the procedure set forth in this Article 18, such Party may seek a temporary injunction or other interim equitable relief in a court of competent jurisdiction pending the ability of the arbitrators to review the decision under this Clause 18.2. Such court shall have no jurisdiction or ability to resolve Disputes beyond the specific issue of temporary injunction or other interim equitable relief.

18.2.6 **Protective Orders; Arbitrability**. At the request of either Party, the arbitrators shall enter an appropriate protective order to maintain the confidentiality of information produced or exchanged in the course of the arbitration proceedings. The arbitrators shall have the power to decide all questions of arbitrability.

18.3 **Subject Matter Exclusions**. Notwithstanding the provisions of Clause 18.2, any Dispute not resolved internally by the Parties pursuant to Clause 18.1 that involves the validity or infringement of a Patent Covering a Therapy or Candidate shall be brought before an appropriate regulatory or administrative body in the country in which such Patent is granted or applied for, and the Parties hereby consent to the jurisdiction and venue of such

courts and bodies.

18.4 **Continued Performance**. Provided that this Agreement has not terminated, the Parties agree to continue performing under this Agreement in accordance with its provisions, pending the final resolution of any Dispute.

ARTICLE 19 ANTI-BRIBERY

19.1 **Anti-Bribery**.

19.1.1 "Anti-Corruption Laws" means all anti-corruption and anti-bribery laws and regulations, including the U.S. Foreign Corrupt Practices Act of 1977, as amended, and the United Kingdom Bribery Act 2010, as amended, and any other applicable anti-corruption laws and laws for the prevention of fraud, racketeering, money laundering or terrorism.

19.1.2 "Government Official" means any person employed by or acting on behalf of a government, government-controlled entity or public international organization; any political party, party official or candidate; any person who holds or performs the duties of an appointment, office or position created by custom or convention; and any person who holds himself out to be the authorised intermediary of any of the foregoing.

19.1.3 The Parties agree, on behalf of themselves and their respective officers, directors and employees, that in connection with this Agreement, it shall not directly or indirectly pay, offer or promise to pay, or authorise the payment of any money, or give, offer or promise to give, or authorise the giving of anything else of value, to (i) any Government Official in order to influence official action; (ii) any person (whether or not a Government Official) (a) to influence such person to act in breach of a duty of good faith, impartiality or trust, (b) to reward such person for acting improperly, or (c) where such person would be acting improperly by receiving the money or other thing of value; (iii) any other person while knowing or having reason to know that all or any portion of the money or other thing of value will be paid, offered, promised or given to, or will otherwise benefit a Government Official in order to influence official action for or against any party in connection with the matters that are the subject of this agreement; or (iv) any person to reward that person for acting improperly or to induce that person to act improperly.

19.1.4 The Parties agree, on behalf of themselves and their respective officers, directors and employees that work in connection with this Agreement that they shall not, directly or indirectly, solicit, receive or agree to accept any payment of money or anything else of value in violation of the Anti-Corruption Laws. In connection with the performance of the services hereunder, the Parties undertake to comply with the Anti-Corruption Laws and shall not take any action that will, or would reasonably be expected to, cause it to be in violation of any such laws to the extent applicable to either Party.

19.1.5 Each Party shall promptly provide the other Party with written notice of (i) becoming aware of any breach or violation by the relevant Party or its sub-contractors or its or their respective officers, directors, employees, of any of the representation, warranty or undertaking set forth in this Clause 22.1 or (ii) upon receiving a formal notification that it is the target of a formal investigation by any governmental authority for any breach of Anti-Corruption Laws in connection with the performance of this Agreement.

ARTICLE 20 DATA PROTECTION

For the purposes of this Article**, Personal Data** shall have the meaning given to it in the Data Protection Act 1998.

a) To the extent applicable, the Parties will comply with all applicable national and international laws, regulations and guidelines relating to protection of the personal information of study subjects, including the European Commission Directive 95/46/IC as it relates to the protection of the personal information of EU/EEA persons, and the Standards for Privacy of Individually Identifiable Health Information (Privacy Rule) under the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

b) The Parties shall process the Personal Data only to the extent, and in such a manner, as is necessary for the purposes of performing their respective obligations under this Agreement and for other lawful purposes. In addition any Personal Data shall only be processed in accordance with any informed consents.

c) The Parties shall not disclose the Personal Data to any person except as required or permitted by this Agreement or with the written consent of the other Party.

d) The Parties shall implement appropriate technical and organisational measures to protect the Personal Data against accidental or unlawful destruction or accidental loss, unauthorised disclosure, access, use, modification, alteration, copying and all other unlawful forms of Processing.

ARTICLE 21 MISCELLANEOUS

21.1 **Applicable Law**. This Agreement (including the arbitration provisions of Article 21.2) shall be governed by and interpreted in accordance with the laws of England and Wales, without reference to the principles of conflicts of laws. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to the transactions contemplated by this Agreement.

21.2 **Notices**. Except as otherwise expressly provided in the Agreement, any notice required under this Agreement shall be in writing and shall specifically refer to this Agreement. Notices shall be sent via one of the following means and will be effective (a) on the date of delivery, if delivered in person; or (b) on the date of receipt, if sent by private express courier or by first class certified mail, return receipt requested. Notices shall be sent to the other Party at the addresses set forth below. Either Party may change its addresses for purposes of this Clause

21.2 by sending written notice to the other Party.

If to Bellicum: Bellicum Pharmaceuticals, Inc.
Attn: General Counsel
2130 W. Holcombe Blvd., Suite 800
Houston, Texas USA
77030

If to Adaptimmune: Adaptimmune Limited
Attn: COO and General Counsel
101 Park Drive
Abingdon, Oxfordshire, UK
OX14 4RX

21.3 **Assignment**. Neither Party may assign or otherwise transfer, in whole or in part, this Agreement without the prior written consent of the non-assigning Party, such approval not to be unreasonably withheld, conditioned or delayed. Notwithstanding the foregoing, either Party may assign this Agreement to (i) an Affiliate or (ii) any purchaser of all or substantially all of the assets of such Party that relate to the performance of this Agreement, or of all of its capital stock, or to any successor corporation or entity resulting from any merger or consolidation or re-organization of such party with or into such corporation or entity, provided that the Party to which this Agreement is assigned expressly agrees in writing to assume and be bound by all obligations of the assigning Party under this Agreement. Subject to the foregoing, this Agreement will benefit and bind the Parties' successors and permitted assigns. Any assignment not in accordance with Clause 21.3 shall be null and void.

21.4 **Non-solicit**. Neither Party shall (except with the prior written consent of the other Party) knowingly solicit for employment or entice away (or attempt to solicit or entice away) from the employment of the other Party any person employed in the provision of such other Party's obligations under any POC Plan or Co-Development Plan during the course of any Co-Development Plan or POC Plan and for a further period of *** from expiry, termination or completion of such Co-Development Plan or POC Plan; provided that this Clause 21.4 shall not apply to advertisements of a general nature placed in newspapers, trade publications or online or if such employee initiates the contact.

21.5 **Independent Contractors**. The Parties hereto are independent contractors and nothing contained in this Agreement shall be deemed or construed to create a partnership, joint venture, employment, franchise, agency or fiduciary relationship between the Parties.

21.6 **Entire Agreement**. Except to the extent expressly provided herein, this Agreement constitutes the entire agreement between the Parties relating to the subject matter of this Agreement and supersedes all previous oral and written communications between the Parties with respect to the subject matter of this Agreement. Both Parties confirm that in entering into this Agreement that have not relied on any representation or statement from the other Party that is not explicitly stated as a warranty or representation under this Agreement. Nothing in this Clause 21.6 shall exclude any liability for fraud or fraudulent misrepresentation or exclude any remedy for such.

21.7 **Amendment; Waiver**. Except as otherwise expressly provided herein, no alteration of or modification to this Agreement shall be effective unless made in writing and executed by an authorised representative of both Parties. No course of dealing or failing of either Party to strictly enforce any term, right or condition of this Agreement in any instance shall be construed as a general waiver or relinquishment of such term, right or condition. The observance of any provision of this Agreement may be waived (either generally or any given instance and either retroactively or prospectively) only with the written consent of the Party granting such waiver.

21.8 **Further Assurance**. Each Party shall and shall use all Commercially Reasonable Efforts to procure that any necessary Third Party shall promptly execute and deliver such further

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documents and do such further acts as may be required for the purpose of giving full effect to this Agreement.

21.9 **Severability**. The Parties do not intend to violate any public policy or statutory or common law. However, if any sentence, paragraph, section, clause or combination or part thereof of this Agreement is in violation of any law or is found to be otherwise unenforceable, such sentence, paragraph, section, clause or combination or part of the same shall be deleted and the remainder of this Agreement shall remain binding, provided that such deletion does not alter the basic purpose and structure of this Agreement.

21.10 **No Third Party Rights**. The Parties do not intend that any term of this Agreement should be enforceable by any person who is not a Party.

21.11 **Interpretation**. The captions and headings to this Agreement are for convenience only, and are to be of no force or effect in construing or interpreting any of the provisions of this Agreement. Unless context otherwise clearly requires, whenever used in this Agreement: (a) the words "include" or "including" shall be construed as incorporating "but not limited to" or "without limitation"; (b) the words "hereof," "herein," "hereby" and derivative or similar words refer to this Agreement, including the Exhibits; (c) the word "law" or "laws" means any applicable, legally binding statute, ordinance, resolution, regulation, code, guideline, rule, order, decree, judgment, injunction, mandate or other legally binding requirement of a governmental authority (including a court, tribunal, agency, legislative body or other instrumentality of any (i) government or country or territory, (ii) any state, province, county, city or other political subdivision thereof, or (iii) any supranational body); (d) all references to the word "will" are interchangeable with the word "shall" and shall be understood to be imperative or mandatory in nature; (f) the singular shall include the plural and vice versa; and (g) the word "or" has the inclusive meaning represented by the phrase "and/or". All references to days, months, quarters or years are references to calendar days, calendar months, calendar quarters, or calendar years.

21.12 **Other Activities**. The Parties acknowledge that each of them may now or in the future engage in research, manufacturing, development or commercialisation activities that utilize technologies similar to or involve therapies or pharmaceutical products competitive with those contemplated by this Agreement. Except as may be expressly provided in this Agreement, nothing in this Agreement, including any obligation to use Commercially Reasonable Efforts to promote Therapies or any restriction on the use of Confidential Information, shall create any obligation not to research, manufacture, develop or commercialize any Therapy or any obligation to utilize a separate sales force for Therapies. Neither Party shall be prevented from using any publicly available research results or other information (including any publicly available information of the other Party) to the same extent as Third Parties generally are legally permitted to do so. Each Party agrees to inform its key personnel assigned to perform activities hereunder of the limitations on use of Confidential Information contained in this Agreement, instruct such personnel to comply with such restrictions, and where appropriate, impose firewalls or other appropriate measures to minimize the potential for misuse of information. However, each Party has limited resources, and as a result it is anticipated that personnel assigned to activities hereunder may also participate in other activities that may utilize

technologies similar to or involve therapies or pharmaceutical products competitive with those contemplated by this Agreement. In particular, it is anticipated that personnel in sales, marketing, clinical and regulatory functions, regardless of level, will participate in multiple programs and that management personnel will by nature of their leadership positions participate in multiple programs.

21.13 **Counterparts**. This Agreement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument. For purposes hereof, a facsimile copy, or email with attached pdf copy, of this Agreement, including the signature pages hereto, will be deemed to be an original.

[Signature page follows — the rest of this page intentionally left blank.]

Execution Copy

IN WITNESS WHEREOF, duly authorised representatives of the Parties have executed this Agreement as of the Effective Date.

ADAPTIMMUNE LIMITED

By: /s/ Helen Tayton-Martin

Name: Helen Tayton-Martin

Title: Chief Operating Officer

BELLICUM PHARMACEUTICALS, INC.

By: /s/ Thomas J. Farrell

Name: Thomas J. Farrell

Title: President and CEO

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EXHIBIT 1 – POC Plan

Background:

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EXHIBIT 2- FTE RATES

A weighted average FTE hourly rate will be calculated prior to the start of a Co-Development Plan taking into account the following standard internal costs:

a. ***

b. *** :
   i. ***
   ii. ***
   iii. ***
   iv. ***

c. *** :
   i. ***
   ii. ***
   iii. ***

The FTE hourly rates below will be agreed as part of agreement of the Co-Development Plan under clause 5.1 of this Agreement.

The FTE Rate will be inflated on an annual basis in accordance with the index agreed at the same time as Co-Development Plan is agreed.

	job level	Example of Titles	Agreed FTE Rate
Level 1			
Level 2			
Level 3			

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EXHIBIT 3 – CO-COMMERCIALISATION AGREEMENT PRINCIPLES

Co-commercialisation Therapy		Therapies containing a Bellicum Candidate or Adaptimmune Candidate, the "Bellicum Therapy" and "Adaptimmune Therapy" respectively
Co-promotion Territory		Any of the *** or *** or other territories mutually agreed between the Parties.
***		*** . *** .

Responsibility for manufacture		*** .
Promotion rights		Bellicum will have sole promotion rights in relation to the Bellicum Therapy. Adaptimmune will have sole promotion rights in relation to the Adaptimmune Therapy.
Booking of sales		Bellicum shall book all sales for the Bellicum Therapy and shall be responsible for all contracts of sale. Adaptimmune shall book all sales for the Adaptimmune Therapy and shall be responsible for all contracts of sale.
Marketing Plan		The JCC will be responsible for overseeing the marketing plan for each Therapy and its performance. Bellicum shall be primarily responsible for the Marketing Plan for the Bellicum Therapy and Adaptimmune shall be primarily responsible for the Marketing Plan for the Adaptimmune

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		Therapy.
Marketing materials		The JCC shall approve all marketing and advertising materials, which shall also be subject to each Party's internal review process, if any.
Distribution Channel		Each Therapy will be distributed through distribution channels of the Party responsible for booking of sales of such Therapy.
Compliance requirements		Co-Commercialisation Agreement, as and to the extent necessary and appropriate, will set out the compliance responsibilities for both Parties, including standard provisions relating to compliance.
Reporting Obligations		Parties to report regularly to JCC on their respective Therapy sales and progress of commercialisation.
Adverse events		The Co-Commercialisation Agreement, as and to the extent necessary and appropriate, will set out a notification process related to adverse events and reporting of other safety information and will refer such matter to a safety/regulatory agreement to be negotiated by the Parties contemporaneously with execution of the Co-Commercialisation Agreement.
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EXHIBIT 4 – TECHNOLOGY DESCRIPTIONS

Adaptimmune Technology

The Adaptimmune Technology for the purposes of this Agreement comprises the following:

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Bellicum Technology

The Bellicum Technology for the purposes of the Agreement comprises the following:

- the iCasp9 Technology; and
- the iMC Technology

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EXHIBIT 5 – PRESS RELEASE

Adaptimmune and Bellicum Pharmaceuticals Enter a Strategic Collaboration to Evaluate Next-Generation

T-Cell Therapies

PHILADELPHIA, PA, OXFORD, UK, and HOUSTON, TX – December XX, 2016 – Adaptimmune Therapeutics plc (Nasdaq: ADAP), a leader in T-cell therapy to treat cancer, and Bellicum Pharmaceuticals, Inc. (Nasdaq: BLCM), a leader in developing novel, controllable cellular immunotherapies for cancers and orphan inherited blood disorders, today announced that they have entered into a staged collaboration to evaluate, develop, and commercialize next-generation T-cell therapies.

Under the agreement, the companies will evaluate Bellicum's GoTCR technology (inducible MyD88/CD40 co-stimulation, or iMC) with Adaptimmune's affinity-optimized SPEAR™ T-cells for the potential to create enhanced TCR product candidates. Depending on results from the preclinical proof-of-concept phase, the companies expect to progress to a two-target co-development and co-commercialization phase.

"We are committed to advancing our clinical pipeline of proprietary cell therapies and to entering strategic collaborations that can further leverage the unique potential of our controllable T-cell technologies," commented Tom Farrell, President and Chief Executive Officer of Bellicum. "We're looking forward to working with the Adaptimmune team to create and advance potentially best-in-class TCR therapies."

“As we advance our deep pipeline of second- and third-generation SPEAR T-cell therapies, we are excited by the potential of Bellicum’s iMC switch to complement the activity of our affinity enhanced T-cell therapies, as part of our continuing initiative to assess novel cell therapy enhancement technologies,” said James Noble, Adaptimmune’s Chief Executive Officer. “This is an innovative field that requires broad, industry-wide collaborations, such as our relationship with Bellicum and its strong leadership position in switch technology.”

About Bellicum’s iMC Technology

Bellicum’s Chemical Induction of Dimerization (CID) technology platform was designed to address the challenges of current cellular immunotherapies by enabling control over cellular activities and functions, such as growth, activation, proliferation, persistence and survival. Bellicum’s CID platform consists of molecular switches—modified forms of signaling proteins—which are triggered inside the patient by infusion of small molecule rimiducid, instead of by natural upstream signals. Current product candidates incorporate either the CaspaCIDe™ safety switch, or iMC activation switch. After rimiducid is administered, CaspaCIDe is designed to trigger programmed cell death, or apoptosis, and iMC is designed to drive proliferation, activation and/or persistence of T cells.

About Adaptimmune’s TCR Technology

Adaptimmune’s proprietary SPEAR™ (Specific Peptide Enhanced Affinity Receptor) T-cell receptor (TCR) technology enables the Company to genetically optimize TCRs in an effort to equip them to recognize and bind cancer antigens that are presented in small quantities on the surface of a cancer cell, whether of intracellular or extracellular origin, thus initiating cell death. The Company’s differentiated, proprietary

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technology allows it to reliably generate parental TCRs to naturally presented targets, affinity optimize its TCRs to bind cancer proteins from solid and hematologic cancers that are generally unavailable to naturally occurring TCRs, and to significantly reduce the risk of side effects resulting from off-target binding of healthy tissues.

About Bellicum Pharmaceuticals

Bellicum is a leader in developing novel, controllable cellular immunotherapies for cancers and orphan inherited blood disorders. Bellicum is using its proprietary Chemical Induction of Dimerization (CID) technology platform to engineer and control components of the immune system. Bellicum is developing next-generation product candidates in some of the most important areas of cellular immunotherapy, including hematopoietic stem cell transplantation (HSCT), and CAR T and TCR cell therapies. More information can be found at www.bellicum.com

About Adaptimmune

Adaptimmune is a clinical stage biopharmaceutical company focused on novel cancer immunotherapy products based on its SPEAR (Specific Peptide Enhanced Affinity Receptor) T-cell platform. Established in 2008, the Company aims to utilize the body’s own machinery - the T-cell - to target and destroy cancer cells by using engineered, increased affinity TCRs as a means of strengthening natural patient T-cell responses. Adaptimmune’s lead program is a SPEAR T-cell therapy targeting the NY-ESO cancer antigen. Its NY-ESO SPEAR T-cell therapy has demonstrated signs of efficacy and tolerability in Phase 1/2 trials in solid tumors and in hematologic cancer types, including synovial sarcoma and multiple myeloma. Adaptimmune has a strategic collaboration and licensing agreement with GlaxoSmithKline for the development and commercialization of the NY-ESO TCR program. In addition, Adaptimmune has a number of proprietary programs. These include SPEAR T-cell therapies targeting the MAGE-A10 and AFP cancer antigens, which both have open INDs, and a further SPEAR T-cell therapy targeting the MAGE-A4 cancer antigen that is in pre-clinical phase with IND acceptance targeted for 2017. The Company has identified over 25 intracellular target peptides preferentially expressed in cancer cells and is currently progressing 12 through unpartnered research programs. Adaptimmune has over 250 employees and is located in Oxfordshire, U.K. and Philadelphia, USA. For more information: http://www.adaptimmune.com

Forward-Looking Statements

Bellicum and Adaptimmune may, in some cases, use terms such as “predicts,” “believes,” “potential,” “proposed,” “continue,” “designed,” “estimates,” “anticipates,” “expects,” “plans,” “intends,” “may,” “could,” “might,” “will,” “should” or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. Forward-looking statements include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our intentions regarding our collaboration and the development and commercialization of products pursuant to the collaboration; and the timing and success of our collaboration. Various factors may cause differences between our expectations and actual results as discussed in greater detail under the heading “Risk Factors” in Bellicum’s and Adaptimmune’s filings with the Securities and Exchange Commission, including without limitation, Bellicum’s annual report on Form 10-K for the year ended December 31, 2015; and Adaptimmune’s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 2016. Any forward-looking statements that we make in this press release speak only as of

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the date of this press release. Neither Bellicum nor Adaptimmune assume any obligation to update our forward-looking statements whether as a result of new information, future events or otherwise, after the date of this press release.

Bellicum Contacts

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Chief Financial Officer
T: 832-384-1116
E: amusso@bellicum.com

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BMC Communications
T: 646-513-3125
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E: margaret.henry@adaptimmune.com

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EXHIBIT 6 – CO-DEVELOPMENT RESPONSIBILITIES

The responsibilities for performance of any Co-Development Plan will be agreed prior to the start of such Co-Development Plan. The following is intended as an illustrative guide as to which Party may have which responsibility – exact responsibilities will depend on activities required for any program.

Co-development activity	**Adaptimmune Responsibility**	**Bellicum Responsibility**
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EXHIBIT 7 – DESIGNATION CRITERIA

Designation criteria will be agreed between the Parties dependent on the Co-Development Plan. Initial designation criteria for progression of a candidate into pre-clinical development are set out below. These criteria will be amended and refined as part of the progression of the Co-Development Plan.

Criteria	Suggested metrics

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DATED 10 March 2017

(1) ADAPTIMMUNE THERAPEUTICS PLC

and

(2) J.J. NOBLE

SERVICE AGREEMENT

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THIS AGREEMENT is made the 10th day of March 2017

BETWEEN

1 **ADAPTIMMUNE THERAPEUTICS PLC**, a company incorporated and registered in England and Wales under company number 09338148 whose registered office is at 101 Park Drive, Milton Park, Abingdon, Oxfordshire OX14 4RY (**"the Company"**);

2 **JAMES JULIAN NOBLE**, of Brock House, Sheepdrove, Lambourn, Berkshire RG17 7XA ("**the Executive**")

The Board has approved the terms of this Agreement under which the Executive is to be employed.

1. INTERPRETATION

1.1 In this Agreement the following words and expressions have the following meanings unless inconsistent with the context:

the **"Board"**	means the board of directors from time to time of the Company and includes any committee of the board of directors duly appointed by it;
the **"Companies Acts"**	means the Companies Act 1985, the Companies Act 1989 and the Companies Act 2006;
the **"Company Share Option Scheme"**	means the share option scheme or schemes operated by the Company or any Group Company from time to time;
"Competitor or Potential Competitor"	any organisation involved in the discovery, development and application of TCR or T Cell technologies or competing with any other aspect of the Company's business where such competition is based on technologies being developed or applied by the Company from time to time and in which the Executive has been substantially involved in the 12 months prior to any approach or attempt to solicit;
the **"Employment"**	means the Executive's employment under this Agreement;
the **"ERA"**	means the Employment Rights Act 1996;
"Group Company"	means any firm, company, corporation or other organisation which is a holding company from time to time of the Company or any subsidiary from time to time of the Company or any such holding company (for which purpose the expressions 'holding company' and 'subsidiary' shall have the meanings given to them by Section 1159 Companies Act 2006) and "Group Companies" and "Group" will be construed accordingly;

"Intellectual Property Rights"	means patents, rights to inventions, copyright and related rights, trade marks, trade names and domain names, rights in get-up, rights in goodwill or to sue for passing off, unfair competition rights, rights in designs, rights in computer software, database rights, topography rights, rights in confidential information (including know-how and trade secrets) and any other intellectual property rights, in each case whether registered or unregistered and including all applications (or rights to apply) for, and renewals or extensions of, such rights and all similar or equivalent rights or forms of protection which subsist or will subsist now or in the future in any part of the world;
"Nasdaq"	means the Nasdaq Global Select Market;
"Pre-Contractual Statement"	means any undertaking, promise, assurance, statement, representation or warranty (whether in writing or not) of any person relating to the Employment which is not expressly set out in this Agreement; and
the **"Regulations"**	means the Working Time Regulations 1998.

1.2 References to clauses, sub clauses and schedules are, unless otherwise stated, references to clauses and sub clauses of and schedules to this Agreement.

1.3 The headings to the clauses are for convenience only and shall not affect the construction or interpretation of this Agreement.

1.4 References to persons shall include bodies corporate, unincorporated associations and partnerships.

1.5 Words and expressions defined in or for the purpose of the Companies Acts shall have the same meaning unless the context otherwise requires.

2. APPOINTMENT

The Company shall employ the Executive and the Executive agrees to serve the Company as Chief Executive Officer of the Company on and subject to the terms and conditions in this Agreement.

3. DURATION AND WARRANTIES

3.1 The Employment commenced on 1 January 2017 (the **"Commencement Date"**). Subject to clause 18, the Employment shall continue until terminated by either party giving to the other not less than 9 months' notice in writing. The Executive's previous employment with Immunocore Limited, Adaptimmune Limited and the Company counts as part of his period of continuous employment and therefore the Employment shall be deemed to have begun on 1 October 2008.

3.2 The Company shall be entitled at its sole and absolute discretion lawfully to terminate the Executive's employment at any time and with immediate effect by written notification to the Executive and to pay within one month following the date of such termination a payment in lieu of notice (**"PILON"**) to the Executive. For the avoidance of doubt, the termination of the Executive's employment shall be effective on such written notification and shall not be deferred until the PILON

is paid. The total PILON will be equal to the basic salary due under clause 6.1. which the Executive would have been entitled to receive under this Agreement during the notice period referred to at clause 3.1 (or, if notice has already been given, during the remainder of such notice period) subject to statutory deductions.

3.3 Notwithstanding clause 3.2, the Executive shall not be entitled to any PILON if the Company would otherwise have been entitled to terminate the Executive's employment without notice in accordance with clause 18.1. In that case the Company shall also be entitled to recover from the Executive any PILON already made.

3.4 The Executive represents and warrants that, in entering into and performing his duties under this Agreement:

3.4.1 he is not subject to any restriction that might hinder or prevent him from performing any of his duties in full;

3.4.2 he will not be in breach of any other contract of employment or any other obligation to any third party; and

3.4.3 save for his non-executive engagement with GW Pharmaceuticals Plc, this Employment is and shall remain his sole and exclusive employment.

3.5 The Executive further warrants that he has no unspent criminal convictions and has never been disqualified from being a company director.

4. SCOPE OF THE EMPLOYMENT

4.1 Save as specifically agreed with the Board (and, in particular, in relation to the Executive's engagement with GW Pharmaceuticals Plc), the Executive shall:

4.1.1 devote the whole of his time, attention, ability and skills to his duties;

4.1.2 faithfully and diligently perform such duties and exercise such powers consistent with his position as may from time to time be assigned to or vested in him by the Board;

4.1.3 obey all reasonable and lawful directions of the Board;

4.1.4 comply with all the Company's articles of association, rules, regulations, policies and procedures from time to time in force;

4.1.5 comply with the rules of any securities or investment exchange or regulatory or governmental body to which the Company is subject from time to time (including the US Securities and Exchange Commission, Nasdaq and the City Code on Takeovers and Mergers);

4.1.6 promptly give the Company Secretary such information as the Company may require to enable it to comply with its legal obligations, or the requirements of Nasdaq or any other applicable stock exchange;

4.1.7 comply, and will procure, so far as he is able, that his spouse or civil partner and dependent children (if any), or any trust in which he, his spouse or civil partner or dependent children may be concerned or interested in as trustee or beneficiary, will comply with any code of conduct relating to securities transactions by directors and specified employees applicable in the Company or any Group Company;

4.1.8 comply with the general duties of directors set out in sections 171-177 of the Companies Act 2006, as well as any other applicable common law or statutory duties owed by directors to their company;

4.1.9 exercise his duties in compliance with the requirements of the Bribery Act 2010 and use all reasonable endeavours to assist the Company in preventing bribery from being conducted on its behalf in contravention of that Act;

4.1.10 at all times act in the best interests of the Company and use his best endeavours to promote and protect the interests of the Company, any of its Group Companies and their employees;

4.1.11 keep the Board at all times promptly and fully informed (in writing if so requested) of his conduct of the business of the Company and any Group Company and provide such explanations in connection with such conduct as the Board may from time to time require; and

4.1.12 act as a model for all other employees of the Group.

4.2 Subject to clause 4.3 the Company reserves the right to assign the Executive duties of a different nature on a permanent or temporary basis either in addition to or instead of those referred to in clause 4.1 above, it being understood that he will not be assigned duties which he cannot reasonably perform or which are inconsistent with his position and status.

4.3 During any period of notice of termination (whether given by the Company or the Executive), the Company shall be at liberty to assign the Executive such other duties consistent with his status, role and experience as the Company shall determine in its absolute discretion.

4.4 The Executive shall not, without the prior consent of the Board:-

4.4.1 on behalf of the Company, incur any capital expenditure in excess of such sum as may be authorised from time to time; and

4.4.2 on behalf of the Company, enter into any commitment, contract or arrangement otherwise than in the normal course of business or outside the scope of his normal duties, or of an unusual, onerous or long term nature.

For the avoidance of doubt, nothing in this clause prevents the Executive acting within any limits of authority or budgets agreed by the Board from time to time.

4.5 The Executive shall if and so long as the Company requires without further remuneration:

4.5.1 carry out his duties as instructed by the Company on behalf of any Group Company; and

4.5.2 act as a director, officer or consultant of the Company and/or any Group Company.

4.6 The Executive confirms that he has disclosed to the Company all circumstances in respect of which there is, or there might be, a conflict or possible conflict of interest between the Company or any Group Company and the Executive and he agrees to disclose fully to the Company any such circumstances that might arise during the Employment. For the avoidance of doubt, this includes but is not limited to, disclosing to the Company any activity by a third party or the

Executive himself which might reasonably be expected to harm the Company or its business.

4.7 The Executive shall disclose to the Chairman any direct or indirect approach or solicitation by any Competitor or Potential Competitor intended to encourage him to terminate his employment.

5. HOURS AND PLACE OF WORK

5.1 The Executive shall be required to work such hours as are necessary for the proper performance of his duties.

5.2 The Executive agrees that in his capacity as Chief Executive Officer he may choose or determine the duration of his working time and that the working time limits set out in Part II of the Regulations do not apply to the Employment.

5.3 The Executive's principal place of work will be in the Company's offices at Milton Park, Abingdon, or any such place within 20 miles of Oxford as the Company shall from time to time direct. The Executive will be given reasonable notice of any change in his place of work.

5.4 The Executive may be required to travel throughout the United Kingdom and overseas in the performance of his duties.

6. REMUNERATION

6.1 The Company shall pay to the Executive a basic salary at the rate of £407,830 per annum, payable by equal monthly instalments in arrears, by credit transfer to a bank account nominated by the Executive.

6.2 The Executive's salary will be reviewed annually by the Board in its absolute discretion in December of each year commencing from December 2017. Any increase in salary will take effect from 1 January each year commencing from 1 January 2018.

6.3 Subject always to the rules of the Company Share Option Scheme from time to time in force (the **"Share Scheme"**) and to the Executive's eligibility to participate in the Share Scheme, the Executive may at the absolute discretion of the Company be entitled to share options under the Share Scheme. Where the Employment is terminated for whatever reason and whether or not in breach of contract he shall not be entitled, and by applying for an option the Executive shall be deemed irrevocably to have waived any entitlement, by way of compensation for loss of office or otherwise to any sum or other benefits to compensate him for the loss of any rights under the Share Scheme.

7. PENSION AND OTHER BENEFITS

7.1 The Company will comply with the employer pension duties in respect of the Executive in accordance with Part 1 of the Pensions Act 2008. The Executive will be entitled to participate as a member of the Company's or any Group Company's Group Personal Pension Scheme (as directed by the Company), subject always to the rules of the scheme from time to time. Alternatively, the Company may, with the agreement of the Executive, make a payment to the Executive equating to 5% of his annual basic salary from time to time (the **"Pension Allowance payment"**). The Executive agrees that such Pension Allowance payment shall be made in substitution for any contributions due to be made by the Company into the Group Personal Pension Scheme.

7.2 It is recognised that the benefits payable under the Group Personal Pension Scheme may be varied or, the Group Personal Pension Scheme may be terminated or substituted by another pension scheme at anytime.

7.3 The Group Personal Pension Scheme is not a contracted-out scheme for the purpose of the Pensions Schemes Act 1993.

7.4 The Executive shall be eligible to participate, as directed by the Company, in the private health care scheme and permanent health insurance schemes which the Company or any Group Company may maintain for the benefit of its senior executives (the **"Schemes"**) subject to the rules of the Schemes and the terms of any related policy of insurance from time to time in force. This is for information only and should not be regarded as any guarantee of benefits which may be paid under the Schemes.

7.5 The Executive's participation in either or both of the Schemes does not affect the ability of any Group Company, at its absolute discretion, to change the Schemes' providers, to amend the terms of the Schemes (including but not limited to the level of benefits), to terminate the Schemes without replacement, to substitute another scheme for either of the Schemes and to remove the Executive from membership of either or both Schemes.

7.6 The Company shall be under no obligation to make any payment under either Scheme to the Executive unless and until it has received the relevant payment from the Scheme's provider. If any Scheme provider refuses for any reason (whether based on its own interpretation of the terms of the insurance policy or otherwise) to provide any benefits to the Executive, the Company shall not be liable to provide replacement benefits itself or any compensation in lieu and shall be under no obligation to pursue a claim for unpaid benefits on behalf of the Executive against the Schemes' provider.

7.7 The Company reserves the right to terminate the Executive's employment, where it has good cause to do so (including but not limited to where the Executive is redundant or has committed misconduct), notwithstanding that the Executive is receiving benefits under either Scheme and that such termination may result in those benefits being discontinued. The Executive agrees that he shall have no claim against the Company for damages in respect of the loss of benefits under either Scheme in such circumstances.

7.8 In the event that the Executive is absent by reason of ill-health he will continue to co-operate with and act in good faith towards the Company including but not limited to staying in regular contact with the Company and providing it with such information about his health, prognosis and progress as the Company may require.

7.9 In accordance with the current rules of each Scheme, participation in either Scheme is subject to the condition that the Executive has notified the Company on or before the commencement of the Employment of any pre-existing medical conditions that he may have.

7.10 If the Executive is receiving benefits under either Scheme:

7.10.1 he shall resign as a director of the Company if so requested by the Company; and

7.10.2 the Company shall be entitled to appoint a replacement to perform all or any of the Executive's duties on either a temporary or permanent basis.

8. BONUS

8.1 The Company may in its absolute discretion pay the Executive a bonus of such amount, at such intervals and subject to such conditions as the Company may in its absolute discretion determine from time to time.

8.2 Any bonus payment to the Executive shall be purely discretionary and shall not form part of the Executive's contractual remuneration under this Agreement. If the Company makes a bonus payment to the Executive in respect of a particular financial year of the Company, it shall not be obliged to make subsequent bonus payments in respect of subsequent financial years of the Company.

8.3 Notwithstanding clause 8.2, the Board or an authorised delegate thereof may specify objective criteria for a calendar year, which, if met, will result in a specified bonus being paid to the Executive. Such a bonus, together with similar bonuses in relation to other senior executives of the Company and/or any Group Company, is referred to as an **"Annual Targeted Bonus"** in this Agreement. If the relevant criteria are met the Company will have no discretion not to pay the Annual Targeted Bonus in full (subject always to deduction of taxes) save in the following circumstances:

8.3.1 as a result of the overall performance of the Company for the relevant calendar year, the Board, or authorised delegate, determines that no Annual Targeted Bonuses will be paid to any senior executive of the Company and/or any Group Company, in which case the Annual Targeted Bonus shall not be paid to the Executive; or

8.3.2 as a result of the overall performance of the Company for the relevant calendar year, the Board, or authorised delegate, determines that the Annual Targeted Bonuses for all senior executives of the Company and/or any Group Company will be reduced, in which case the Annual Targeted Bonus payable to the Executive shall also be reduced.

8.4 Where a Targeted Annual Bonus is payable, it shall be paid in a single lump sum no later than 15 March of the year following the calendar year in relation to which it was earned.

8.5 Notwithstanding clause 8.2 and 8.3, but subject to the terms of the Company's executive severance policy in force from time to time (the **"Executive Severance Policy"**), the Executive shall in any event have no right to a bonus or a time-apportioned bonus (including a Targeted Annual Bonus) if:

8.5.1 he has not been employed throughout the whole of the relevant financial year of the Company or any Group Company; or

8.5.2 his employment terminates for any reason or he is under notice of termination (whether given by the Executive or the Company) at or prior to the date when a bonus might otherwise have been payable.

9. SEVERANCE POLICY

The Executive Severance Policy in force from time to time shall apply to the Executive in relation to the Employment. Such policy may be amended or terminated in accordance with the terms of the policy, save that where any proposed amendment or termination substantially reduces the rights of the Executive following his termination of employment: (i) the Company will consult with the Executive on such proposed amendment or termination; and (ii) any such substantial reduction in the rights or benefits of the Executive must be agreed with the Executive. Where, following consultation, the Executive does not agree to any such proposed amendment or termination, then the Executive Severance Policy shall continue in full force and effect without such proposed amendment or termination.

10. EXPENSES

The Company shall reimburse the Executive in respect of all expenses reasonably incurred by him in the proper performance of his duties, subject to the Executive providing such receipts or other evidence that the Company may require.

11. HOLIDAY

11.1 The Executive shall be entitled to receive his normal remuneration for all bank and public holidays normally observed in England and a further 30 working days holiday in each holiday year, being the period from 1 January to 31 December.

11.2 In the holiday year in which the Employment terminates, the Executive's entitlement to holiday shall accrue on a pro-rata basis for each complete month of service during the relevant year.

11.3 If, on the termination of the Employment, the Executive has exceeded his accrued holiday entitlement, the excess may be deducted from any sums due to him. If the Executive has any unused holiday entitlement, the Board may either require the Executive to take such unused holiday during any notice period or accept payment in lieu. Any payment in lieu shall only be made in respect of holiday accrued in accordance with clause 11.2 above during the Executive's final holiday year and the Executive shall be deemed to have taken his statutory holiday first, during that year.

11.4 The Executive may carry forward to the following calendar year up to 5 days' unused holiday entitlement but he must take any holiday which is carried over before the end of March in that year.

12. INCAPACITY

12.1 Subject to the Executive's compliance with the Company's rules from time to time in force regarding sickness notification and doctor's certificates, and subject to the Company's right to terminate the Employment for any reason including without limitation incapacity, if the Executive is at any time absent on medical grounds the Company shall pay to the Executive in each calendar year his normal basic salary for a maximum of 13 weeks, followed by a further period of 13 weeks at half his normal basic salary (**"Company Sick Pay"**).

12.2 The Company reserves the right to require the Executive to undergo a medical examination by a doctor or consultant nominated by it, at any time including at any stage of absence at the Company's expense, and the Executive agrees that he will undergo any requisite tests and examinations and will fully co-operate with the relevant medical practitioner and shall authorise him or her to disclose to

and discuss with the Company the results of any examination and any matters which arise from it.

12.3 Payment of Company Sick Pay to the Executive pursuant to clause 12.1 shall be inclusive of any Statutory Sick Pay and any Social Security Sickness Benefit or other benefits to which the Executive may be entitled, whether or not claimed.

12.4 If the Executive's absence shall be caused by the actionable negligence of a third party in respect of which damages are recoverable, then all sums paid by the Company shall constitute loans to the Executive, who shall:

12.4.1 immediately notify the Company of all the relevant circumstances and of any claim, compromise, settlement or judgement made or awarded;

12.4.2 if the Board so requires, refund to the Company such sum as the Board may determine, not exceeding the lesser of:

(a) the amount of damages recovered by him under such compromise, settlement or judgement; and

(b) the sums advanced to him in respect of the period of incapacity.

12.5 Any actual or prospective entitlement to Company Sick Pay or private medical insurance or long term disability benefits shall not limit or prevent the Company from exercising its right to terminate the Employment in accordance with clauses 3.2 or 18 or otherwise and the Company shall not be liable for any loss arising from such termination.

12.6 If the Executive is prevented by incapacity from properly performing his duties under this Agreement for a consecutive period of 30 working days the Board may appoint another person or persons to perform those duties until such time as the Executive is able to resume fully the performance of his duties.

13. DEDUCTIONS

For the purposes of the ERA, the Executive hereby authorises the Company or any Group Company to deduct from his remuneration any sums due from him to the Company or any Group Company, including, without limitation, any overpayments of salary, overpayments of holiday pay whether in respect of holiday taken in excess of that accrued during the holiday year or otherwise, , any fines incurred by the Executive and paid by the Company or any Group Company, the cost of repairing any damage or loss to the Company's or any Group Company's property caused by him and all losses suffered by the Company as a result of any negligence or breach of duty by the Executive.

14. RESTRICTIONS ON OTHER ACTIVITIES BY THE EXECUTIVE

14.1 During the Employment the Executive shall not, without the prior consent of the Board, directly or indirectly be employed, engaged, concerned or interested in any other business or undertaking or be involved in any activity which the Board reasonably considers may be, or become, harmful to the interests of the Company or any Group Company or which might reasonably be considered to interfere with the performance of the Executive's duties under this Agreement provided that this clause 14.1 shall not prohibit the engagement referred to in clause 3.4.3 and the holding (directly or through nominees) of investments listed on any recognised stock exchange as long as not more than 1 per cent of the issued shares or other securities of any class of any one company shall be so held

14.2 Subject to any regulations issued by the Company, the Executive shall not be entitled to receive or obtain directly or indirectly any discount, rebate or commission in respect of any sale or purchase of goods effected or other business transacted (whether or not by him by or on behalf of the Company) and if he (or any firm or company in which he is interested) shall obtain any such discount, rebate or commission, he shall account to the Company for the amount received by him (or a due proportion of the amount received by such company or firm having regard to the extent of his interest in it).

15. CONFIDENTIALITY

15.1 The Executive shall neither during the Employment (except in the proper performance of his duties) nor at any time (without limit) after the termination of the Employment:

15.1.1 divulge or communicate to any person, company, business entity or other organisation;

15.1.2 use for his own purposes or for any purposes other than those of the Company or any Group Company; or

15.1.3 through any failure to exercise due care and diligence, permit or cause any unauthorised disclosure of;

any Confidential Information, provided that these restrictions shall cease to apply to any information which shall become available to the public generally otherwise than through an unauthorised disclosure by the Executive or any other person.

15.2 For the purposes of this Agreement **"Confidential Information"** shall mean, in relation to the Company or any Group Company:

15.2.1 trade secrets;

15.2.2 information relating to research activities, inventions, discoveries, secret processes, designs, know how, technical specifications and processes, formulae, intellectual property rights, computer software, product lines and any other technical information relating to the creation, production or supply of any past, present or future product or service,

15.2.3 any inventions or improvements which the Executive may make or discover during the Employment;

15.2.4 any information relating to the business or prospective business,

15.2.5 details of suppliers, their services and their terms of business,

15.2.6 details of customers and their requirements, the prices charged to them and their terms of business,

15.2.7 pitching material, marketing plans and sales forecasts of any past, present or future products or services,

15.2.8 information relating to the business, corporate plans, management systems, accounts, finances and other financial information, results and forecasts (save to the extent that these are included in published audited accounts),

15.2.9 proposals relating to the acquisition or disposal of a company or business or any part thereof;

15.2.10 proposals for expansion or contraction of activities, or any other proposals relating to the future;

15.2.11 details of employees and officers and of the remuneration and other benefits paid to them,

15.2.12 information given in confidence by clients, customers suppliers or any other person;

15.2.13 any other information which the Executive is notified is confidential; and

15.2.14 any other information which the Company (or relevant Group Company) could reasonably be expected to regard as confidential, whether or not such information is reduced to a tangible form or marked in writing as "confidential", including but not limited to, information which is commercially sensitive, which comes into the Executive's possession by virtue of the Employment and which is not in the public domain and all information which has been or may be derived or obtained from any such information.

15.3 The Executive acknowledges that all notes, memoranda, records, lists of customers and suppliers and employees, correspondence, documents, computer and other discs and tapes, data listings, databases, codes, designs and drawings and any other documents and material whatsoever (whether made or created by the Executive or otherwise) relating to the business of the Company and any Group Company (and any copies of the same) or which is created or stored on the Company's or Executive's equipment and/or systems:

15.3.1 shall be and remain the property of the Company or the relevant Group Company; and

15.3.2 shall be handed over by the Executive to the Company or the relevant Group Company on demand and in any event on the termination of the Employment and the Executive shall certify that all such property has been so handed over and that no copies or extracts (whether physical or electronic) have been retained (whether directly or indirectly).

15.4 Clause 15.1 shall only bind the Executive to the extent allowed by law and nothing in this clause shall prevent the Executive from making a statutory disclosure.

16. DATA PROTECTION

The Executive consents to the Company or any Group Company holding and processing, both electronically and manually, the data it collects in relation to the Executive in the course of the Employment including, without limitation the Executive's employment application, references, bank details, appraisals, holiday and sickness records, salary reviews and remuneration details and other records which may include sensitive personal data relating to his health for the purposes of the Company's or any Group Company's administration and management of its employees and its business and for compliance with applicable procedures, laws and regulations and to the transfer, storage and processing by the Company or any Group Company of such data in the Company's or any Group Company's offices outside the European Economic Area.

17. INVENTIONS AND INTELLECTUAL PROPERTY RIGHTS

17.1 For the purposes of this clause 17 the following definitions apply:

17.1.1 **"Employment Inventions"** means any Invention which is made wholly or partially by the Executive at any time during the course of his duties to the Company (whether or not during working hours or using Company premises or resources, and whether or not recorded in material form).

17.1.2 **"Employment IPRs"** means Intellectual Property Rights created by the Executive in the course of his employment with the Company (whether or not during working hours or using Company premises or resources).

17.1.3 **"Invention"** means any invention, idea, discovery, development, improvement or innovation, whether or not patentable or capable of registration, and whether or not recorded in any medium.

17.2 The Executive acknowledges that all Employment IPRs, Employment Inventions and all materials embodying them shall belong to the Company to the fullest extent permitted by law and hereby assigns, (and to the extent not capable of immediate or prospective assignment, agrees to assign) all such Employment IPRs and Employment Inventions to the Company.

17.3 The Executive acknowledges that, because of the nature of his duties and the particular responsibilities arising from the nature of his duties, he has, and shall have at all times while he is employed by the Company, a special obligation to further the interests of the Company.

17.4 To the extent that title in any Employment IPRs or Employment Inventions do not belong the Company by virtue of clause 17.2, the Executive agrees, immediately upon creation of such rights and inventions, to offer to the Company in writing a right of first refusal to acquire them on arm's length terms to be agreed between the parties. If the parties cannot agree on such terms within 30 days of the Company receiving the offer, the Company shall refer the dispute to a mutually acceptable independent expert (or, if agreement is not reached within five Business Days of either party giving notice to the other that it wishes to refer a matter to an independent expert, such independent expert as may be nominated by an appropriate authority, which the parties shall seek in good faith to agree) (the "**Expert**"). In relation to matters referred to the Expert:

17.4.1 the parties are entitled to make submissions to the Expert and will provide (or procure that others provide) the Expert with all such assistance and documents as the Expert may reasonably require for the purpose of reaching a decision. Each party shall with reasonable promptness supply each other with all information and give each other access to all documentation and personnel as the other party reasonably requires to make a submission under this clause;

17.4.2 the parties agree that the Expert may in its reasonable discretion determine such other procedures to assist with the conduct of the determination as it considers appropriate;

17.4.3 the Expert shall act as an expert and not as an arbitrator. The Expert's decision shall be final and binding on the parties in the absence of fraud or manifest error; and

17.4.4 the Expert's fees and any costs properly incurred by him in arriving at his determination (including any fees and costs of any advisers appointed by the Independent Expert) shall be borne by the parties in equal shares or in such proportions as the Independent Expert shall direct.

The Executive agrees that the provisions of this clause 17 shall apply to all Employment IPRs and Employment Inventions offered to the Company under this clause 17.4 until such time as the Company has agreed in writing that the Executive may offer them for sale to a third party.

17.5 The Executive agrees:

17.5.1 to give the Company full written details of all Employment Inventions and Employment IPRs which relate to or are capable of being used in the business of the Company or any Group Company promptly on their creation;

17.5.2 at the Company's request and in any event on the termination of his employment to give to the Company all originals and copies of correspondence, documents, papers and records on all media which record or relate to any of the Employment IPRs;

17.5.3 not to attempt to register any Employment IPR nor patent any Employment Invention unless requested to do so by the Company; and

17.5.4 to keep confidential each Employment Invention and Employment IPR unless the Company has consented in writing to its disclosure by the Executive.

17.6 The Executive waives all his present and future moral rights which arise under sections 77 and 80 of the Copyright Designs and Patents Act 1988, and all similar rights in other jurisdictions relating to any copyright work which forms part of the Employment IPRs, and agrees not to support, maintain nor permit any claim for infringement of moral rights in such copyright works.

17.7 The Executive acknowledges that, except as provided by law, no further remuneration or compensation other than that provided for in this agreement is or may become due to the Executive in respect of his compliance with this clause 17. This is without prejudice to the Executive's rights under the Patents Act 1977.

17.8 The Executive undertakes to execute all documents and do all acts both during and after his employment by the Company as may, in the opinion of the Board, be necessary or desirable to vest the Employment IPRs in the Company, to register them in the name of the Company and to protect and maintain the Employment IPRs and the Employment Inventions. Such documents may, at the Company's request, include waivers of all and any statutory moral rights relating to any copyright works which form part of the Employment IPRs. The Company agrees to reimburse the Executive's reasonable expenses of complying with this clause 17.8.

17.9 The Executive agrees to give all assistance reasonably requested by the Company to enable it to enforce its Intellectual Property Rights against third parties, to defend claims for infringement of third party Intellectual Property Rights and to apply for registration of Intellectual Property Rights, where appropriate throughout the world, and for the full term of those rights.

17.10 The Executive hereby irrevocably appoints the Chief Financial Officer of the Company (from time to time) or, failing him or her, any Director or the Company

Secretary to be his attorney to execute and do any such instrument or thing and generally to use his name for the purpose of giving the Company or its nominee the benefit of this clause 17. The Executive acknowledges in favour of a third party that a certificate in writing signed by any Director or the Company Secretary that any instrument or act falls within the authority conferred by this clause 17 shall be conclusive evidence that such is the case.

18. TERMINATION OF EMPLOYMENT

18.1 The Company may terminate the Employment immediately by notice in writing if the Executive shall have:

18.1.1 committed any serious breach or repeated or continued breach of his obligations under this Agreement; or

18.1.2 committed any breach of the securities rules as set out at Clause 4.1.5; or

18.1.3 been guilty of conduct tending to bring him or the Company or any Group Company into disrepute; or

18.1.4 become bankrupt or had an interim order made against him under the Insolvency Act 1986 or compounded with his creditors generally; or

18.1.5 failed to perform his duties to a satisfactory standard; or

18.1.6 been disqualified from being a director by reason of any order made under the Companies Directors Disqualification Act 1986 or any other enactment; or

18.1.7 been convicted of an offence under any statutory enactment or regulation (including the criminal offence of insider dealing under the Criminal Justice Act 1993 or any similar conviction in the United States, but excluding a motoring offence for which no custodial sentence is given); or

18.1.8 during the Employment, committed any material breach of clauses 14, 15 and/or 17.

Any delay by the Company in exercising such right of termination shall not constitute a waiver thereof.

18.2 The Company reserves the right to suspend the Executive on full pay for so long as it may think fit in order to conduct any disciplinary investigation into any alleged acts or omissions by the Executive.

19. GARDEN LEAVE

19.1 During any period of notice of termination (whether given by the Company or the Executive), the Company shall be under no obligation to assign any duties to the Executive and shall be entitled to exclude him from its premises, and require the Executive not to contact any customers, suppliers or employees provided that this shall not affect the Executive's entitlement to receive his normal salary and contractual benefits. During any such period of exclusion the Executive will continue to be bound by all the provisions of this Agreement and shall at all times conduct himself with good faith towards the Company.

20. DIRECTORSHIP

20.1 If (a) the Company shall remove the Executive from the office of Director of the Company or (b) under the Articles of Association for the time being of the Company the Executive shall be obliged to retire by rotation or otherwise and the Company in general meeting shall fail to re-elect the Executive as a Director of the Company (either such case being referred to in this clause 20.1 as an "Event"), then the Executive's employment under this Agreement shall automatically terminate with effect from the date of the Event.

20.2 On the termination of the Employment (however arising) or on either the Company or the Executive having served notice of such termination, the Executive shall:

20.2.1 at the request of the Company resign as a Director of the Company and from all offices held by him in any Group Company and shall transfer without payment to the Company or as the Company may direct any nominee shares provided by it, provided however that such resignation shall be without prejudice to any claims which the Executive may have against the Company or any Group Company arising out of the termination of the Employment; and

20.2.2 immediately deliver to the Company all materials within the scope of clause 15.3 and all credit cards, motor cars, car keys and other property of or relating to the business of the Company or of any Group Company which may be in his possession or under his power or control, and if the Executive should fail to do so the Company is hereby irrevocably authorised to appoint another person to sign any documents and/or do any other things necessary on his behalf in order to give effect to the Executive's undertaking in this clause 20.2.

20.3 The appointment of the Executive as a director of the Company or any Group Company is not a term of this Agreement and the Company reserves the right to remove the Executive from any such directorship at any time and for any reason. Where the Company exercises this right, this shall not amount to a breach of this Agreement and shall not give rise to a claim for damages or compensation.

21. POST TERMINATION OBLIGATIONS OF THE EXECUTIVE

21.1 For the purposes of this clause 21 the following definitions apply:

21.1.1 **"Restricted Business"** means any business (as defined by the technologies from time to time developed and applied by the Company or any Group Company, such technologies at the date of the Agreement being TCR or T Cell technologies) carried out by the Company or any Group Company or which the Company or and Group Company intends to carry out at the Termination Date, in each case with which the Executive was involved to a material extent during the twelve months immediately preceding the Termination Date;

21.1.2 **"Restricted Customer"** means any person, firm, company or other organisation who, at any time during the twelve months immediately preceding the Termination Date was a customer of or in the habit of dealing with the Company or any Group Company and with whom the Executive had personal dealings in the course of his employment or for whom the Executive was responsible on behalf of the Company or any Group Company during that period;

21.1.3 **"Restricted Employee"** means any person who, at the Termination Date, was employed as an employee of the Company or Group Company who could materially damage the interests of the Company or any Group Company if he or she became employed in any competing business and with whom the Executive worked closely or was responsible for in the twelve months immediately preceding the Termination Date;

21.1.4 **"Restriction Date"** means the earlier of the Termination Date and the start of any period of Garden Leave in accordance with Clause 19;

21.1.5 **"Termination Date"** means the date of termination of the Employment (howsoever caused).

21.2 The Executive acknowledges that by reason of the Employment he will have access to trade secrets, confidential information, business connections and the workforce of the Company and the Group Companies and that in order to protect their legitimate business interests it is reasonable for him to enter into these post termination restrictive covenants and, the Executive agrees that the restrictions contained in this clause 21 (each of which constitutes an entirely separate, severable and independent restriction) are reasonable.

21.3 Reference in this clause 21.3 to "the Company" shall apply as though there were included reference to any relevant Group Company. The Executive covenants with the Company for itself and as trustee and agent for each Group Company that he will not without the prior written consent of the Company:

21.3.1 for twelve months after the Restriction Date solicit or endeavour to entice away from the Company the business or custom of a Restricted Customer with a view to providing goods or services in competition with any Restricted Business;

21.3.2 for twelve months after the Restriction Date, provide goods or services to, or otherwise have any business dealings with, any Restricted Customer in the course of any business concern which is in competition with any Restricted Business;

21.3.3 for twelve months after the Restriction Date in the course of any business concern which is in competition with any Restricted Business offer to employ or engage or otherwise endeavour to entice away from the Company any Restricted Employee;

21.3.4 for twelve months after the Restriction Date be engaged or concerned in any capacity in any business concern which is in competition with the Restricted Business.

21.4 For the avoidance of doubt, nothing in this clause 21 shall prevent the Executive from:

21.4.1 holding as an investment by way of shares or other securities not more than 1% of the total issued share capital of any company listed on a recognised stock exchange; or

21.4.2 being engaged or concerned in any business concern where the Executive's work or duties relate solely to geographical areas where the business concern is not in competition with the Restricted Business; or

21.4.3 being engaged or concerned in any business concern where the Executive's work or duties relate solely to services or activities of a kind with which the Executive was not concerned to a material extent in twelve months before the Termination Date.

21.5 The obligations undertaken by the Executive pursuant to this clause 21 extend to him acting not only on his own account but also on behalf of any other firm, company or other person and shall apply whether he acts directly or indirectly.

21.6 The Executive hereby undertakes with the Company that he will not at any time after the termination of the Employment in the course of carrying on any trade or business, claim, represent or otherwise indicate any present association with the Company or any Group Company or for the purpose of carrying on or retaining any business or custom, claim, represent or otherwise indicate any past association with the Company or any Group Company to its detriment.

21.7 While the restrictions in this clause 21 are considered by the parties to be reasonable in all the circumstances, it is agreed that if any such restrictions, by themselves, or taken together, shall be found to go beyond what is reasonable in all the circumstances for the protection of the legitimate interests of the Company or any Group Company but would be considered reasonable if part or parts of the wording of such restrictions were deleted, the relevant restriction or restrictions shall apply with such deletion(s) as may be necessary to make it or them valid and effective.

21.8 If the Executive accepts alternative employment or engagement with any third party during the period of any of the restrictions in this clause 21 he will provide the third party with full details of these restrictions.

22. AMALGAMATION AND RECONSTRUCTION

22.1 If the Company is wound up for the purposes of reconstruction or amalgamation the Executive shall not as a result or by reason of any termination of the Employment or the redefinition of his duties within the Company or any Group Company arising or resulting from any reorganisation of the Group have any claim against the Company for damages for termination of the Employment or otherwise so long as he shall be offered employment with any concern or undertaking resulting from such reconstruction, reorganisation or amalgamation on terms and conditions no less favourable to the Executive than the terms contained in this Agreement.

22.2 If the Executive shall at any time have been offered but shall have unreasonably refused or failed to agree to the transfer of this Agreement by way of novation to a company which has acquired or agreed to acquire the whole or substantially the whole of the undertaking and assets or not less than 50 per cent of the equity share capital of the Company the Company may terminate the Employment by such notice as is required by s.86 of the ERA within one month of such offer being refused by the Executive.

23. DISCIPLINARY AND GRIEVANCE PROCEDURES

23.1 The Company's Grievance and Disciplinary Procedures, or alternatively in the absence of such procedures, Adaptimmune Limited's Grievance and Disciplinary Procedures will apply to the Executive. Such procedures are non-contractual and the Company reserves the right to leave out any stage of the procedures and failure to follow a procedure (or part of it) shall not constitute a breach of this Agreement.

24. NOTICES

24.1 Any notice or other document to be given under this Agreement shall be in writing and may be given personally to the Executive or to the Company Secretary (as the case may be) or may be sent by first class post or by facsimile transmission to, in the case of the Company, its registered office for the time being and in the case of the Executive either to his address shown on the face of this Agreement or to his last known place of residence.

24.2 Any such notice shall (unless the contrary is proved) be deemed served when in the ordinary course of the means of transmission it would first be received by the addressee in normal business hours. In proving such service it shall be sufficient to prove, where appropriate, that the notice was addressed properly and posted or that the facsimile transmission was dispatched.

25. ENTIRE AGREEMENT AND FORMER SERVICE AGREEMENT(S)

This Agreement constitutes the entire agreement between the parties and shall be in substitution for any previous letters of appointment, agreements or arrangements, (whether written, oral or implied), relating to the employment of the Executive, which shall be deemed to have been terminated by mutual consent. The Executive acknowledges that as at the date of this Agreement he has no outstanding claim of any kind against the Company and/or any Group Company and in entering into this Agreement he has not relied on any Pre-Contractual Statement.

26. GOVERNING LAW AND JURISDICTION

This Agreement shall be governed by and interpreted in accordance with English law and the parties irrevocably agree to the exclusive jurisdiction of the English Courts.

27. THIRD PARTY RIGHTS

27.1 This Agreement is entered into by the Company for itself and in trust for each Group Company with the intention that each company will be entitled to enforce the terms of this Agreement directly against the Executive.

27.2 The Contracts (Rights of Third Parties) Act 1999 will not create any rights in favour of the Executive in relation to the benefits granted now or at any time in connection with his employment.

28. GENERAL

28.1 There are no collective agreements affecting the terms and conditions of the Executive's employment.

28.2 This Agreement constitutes the written statement of the terms of Employment of the Executive provided in compliance with part 1 of the ERA.

28.3 The Executive agrees to consider diligently and promptly any reasonable changes proposed by the Company to this Agreement and, in particular, will not withhold consent to any changes required as a result of amendments to legislation or current established working practices.

28.4 The expiration or termination of this Agreement, however arising, shall not operate to affect such of the provisions of this Agreement as are expressed to operate or have effect after that time and shall be without prejudice to any accrued rights or remedies of the parties.

28.5 The various provisions and sub-provisions of this Agreement are severable and if any provision or any identifiable part of any provision is held to be unenforceable by any court of competent jurisdiction then such unenforceability shall not affect the enforceability of the remaining provisions or identifiable parts of them.

Signed as a deed by
JAMES JULIAN NOBLE

/s/ James Noble (signature)

James Noble (print name)

in the presence of a Witness

/s/ J Hazelden
Signature of Witness

J Hazelden
Name of Witness

13 Crabtree Lane

Drayton

Abingdon

OX14 4HS, UK
Address of Witness

Signed as a deed by
ADAPTIMMUNE THERAPEUTICS PLC
acting by a director and the company
secretary:

/s/ David M. Mott
David M. Mott

Director

/s/ Margaret Henry
Margaret Henry

Company Secretary

EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT (this "Agreement") is made as of March 10, 2017, by and between Adaptimmune, LLC (the "Company"), a limited liability corporation and wholly-owned subsidiary of Adaptimmune Limited, and Rafael Amado, an individual residing at 5 Ashwood Lane, Malvern, PA 19436 ("Executive").

WHEREAS the Company and Executive desire to enter into this Agreement to establish and govern the terms and conditions of Executive's employment by the Company;

NOW THEREFORE, in consideration of the promises and mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Employment. The Company agrees to employ Executive and the Executive agrees to provide services to the Company from March 16, 2015 ("Commencement of Employment") until the termination of Executive's employment hereunder pursuant to Section 5. The period from Commencement of Employment through the date of Executive's termination of employment shall be referred to as the "Employment Period."

2. Position and Duties.

(a) During the Employment Period, Executive shall serve as the Chief Medical Officer (CMO) of the Group and in such capacity shall have the normal duties, responsibilities, functions and authority of a CMO. During the Employment Period, Executive shall render such services to the Company which are consistent with Executive's position and as the Chief Executive Officer and the Board may from time to time direct.

In this Agreement, the "Board" means the board of directors or the remuneration committee of such board of directors of Adaptimmune Therapeutics plc as applicable; "Group" means Adaptimmune Therapeutics plc and its subsidiaries from time to time and "Group Company" means a company which is a member of the Group and includes the Company.

(b) During the Employment Period, Executive shall report to the Chief Executive Officer and shall devote his best efforts and his full business time and attention to the business and affairs of the Company. Executive shall perform his duties, responsibilities and functions to the best of his abilities in a diligent, trustworthy, professional and efficient manner, shall comply with the policies and procedures of the Company and of Adaptimmune Therapeutics plc and shall comply with all applicable federal, state and/or local laws. In performing his duties and exercising his authority under this Agreement, Executive shall develop, support and implement the business and strategic plans approved from time to time by the Board. So long as Executive is employed by the Company, Executive shall not, without the prior written consent of the Board, accept other employment or perform other services for compensation which might reasonably be considered to interfere with the Executive's duties under this Agreement. Notwithstanding the foregoing, nothing in this Agreement shall preclude the Executive from engaging in educational, charitable, political, professional and civic activities, provided that such engagement does not interfere with Executive's duties and responsibilities hereunder.

(c) During the Employment Period, Executive's primary work location shall be Philadelphia, Pennsylvania; provided, however, that Executive shall travel to other locations and countries as and when required by the Company including, but not limited to, travel to the Company's affiliate offices in the United Kingdom.

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3. At-Will Relationship. Executive's employment with the Company is at-will and not for any specified period and may be terminated by either Executive or the Company at any time for any or no reason, subject to Section 5 of this Agreement. Nothing in this Agreement is intended to or should be construed to contradict, modify or alter this at-will employment relationship.

4. Compensation and Benefits.

(a) Base Salary. During the Employment Period, Executive's base salary initially, with effect from January 1, 2017, shall be $442,900 per annum, subject to periodic review by the Company (the "Base Salary"), and which shall be payable by the Company in regular installments in accordance with the Company's payroll practices in effect from time to time, less applicable deductions and withholding as required by law. For the avoidance of doubt, in any partial calendar year in the Employment Period, the Base Salary shall be prorated to reflect the period of time for which Executive is actually employed by the Company pursuant to this Agreement. During the Employment Period, the Base Salary shall be reviewed annually by the Company in accordance with the guidelines and procedures of the Company and any Group Company applicable to similarly situated executives.

(b) Bonus. Subject to the terms of the Executive Severance Policy of Adaptimmune Therapeutics plc, in force from time to time (the "Executive Severance Policy"), in addition to the Base Salary, Executive will be eligible to receive a bonus, determined by the Board, following the end of each calendar year that ends during the Employment Period ("Annual Bonus"), subject to: (i) objective criteria set forth by the Board or an authorized delegate thereof on an annual basis; and (ii) the overall performance of the Company and the Group. The initial target Annual Bonus with effect from January 1, 2017 shall be forty-five percent (45%) of Executive's Base Salary. The Annual Bonus shall be pro-rated for any part year of employment and paid in a single lump sum no later than March 15, of the year following the calendar year in which the Annual Bonus, if any, was earned. For clarity the Executive will be eligible to receive an Annual Bonus for each calendar year where the objective criteria referred to in Section 4(b)(i) above are met unless as a result of the overall performance of the Company and any Group Company in any particular calendar year, the Board or an authorized delegate thereof determines that: (i) no annual bonuses (or equivalent payments) will be paid to any senior executives of the Company and/or any Group Company with respect to such calendar year, in which case the Annual Bonus will not be paid to the Executive; or (ii) reduced annual bonuses (or equivalent payments) will be paid to any senior executives of the Company and/or of any Group Company with respect to such calendar year, in which case the Annual Bonus payable to the Executive shall also be reduced.

Executive must be employed by the Company on December 31st of the calendar year on which the bonus is based in order to be eligible to receive the Annual Bonus. Any Annual Bonus payments shall be paid to Executive less applicable deductions and withholding as required by law. Nothing in this Agreement will preclude the Company from changing or altering the objective criteria referred to under Section 4(b)(i), in whole or in part, in the Company's sole discretion.

(c) Stock Options. In accordance with the rules of the Adaptimmune Therapeutics Limited 2015 Share Option Scheme, on March 16, 2015, Executive was granted an option over 3,600,000 ordinary shares of Adaptimmune Therapeutics Limited (subsequently Adaptimmune Therapeutics plc) at the fair market value as of the date of grant ("Stock Options") on the following terms: (a) 25% of such Stock Options will vest on the first anniversary of Executive's start date (being March 16, 2015) and the remaining 75% of such Stock Options will vest in equal monthly amounts over the following 36 months so that all Stock Options granted under the option agreement will have vested after four (4) years, unless vested sooner pursuant to this section 4(c); (b) any and all vested Stock Options will be exercisable for a period of no less than forty (40) days after the Executive's employment is terminated for any reason; (c) in the event of a termination of Executive's employment by the Company without Cause or by the Executive for Good Reason, any and all Stock Options unvested as of the date of termination shall vest and immediately become exercisable on date of termination; (d) in the event of a termination of Executive's employment by the Company or by the Executive, in each case as a result of the Executive's physical or mental illness, incapacity or disability, the Board, acting in good faith, shall assess Executive's contribution to the Company and based on such assessment shall accordingly determine the number of

Stock Options that shall vest and immediately become exercisable on the date of termination; and (e) upon the date that a Change in Control occurs (the "Change in Control Date") all of the Executive's Stock Options that are unvested as of the Change in Control Date shall immediately vest and become immediately exercisable. The terms "Cause", "Good Reason" and "Change in Control" are defined in the Executive Severance Policy. For the avoidance of doubt, where the Stock Options are no longer outstanding as of the date of termination of employment (including as a result of any lapse in connection with a Change in Control), they shall not become exercisable following the Executive's termination by reason of this provision.

Executive has also participated in other award of options and, during the Employment Period, Executive shall be eligible to participate in the equity plans sponsored and/or maintained by the Company and its affiliates from time to time, in accordance with the terms of any such plans, at the sole and absolute discretion of the Company and the Board.

(d) Additional City Tax Compensation. The Company shall add to each payment of Base Salary and Annual Bonus an additional periodic payment in order to help defray Executive's obligation to pay the Philadelphia City Tax ("Additional City Tax Compensation"). The Additional City Tax Compensation will be calculated in accordance with the Philadelphia City Tax rates, which will vary from time to time in accordance with the Philadelphia Wage Tax. The Additional City Tax Compensation shall be subject to applicable deductions and withholding as required by law.

(e) Employee Benefits. During the Employment Period, Executive shall be entitled to participate in all of the Company's then-existing employee benefit programs for which senior executive employees of the Company are generally eligible. Nothing in this Agreement will preclude the Company from changing, altering or terminating any of the plans or programs for which employees of the Company are eligible, in whole or in part, in the Company's sole discretion.

(f) Vacation. During the Employment Period, Executive shall receive paid vacation per calendar year (prorated to reflect the period of time for which Executive is actually employed by the Company pursuant to this Agreement), to be accrued and taken in accordance with the Company's then-existing vacation policies. Any accrued but unused vacation remaining at the end of the Employment Period shall be paid to Executive in accordance with the Company's payroll practices in effect at such time.

(g) Business Equipment. During the Employment Period, the Company shall provide Executive with specific equipment for business use in accordance with the Company's then-existing device policy ("Business Equipment"). The Company also agrees to pay reasonable related monthly service charges for the Business Equipment. Executive understands that the Business Equipment provided by the Company is for business use and will remain the property of the Company. Upon termination of employment or on demand by the Company at any time, Executive agrees to immediately return the Business Equipment without copying, deleting or otherwise modifying any data, documents or information stored on the Business Equipment.

5. Notice of Termination

(a) Notice of Termination. Subject to the terms of this Agreement, the Employment Period and Executive's employment with the Company may be terminated by the Company immediately at any time and for any or no reason, and by Executive for any reason including but not limited to Good Reason, on provision of 60 days written notice. Any termination of employment by the Company or by Executive under this Section 5 shall be communicated by a written notice to the other party hereto indicating the specific termination provision in this Agreement relied upon (a "Notice of Termination").

(b) The Executive Severance Policy as in force from time to time shall apply to Executive in relation to the Employment. Such policy may be amended or terminated in accordance with the terms of the policy, save that where any proposed amendment or termination substantially reduces the rights of Executive following the termination of Executive's employment: (i) the Company will consult with

Executive on such proposed amendment or termination; and (ii) any such substantial reduction in the rights or benefits of Executive must be agreed with Executive. Where, following consultation, Executive does not agree to any such proposed amendment or termination, then the Executive Severance Policy shall continue in full force and effect without such proposed amendment or termination.

6. Confidential Information.

(a) Executive shall not, except as may be required to perform his duties hereunder or as required by applicable law, during the Employment Period and after employment ends (regardless of the reason), without limitation in time or until such information shall have become public other than by Executive's unauthorized disclosure, disclose to others or use, whether directly or indirectly, any non-public confidential or proprietary information with respect to the Company and/or its subsidiaries and affiliates, including, without limitation, their business relationships, negotiations and past, present and prospective activities, methods of doing business, know-how, trade secrets, data, formulae, product designs and styles, product development plans, customer lists, investors, and all papers, resumes and records (including computer records) of the documents containing such information ("Confidential Information"). Executive stipulates and agrees that as between Executive and the Company the foregoing matters are important and that material and confidential proprietary information and trade secrets affect the successful conduct of the businesses of the Company and its subsidiaries and affiliates (and any successor or assignee of the Company or its subsidiaries and affiliates). Nothing about the foregoing shall preclude Executive from testifying truthfully in any forum or from providing truthful information to any government agency or commission.

(b) Executive agrees not to remove from the Company's premises any property of the Company including, but not limited to, documents, records, or materials containing any Confidential Information, except as necessary to perform his work for the Company.

(c) Executive agrees to deliver or return to the Company, at the Company's request at any time or upon termination of his employment (regardless of the reason): (i) all documents, computer tapes and disks, records, lists, data, drawings, prints, notes and written information (and all copies thereof) furnished by or on behalf of or for the benefit of the Company or its subsidiaries or affiliates or prepared by Executive during the term of his employment by the Company, regardless of whether Confidential Information is contained therein; and (ii) all physical property of the Company or its subsidiaries or affiliates which Executive received in connection with Executive's employment with the Company including, without limitation, credit cards, passes, door and file keys, and computer hardware and software existing in tangible form.

7. Work Product and Intellectual Property, Inventions and Patents.

(a) For purposes of this Agreement, "Work Product" shall include (i) all works, materials, ideas, innovations, inventions, discoveries, techniques, methods, processes, formulae, compositions, developments, improvements, technology, know-how, algorithms, data and data files, computer process systems, computer code, software, databases, hardware configuration information, research and development projects, experiments, trials, assays, lab books, test results, specifications, formats, designs, drawings, blueprints, sketches, artwork, graphics, documents, records, writings, reports, machinery, prototypes, models, sequences, and components; (ii) all tangible and intangible embodiments of the foregoing, of any kind or format whatsoever, including in printed and electronic media; and (iii) all Intellectual Property Rights (as defined below) associated with or related to the foregoing.

"Company Work Product" shall include all Work Product that Executive partially or completely creates, makes, develops, discovers, derives, conceives, reduces to practice,

authors, or fixes in a tangible medium of expression, whether solely or jointly with others and whether on or off the Company's premises, in connection with the Company's business (w) while employed by the Company, or (x) with the use of the time, materials, or facilities of the Company or its affiliates, or (y) relating to any product, service, or activity of the Company or its affiliates of which Executive has knowledge, or (z) suggested by or resulting from any work performed by Executive for the Company or its affiliates.

(b) For purposes of this Agreement, "Intellectual Property Rights" means any and all worldwide rights, title, or interest existing now or in the future under patent law, trademark law, copyright law, industrial rights design law, moral rights law, trade secret law, and any and all similar proprietary rights, however denominated, and any and all continuations, continuations-in-part, divisions, renewals, reissue, reexaminations, extensions and/or restorations thereof, now or hereafter in force and effect, including without limitation all patents, patent applications, industrial rights, mask works rights, trademarks, trademark applications, trade names, slogans, logos, service marks and other marks, copyrightable material, copyrights, copyright applications, moral rights, trade secrets, and trade dress.

(c) Executive acknowledges and agrees that all Company Work Product is and shall belong to the Company. Executive shall and hereby does irrevocably assign and transfer to the Company all of Executive's right, title, and interest in and to all Company Work Product, which assignment shall be effective as of the moment of creation of such Company Work Product without requiring any additional actions of the parties.

(d) All copyrightable material included in Company Work Product that qualifies as a "work made for hire" under the U.S. Copyright Act is deemed a "work made for hire" created for and owned exclusively by the Company, and the Company shall be deemed the owner of the copyright and all other Intellectual Property Rights associated therewith.

(e) To the extent any of the rights, title, and interest in and to Company Work Product cannot be assigned by Executive to the Company, Executive hereby grants to the Company a perpetual, exclusive, royalty-free, transferable, assignable, irrevocable, worldwide license (with rights to sublicense through multiple tiers of sublicensees) to practice such non-assignable rights, title, and interest. To the extent any of the rights, title, and interest in and to Company Work Product can neither be assigned nor licensed by Executive to the Company, Executive hereby irrevocably waives and agrees never to assert such non-assignable and non-licensable rights, title, and interest against the Company or its affiliates, or its and their directors, officers, agents, employees, contractors, successors, or assigns. For the avoidance of doubt, this Section 7(e) shall not apply to any Work Product that (i) does not relate, at the time of creation, making, development, discovery, derivation, conception, reduction to practice, authoring, or fixation in a tangible medium of expression of such Work Product, to the Company's business or actual or demonstrably anticipated research, development or business; and (ii) was developed entirely on Executive's own time; and (iii) was developed without use of any of the Company's equipment, supplies, facilities, or trade secret information; and (iv) did not result from any work Executive performed for the Company.

(f) Executive agrees, represents, and warrants that to the extent any Prior Work Product exists relating in any way to the Company's existing business, or demonstrably anticipated research and development or future business, which was created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression by Executive prior to Executive's employment with the Company (collectively, the "Prior Work Product") the Executive shall notify the Company of such Prior Work Product and obtain the Company's prior written consent prior to using in any way the Prior Work Product during the course of the Executive's employment with the Company. Executive agrees, represents, and warrants that Executive has no rights in or to any Work Product related to Executive's employment with the Company, or to the Company and its affiliates generally, other than the Prior Work Product. Executive hereby grants to the Company a perpetual, royalty-free, irrevocable, worldwide, fully paid-up license (with rights to transfer, assign, and sublicense through multiple tiers of sublicensees) to practice all Intellectual Property Rights relating to any Prior Work Product that Executive uses, incorporates, or permits to be incorporated, in any Company Work Product. Notwithstanding the foregoing, Executive will not use, incorporate, or permit to be incorporated, any Prior Work Product in any Company Work Product without the Company's prior written consent.

(g) Executive agrees, during and after Executive's employment, to assist the Company, its affiliates, and its and their successors, assigns, delegates, nominees, and legal representatives with all acts that the Company deems necessary or desirable to permit and assist the Company in applying for, obtaining, perfecting, protecting, and enforcing the full benefits, enjoyment,

rights, and title throughout the world of the Company in and to all Company Work Product, which acts and assistance may include, without limitation, the signing and execution of documents (at no cost to the Company) and assistance or cooperation in the filing, prosecution, registration, and memorialization of assignment of any applicable Intellectual Property Rights; acts pertaining to the enforcement of any applicable Intellectual Property Rights; and acts pertaining to other legal proceedings related to Company Work Product. If the Company is unable for any reason to secure Executive's signature to any document that the Company deems necessary or desirable to permit and assist the Company in applying for, obtaining, perfecting, protecting, and enforcing the full benefits, enjoyment, rights and title throughout the world of the Company in and to all Company Work Product, Executive hereby irrevocably designates and appoints the Company, its officers, and directors as Executive's attorney in fact to sign and execute such documents in Executive's name, all with the same legal force and effect as if executed by Executive. This designation of power of attorney is a power coupled with an interest and is irrevocable. Executive will not retain any proprietary interest in any Company Work Product and shall not register, file, seek to obtain, or obtain any Intellectual Property Rights covering any Company Work Product in his own name.

(h) Executive agrees to disclose and describe to the Company promptly and in writing to the Company all Company Work Product to which the Company is entitled as provided above. Executive shall deliver all Company Work Product in Executive's possession whenever the Company so requests, and, in any event, prior to or upon Executive's termination of employment. After the Company confirms receipt of Company Work Product, Executive shall delete or destroy all Company Work Product in Executive's possession whenever the Company so requests and at the Company's reasonable direction, without retaining any copies thereof, and, in any event, prior to or upon Executive's termination of employment.

(i) Consistent with Executive's obligations under Section 6, Executive shall hold in the strictest confidence, and will not disclose, furnish or make accessible to any person or entity (directly or indirectly) Company Work Product, except as required in accordance with Executive's duties as an employee of the Company.

(j) For the avoidance of doubt, Executive shall not be entitled to any additional or special compensation or reimbursement in fulfilling his obligations under this Section 7, except that the Company, in its sole discretion, may reimburse Executive for any reasonable expenses which Executive may incur on behalf of the Company.

8. Immunity under Defend Trade Secrets Act of 2016

The Defend Trade Secrets Act of 2016 (the "Act") provides that: (1) An individual shall not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that: (A) is made — (i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. The Act further provides that: an individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual: (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order.

9. Non-Competition; Non-Solicitation.

(a) Non-Competition. During the Employment Period and for a period of twelve (12) months thereafter (the "Restricted Period"), Executive shall not, without the prior written consent of the Board, directly or indirectly, whether as owner, consultant, employee, partner, venturer, agent, through stock ownership, investment of capital, lending of money or property, rendering of services, or otherwise, engage or participate in a Competitive Business operating within the Restricted Area.

As used in this Agreement, the term "Competitive Business" means any firm or business organization that competes with the Company or any affiliated company in the business of developing, designing, testing, marketing, selling, distributing or manufacturing products or services involving the use of T cell receptors in T cell therapy to treat or diagnose human disease. Notwithstanding the foregoing, Executive may own up to one percent (1%) of the outstanding stock of a publicly held corporation which constitutes or is affiliated with a Competitive Business. As used in this Agreement, the term "Restricted Area" means the United States and the United Kingdom.

(b) Agreement Not to Solicit Executives. During the Restricted Period, the Executive shall not, directly or indirectly (through another person, entity or otherwise): (i) solicit, induce or attempt to induce any executive of the Company or any affiliated company to leave the employ of the Company or affiliated company, or in any way interfere with the relationship between the Company or affiliated company and any Executive thereof, or (ii) hire any person who is/was an executive of the Company or affiliated company, at any time during the Restricted Period as an Executive, consultant or otherwise.

(c) Non-Solicitation of Others. During the Employment Period and the Restricted Period, Executive shall not, directly or indirectly (through another person, entity or otherwise): (i) contact, solicit or accept the business of any customer, vendor or client of the Company or affiliated company for any reason except for non-competing purposes unrelated to the use of T cell receptors in T cell therapy to treat or diagnose human disease; or (ii) induce or seek to influence any customer, vendor or client of the Company or affiliated company to discontinue, modify or reduce its business relationship with the Company or affiliated company for any reason.

(d) If, at the time of enforcement of Section 6, 7 or 9 of this Agreement, a court shall hold that the duration, scope or geographical area restrictions stated herein are unreasonable under circumstances then existing, the parties hereto agree that the maximum duration, scope or geographical area reasonable under such circumstances shall be substituted for the stated duration, scope or area and that the court shall be allowed to revise the restrictions contained herein to cover the maximum period, scope and area permitted by law.

(e) Executive acknowledges and agrees that the restrictive covenants contained herein (i) are necessary for the reasonable and proper protection of the goodwill of the Company and its trade secrets, proprietary data and confidential information, (ii) are reasonable with respect to length of time, scope and geographic area and (iii) will not prohibit Executive from engaging in other businesses or employment for the purpose of earning a livelihood following the termination of his relationship with the Company.

(f) Injunctive Relief. The Executive acknowledges and agrees that (i) the Company's remedies at law for a breach or threatened breach of any of the provisions of Sections 6, 7 and 9 would be inadequate and, in recognition of this fact, the Executive agrees that, in the event of such a breach or threatened breach, in addition to any remedies at law, the Company, without posting any bond, will be entitled to obtain equitable relief in the form of specific performance, temporary restraining order, temporary or permanent injunction or any other equitable remedy which may then be available in the event of the termination of Executive's employment with the Company, (ii) the Executive's experience and capabilities are such that Executive can obtain employment in a field of employment that would not breach Executive's covenants under this Agreement, and the enforcement of this Agreement by way of injunction will not cause Executive undue hardship or prevent Executive from earning a livelihood, and (iii) the nature of the Company's business is worldwide in scope. Executive acknowledges that any claim or cause of action against Company shall not constitute a defense to the enforcement by Company of Executive's covenants in Sections 6, 7 and 9 of this Agreement. In the event that Executive violates any of the covenants in this Agreement and the Company prevails in any legal action for injunctive or other relief, the Company shall have the benefit of the full period of the covenants such that the covenants shall have the duration of one year computed from the date the Executive ceased violation of the covenants, either by order of the court or otherwise. In the event that, notwithstanding the foregoing, any of the provisions in Sections 6, 7 and 9 shall be held to be invalid or unenforceable, the remaining provisions of such Sections shall nevertheless continue to be valid and enforceable as though the invalid or

unenforceable parts had not been included in such Sections. In the event that any provision of such Sections relating to the time period and/or the areas of restriction and/or related aspects shall be declared by a court of competent jurisdiction to exceed the maximum restrictiveness such court deems reasonable and enforceable, the time period and/or areas of restriction and/or related aspects deemed reasonable and enforceable by the court shall become and be the maximum restriction in such regard, and the restriction shall remain enforceable to the fullest extent deemed reasonable by such court. In the event of a breach by Executive of any provision of Sections 6, 7 and 9 of this Agreement, Company's obligations under this Agreement shall immediately terminate and Executive shall not be entitled to any additional monetary payments of any kind whatsoever.

10. Executive's Representations and Covenants. Executive hereby represents and warrants to the Company that: (i) the execution, delivery and performance of this Agreement by Executive do not and shall not conflict with, breach, violate or cause a default under any contract, agreement, instrument, order, judgment or decree to which Executive is a party or by which he is bound; (ii) Executive is not a party to or bound by any employment agreement, non-compete agreement or confidentiality agreement with any other person or entity; (iii) upon the execution and delivery of this Agreement by the Company, this Agreement shall be the valid and binding obligation of Executive, enforceable in accordance with its terms; and (iv) Executive is authorized to work in the United States without restriction. Executive hereby acknowledges and represents that he has been made aware of his right to consult with independent legal counsel regarding his rights and obligations under this Agreement and that he fully understands the terms and conditions contained herein. Executive further covenants that he shall not make any statements, other than pursuant to the performance of his job duties and responsibilities, to the press or other media in connection with the Company and/or any affiliated company at any time either during or after the Employment Period without the prior consent of the Chief Executive Officer.

11. Debarment

(a) Executive hereby certifies to the Company that, as provided in Section 306(a) and Section 306(b) of the U.S. Federal Food, Drug and Cosmetic Act (21 U.S.C. SS 335a(a) and 335a(b)) and/or under any equivalent law within or outside the United States, Executive has not in the past been and/or is not currently (or threatened to be or subject to any pending action, suit, claim investigation or administrative proceeding which could result in Executive being) (i) debarred or (ii) excluded from participation in any federally funded healthcare program or (iii) otherwise subject to any governmental sanction in any jurisdiction (including disqualification from participation in clinical research) that would affect or has affected Executive's ability to perform Executive's obligations under this Agreement, or Executive's employment with the Company or prevent Executive from working for the Company in any capacity in any jurisdiction.

(b) Executive hereby confirms that Executive is not on any of the following exclusion lists: (a) Food and Drug Administration Debarment List; (b) General Services Administration Excluded Parties List System; or (c) Office of Inspector General List of Excluded Individuals/Entities. Executive warrants and represents to the Company that Executive will notify the Company immediately if any of the foregoing occurs or is threatened. Executive confirms that, following the termination of Executive's employment with the Company for any reason he will notify the Company of his inclusion on the exclusion lists referenced above, or the threat of such inclusion, solely where such inclusion or the threat of such inclusion arises in connection with Executive's employment with the Company. Any violation of this section by Executive may result in the withdrawal of the offer of engagement or the termination of Executive's employment with the Company. While employed by the Company, Immediately upon the request of the Company at any time, Executive will certify to the Company in writing Executive's compliance with the provisions of this section. Executive hereby

confirms that Executive understands that the Company will verify the information the Executive certifies under this Agreement. Falsified or incorrect information provided by the Executive may result in the withdrawal of the offer of engagement or the termination of Executive's employment with the Company.

12. Survival. Sections 5 through 23, inclusive, shall survive and continue in full force in accordance with their terms notwithstanding the termination of the Employment Period.

13. Notices. Any notice provided for in this Agreement shall be in writing and shall be either personally delivered, sent by reputable overnight courier service or mailed by first class mail, return receipt requested, to the recipient at the address below indicated:

Notices to Executive:
Rafael Amado
at such address as most currently appears in the records of the Company

Notices to the Company:
Adaptimmune, LLC
351 Rouse Boulevard
Philadelphia
PA 19112
Attention: Chief Executive Officer

or such other address or to the attention of such other person as the recipient party shall have specified by prior written notice to the sending party. Any notice under this Agreement shall be deemed to have been given when so delivered, sent or mailed.

14. Severability. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement or any action in any other jurisdiction, but this Agreement shall be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provision had never been contained herein.

15. Complete Agreement. This Agreement, those documents expressly referred to herein and other documents of even date herewith embody the complete agreement and understanding among the parties and supersede and preempt any prior understandings, agreements or representations by or among the parties, written or oral, which may have related to the subject matter hereof in any way.

16. No Strict Construction. The language used in this Agreement shall be deemed to be the language chosen by the parties hereto to express their mutual intent, and no rule of strict construction shall be applied against any party.

17. Counterparts. This Agreement may be executed in separate counterparts (including by means of telecopied signature pages or electronic transmission in portable document format (pdf)), each of which is deemed to be an original and all of which taken together constitute one and the same agreement.

18. Successors and Assigns. This Agreement, including, but not limited to, the terms and conditions in Sections 6, 7 and 9, shall inure to the benefit of, and be binding upon, the heirs, executors, administrators, successors and assigns of the respective parties hereto, but in no event may Executive assign or delegate to any other party Executive's rights, duties or obligations under this Agreement. Executive further hereby consents and agrees that the Company may assign this Agreement (including, but not limited to, Sections 6, 7 and 9) and any of the rights or obligations hereunder to any third party in connection with the sale, merger, consolidation, reorganization, liquidation or transfer, in whole or in part, of the Company's control and/or ownership of its assets or business. In such event, Executive agrees to continue to be bound by the terms of this Agreement.

19. Choice of Law. All issues and questions concerning the construction, validity, enforcement and interpretation of this Agreement and the exhibits and schedules hereto shall be governed by, and construed in accordance with, the laws of the Commonwealth of Pennsylvania, without giving effect to any choice of law or conflict of law rules or provisions (whether of the Commonwealth of Pennsylvania or

any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the Commonwealth of Pennsylvania.

20. Amendment and Waiver. The provisions of this Agreement may be amended or waived only with the prior written consent of the Company and Executive, and no course of conduct or course of dealing or failure or delay by any party hereto in enforcing or exercising any of the provisions of this Agreement (including, without limitation, the Company's right to terminate the Employment Period with or without Cause) shall affect the validity, binding effect or enforceability of this Agreement or be deemed to be an implied waiver of any provision of this Agreement.

21. Insurance. The Company may, at its discretion, apply for and procure in its own name and for its own benefit life and/or disability insurance on Executive in any amount or amounts considered advisable. Executive agrees to cooperate in any medical or other examination, supply any information and execute and deliver any applications or other instruments in writing as may be reasonably necessary to obtain and constitute such insurance.

22. Agreement to Arbitrate.

(a) Notwithstanding any express provision to the contrary, Executive and the Company agree that any claim, controversy or dispute between Executive and the Company (including without limitation the Company's affiliates, officers, executives, representatives, or agents) arising out of or relating to this Agreement, the employment of Executive, the cessation of employment of Executive, or any matter relating to the foregoing shall be submitted to and settled by arbitration before a single arbitrator in a forum of the American Arbitration Association ("AAA") located in Philadelphia, Pennsylvania, and conducted in accordance with the National Rules for the Resolution of Employment Disputes. In such arbitration: (i) the arbitrator shall agree to treat as confidential evidence and other information presented by the parties to the same extent as Confidential Information under this Agreement must be held confidential by the Executive; (ii) the arbitrator shall have no authority to amend or modify any of the terms of this Agreement; and (iii) the arbitrator shall have ten (10) business days from the closing statements or submission of post-hearing briefs by the parties to render his decision.

(b) All AAA-imposed costs of said arbitration, including the arbitrator's fees, if any, shall be borne by the Company. All legal fees incurred by the parties in connection with such arbitration shall be borne by the party who incurs them, unless applicable statutory authority provides for the award of attorneys' fees to the prevailing party and the arbitrator's decision and award provides for the award of such fees.

(c) Any arbitration award shall be final and binding upon the parties, and any court having jurisdiction may enter a judgment on the award. The foregoing

requirement to arbitrate claims, controversies, and disputes applies to all claims or demands by the Executive, including without limitation, any rights or claims the Executive may have under the Age Discrimination in Employment Act of 1967, Title VII of the Civil Rights Act of 1964, the Americans with Disabilities Act of 1991, the Equal Pay Act, the Family and Medical Leave Act or any other federal, state or local laws or regulations pertaining to the Executive's employment or the termination of the Executive's employment.

(d) All claims must be arbitrated, with the limited exception of claims for violations of Sections 6, 7 and 9 of this Agreement. In the event of an alleged breach of Sections 6, 7 or 9 of this Agreement by Executive, the Company has the option to elect between arbitration and a judicial forum.

23. Corporate Opportunity. Executive acknowledges that all Corporate Opportunities are for the benefit of the Company and that Executive would be in breach of his duties to the Company if Executive accepted or pursued, directly or indirectly, any Corporate Opportunity on Executive's own behalf.

As used in this Agreement, the term "Business" means the business of developing, designing, testing, marketing, selling, distributing or manufacturing products or services involving the use of T cell therapy to

treat or diagnose human disease and/or any further associated business that may be developed by the Company or any of its affiliates of which Executive is aware; the term "Corporate Opportunities" means business, commercial and investment opportunities or offers presented to Executive or of which Executive becomes aware (including in Executive's capacity as agent, employee, director of officer of the Company) at any time during the Employment Period and which relate to the Business.

24. Executive's Cooperation. During the Employment Period, Executive shall reasonably cooperate with the Company and its affiliates or subsidiaries in any internal investigation or administrative, regulatory or judicial proceeding as reasonably requested by the Company (including, without limitation, Executive's being reasonably available to the Company upon reasonable notice for interviews and factual investigations, appearing at the Company's reasonable request to give testimony without requiring service of a subpoena or other legal process, volunteering to the Company all pertinent information and turning over to the Company all relevant documents which are or may come into Executive's possession, all at times and on schedules that are reasonably consistent with Executive's other permitted activities and commitments) at reasonable times. In the event the Company requires Executive's cooperation in accordance with this Section 24, the Company shall reimburse Executive solely for reasonable travel expenses (including lodging and meals, upon submission of receipts). Nothing about the foregoing shall preclude Executive from testifying truthfully in any forum or from providing truthful information to any government agency or commission.

25. 409A Compliance.

(a) The intent of the parties is that payments and benefits under this Agreement comply with Section 409A and, accordingly, to the maximum extent permitted, this Agreement shall be interpreted to be in compliance therewith. In no event shall the Company or its subsidiaries or affiliates be liable for any additional tax, interest or penalty that may be imposed on Executive under Section 409A or damages for failing to comply with Section 409A.

(b) A termination of employment shall not be deemed to have occurred for purposes of any provision of this Agreement providing for the payment of any amounts or benefits upon or following a termination of employment unless such termination is also a "separation from service" within the meaning of Section 409A and, for purposes of any such provision of this Agreement, references to a "termination," "termination of employment" or like terms shall mean "separation from service."

(c) To the extent that reimbursements or other in-kind benefits under this Agreement constitute "nonqualified deferred compensation" for purposes of Section 409A: (i) all such expenses or other reimbursements hereunder shall be made on or prior to the last day of the taxable year following the taxable year in which such expenses were incurred by the Executive; (ii) any such right to reimbursement or in-kind benefits shall not be subject to liquidation or exchange for another benefit; and (iii) no such reimbursement, expenses eligible for reimbursement, or in-kind benefits provided in any taxable year shall in any way affect the expenses eligible for reimbursement, or in-kind benefits to be provided, in any other taxable year.

(d) For purposes of Section 409A, the Executive's right to receive any installment payments pursuant to this Agreement shall be treated as a right to receive a series of separate and distinct payments.

(e) Notwithstanding any other provision of this Agreement to the contrary, in no event shall any payment under this Agreement that constitutes "nonqualified deferred compensation" for purposes of Section 409A be subject to offset by any other amount unless otherwise permitted by Section 409A.

IN WITNESS WHEREOF, the parties hereto have executed this Employment Agreement as of the date first written above.

ADAPTIMMUNE, LLC

By: /s/ H Tayton-Martin
Name: Helen Tayton-Martin
Position: President & Secretary

/s/ Rafael Amado
Rafael Amado

EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT (this "Agreement") is made as of March 10, 2017, by and between Adaptimmune, LLC (the "Company"), a limited liability corporation and wholly-owned subsidiary of Adaptimmune Limited, and Gwendolyn Binder-Scholl, an individual residing at 235 South 21st Street, Philadelphia, PA 19103 ("Executive").

WHEREAS the Company and Executive desire to enter into this Agreement to establish and govern the terms and conditions of Executive's employment by the Company;

NOW THEREFORE, in consideration of the promises and mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Employment. The Company agrees to employ Executive and the Executive agrees to provide services to the Company from March 1, 2011 ("Commencement of Employment") until the termination of Executive's employment hereunder pursuant to Section 5. The period from Commencement of Employment through the date of Executive's termination of employment shall be referred to as the "Employment Period."

2. Position and Duties.

(a) During the Employment Period, Executive shall serve as the Chief Technology Officer (CTO) of the Group and in such capacity shall have the normal duties, responsibilities, functions and authority of a CTO, subject to the power and authority of the Company's Chief Executive Officer and the board of directors or the remuneration committee of such board of directors, as applicable (the "Board") of Adaptimmune Therapeutics plc to expand or limit such duties, responsibilities, functions and authority, and the power and authority of the Board to overrule actions of officers of the Company. During the Employment Period, Executive shall render such services to the Company which are consistent with Executive's position and as the Chief Executive Officer and the Board may from time to time direct.

In this Agreement, "Group" means Adaptimmune Therapeutics plc and its subsidiaries from time to time and "Group Company" means a company which is a member of the Group and includes the Company.

(b) During the Employment Period, Executive shall report to the Chief Executive Officer and shall devote her best efforts and her full business time and attention to the business and affairs of the Company. Executive shall perform her duties, responsibilities and functions to the best of her abilities in a diligent, trustworthy, professional and efficient manner, shall comply with the policies and procedures of the Company and of Adaptimmune Therapeutics plc and shall comply with all applicable federal, state and/or local laws. In performing her duties and exercising her authority under this Agreement, Executive shall develop, support and implement the business and strategic plans approved from time to time by the Board. So long as Executive is employed by the Company, Executive shall not, without the prior written consent of the Board, accept other employment or perform other services for compensation, which the Board reasonably considers may be, or become harmful to the interests of the Company or any Group Company or which might reasonably be considered to interfere with the Executive's duties under this Agreement. Notwithstanding the foregoing, nothing in this Agreement shall preclude the Executive from engaging in educational, charitable, political, professional and civic activities, provided that such engagement does not interfere with Executive's duties and responsibilities hereunder.

(c) During the Employment Period, Executive's primary work location shall be Philadelphia, Pennsylvania; provided, however, that Executive shall travel to other locations and countries as and when required by the Company including, but not limited to, travel to the Company's affiliate offices in the United Kingdom.

3. At-Will Relationship. Executive's employment with the Company is at-will and not for any specified period and may be terminated by either Executive or the Company at any time for any or no

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reason, subject to Section 5 of this Agreement. Nothing in this Agreement is intended to or should be construed to contradict, modify or alter this at-will employment relationship.

4. Compensation and Benefits.

(a) Base Salary. During the Employment Period, Executive's base salary initially, with effect from January 1, 2017, shall be $350,000 per annum, which may be modified by the Company in its sole discretion (the "Base Salary"), and which shall be payable by the Company in regular installments in accordance with the Company's payroll practices in effect from time to time, less applicable deductions and withholding as required by law. For the avoidance of doubt, in any partial calendar year in the Employment Period, the Base Salary shall be prorated to reflect the period of time for which Executive is actually employed by the Company pursuant to this Agreement. During the Employment Period, the Base Salary shall be reviewed annually by the Company in accordance with the guidelines and procedures of the Company and any Group Company applicable to similarly situated executives.

(b) Bonus Subject to the terms of the Executive Severance Policy of Adaptimmune Therapeutics plc, in force from time to time (the Executive Severance Policy"), in addition to the Base Salary, Executive will be eligible to receive a bonus, determined by the Board, following the end of each calendar year that ends during the Employment Period ("Annual Bonus"), subject to: (i) objective criteria set forth by the Board or an authorized delegate thereof on an annual basis; and (ii) the overall performance of the Company and the Group. The initial target Annual Bonus with effect from January 1, 2017 shall be forty-five percent (45%) of Executive's Base Salary. The Annual Bonus shall be pro-rated for any year of employment and paid in a single lump sum no later than March 15, of the year following the calendar year in which the Annual Bonus, if any, was earned. For clarity the Executive will be eligible to receive an Annual Bonus for each calendar year where the objective criteria referred to in Section 4(b)(i) above are met unless as a result of the overall performance of the Company and any Group Company in any particular calendar year, the Board or an authorized delegate thereof determines that: (i) no annual bonuses (or equivalent payments) will be paid to any senior executives of the Company and/or of any Group Company with respect to such calendar year, in which case the Annual Bonus will not be paid to the Executive; or (ii) reduced annual bonuses (or equivalent payments) will be paid to any senior executives of the Company and/or of any Group Company with respect to each calendar year, in which case the Annual Bonus payable to the Executive shall also be reduced.

Executive must be employed by the Company on December 31st of the calendar year on which the bonus is based in order to be eligible to receive the Annual Bonus. Any Annual Bonus payments shall be paid to Executive less applicable deductions and withholding as required by law. Nothing in this Agreement will preclude the Company from changing or altering the objective criteria referred to under Section 4(b)(i), in whole or in part, in the Company's sole discretion.

(c) Stock Options. During the Employment Period, Executive shall be eligible to participate in the equity plans sponsored and/or maintained by the Company and its affiliates from time to time, in accordance with the terms of any such plans, at the sole and absolute discretion of the Company and the Board.

(d) Employee Benefits. During the Employment Period, Executive shall be entitled to participate in all of the Company's then-existing employee benefit programs for which senior executive employees of the Company are generally eligible. Nothing in this Agreement will preclude the Company from changing, altering or terminating any of the plans or programs for which employees of the Company are eligible, in whole or in part, in the Company's sole discretion.

(e) Vacation. During the Employment Period, Executive shall receive paid vacation per calendar year (prorated to reflect the period of time for which Executive is actually employed by the Company pursuant to this Agreement), to be accrued and taken in accordance with the Company's then-existing vacation policies. Any accrued but unused vacation remaining at the end of the Employment Period shall be paid to Executive in accordance with the Company's payroll practices in effect at such time.

(f) Business Equipment. During the Employment Period, the Company shall provide Executive with equipment for business use in accordance with the Company's then-existing device policy ("Business Equipment"). The Company also agrees to pay reasonable related monthly service charges for the Business Equipment. Executive understands that the Business Equipment provided by the Company is for business use and will remain the property of the Company. Upon termination of employment or on demand by the Company at any time, Executive agrees to immediately return the Business Equipment without copying, deleting or otherwise modifying any data, documents or information stored on the Business Equipment.

5. Notice of Termination

(a) Notice of Termination. Subject to the terms of this Agreement, the Employment Period and Executive's employment with the Company may be terminated by the Company immediately at any time and for any or no reason, and by Executive for any reason including but not limited to Good Reason, on provision of 60 days written notice. Any termination of employment by the Company or by Executive under this Section 5 shall be communicated by a written notice to the other party hereto indicating the specific termination provision in this Agreement relied upon (a "Notice of Termination").

(b) The Executive Severance Policy as in force from time to time shall apply to the Executive in relation to the Employment. Such policy may be amended or terminated in accordance with the terms of the policy, save that where any proposed amendment or termination substantially reduces the rights of Executive following the termination of Executive's employment: (i) the Company will consult with Executive on such proposed amendment or termination; and (ii) any such substantial reduction in the rights or benefits of Executive must be agreed with Executive. Where, following consultation, Executive does not agree to any such proposed amendment or termination, then the Executive Severance Policy shall continue in full force and effect without such proposed amendment or termination.

6. Confidential Information.

(a) Executive shall not, except as may be required to perform Executive's duties hereunder or as required by applicable law, during the Employment Period and after employment ends (regardless of the reason), without limitation in time or until such information shall have become public other than by Executive's unauthorized disclosure, disclose to others or use, whether directly or indirectly, any non-public confidential or proprietary information with respect to the Company and/or its subsidiaries and affiliates, including, without limitation, their business relationships, negotiations and past, present and prospective activities, methods of doing business, know-how, trade secrets, data, formulae, product designs and styles, product development plans, customer lists, investors, and all papers, resumes and records (including computer records) of the documents containing such information ("Confidential Information"). Executive stipulates and agrees that as between Executive and the Company the foregoing matters are important and that material and confidential proprietary information and trade secrets affect the successful conduct of the businesses of the Company and its subsidiaries and affiliates (and any successor or assignee of the Company or its subsidiaries and affiliates). Nothing about the foregoing shall preclude Executive from testifying truthfully in any forum or from providing truthful information to any government agency or commission.

(b) Executive agrees not to remove from the Company's premises any property of the Company including, but not limited to, documents, records, or materials containing any Confidential Information, except as necessary to perform Executive's work for the Company.

(c) Executive agrees to deliver or return to the Company, at the Company's request at any time or upon termination of Executive's employment (regardless of the reason): (i) all documents, computer tapes and disks, records, lists, data, drawings, prints, notes and written information (and all copies thereof) furnished by or on behalf of or for the benefit of the Company or its subsidiaries or affiliates or prepared by Executive during the term of Executive's employment by the Company, regardless of whether Confidential Information is contained therein; and (ii) all physical property of the Company or its subsidiaries or affiliates which Executive received in connection with Executive's employment with the Company including, without limitation, credit cards, passes, door and file keys, and computer hardware and software existing in tangible form.

(d) Executive represents and warrants to the Company that Executive took nothing with her which belonged to any former employer when Executive left her prior position and that Executive has nothing that contains any information which belongs to any former employer. If at any time Executive discovers this is incorrect, Executive shall promptly return any such materials to Executive's former employer. The Company does not want any such materials, and Executive shall not be permitted to use or refer to any such materials in the performance of Executive's duties hereunder.

7. Work Product and Intellectual Property, Inventions and Patents.

(a) For purposes of this Agreement, "Work Product" shall include (i) all works, materials, ideas, innovations, inventions, discoveries, techniques, methods, processes, formulae, compositions, developments, improvements, technology, know-how, algorithms, data and data files, computer process systems, computer code, software, databases, hardware configuration information, research and development projects, experiments, trials, assays, lab books, test results, specifications, formats, designs, drawings, blueprints, sketches, artwork, graphics, documents, records, writings, reports, machinery, prototypes, models, sequences, and components; (ii) all tangible and intangible embodiments of the foregoing, of any kind or format whatsoever, including in printed and electronic media; and (iii) all Intellectual Property Rights (as defined below) associated with or related to the foregoing.

"Company Work Product" shall include all Work Product that Executive partially or completely creates, makes, develops, discovers, derives, conceives, reduces to practice, authors, or fixes in a tangible medium of expression, whether solely or jointly with others and whether on or off the Company's premises, in connection with the Company's business (w) while employed by the Company, or (x) with the use of the time, materials, or facilities of the Company or its affiliates, or (y) relating to any product, service, or activity of the Company or its affiliates of which Executive has knowledge, or (z) suggested by or resulting from any work performed by Executive for the Company or its affiliates.

(b) For purposes of this Agreement, "Intellectual Property Rights" means any and all worldwide rights, title, or interest existing now or in the future under patent law, trademark law, copyright law, industrial rights design law, moral rights law, trade secret law, and any and all similar proprietary rights, however denominated, and any and all continuations, continuations-in-part, divisions, renewals, reissue, reexaminations, extensions and/or restorations thereof, now or hereafter in force and effect, including without limitation all patents, patent applications, industrial rights, mask works rights, trademarks, trademark applications, trade names, slogans, logos, service marks and other marks, copyrightable material, copyrights, copyright applications, moral rights, trade secrets, and trade dress.

(c) Executive acknowledges and agrees that all Company Work Product is and shall belong to the Company. Executive shall and hereby does irrevocably assign and transfer to the Company all of Executive's right, title, and interest in and to all Company Work Product, which assignment shall be effective as of the moment of creation of such Company Work Product without requiring any additional actions of the parties.

(d) All copyrightable material included in Company Work Product that qualifies as a "work made for hire" under the U.S. Copyright Act is deemed a

"work made for hire" created for and owned exclusively by the Company, and the Company shall be deemed the owner of the copyright and all other Intellectual Property Rights associated therewith.

(e) To the extent any of the rights, title, and interest in and to Company Work Product cannot be assigned by Executive to the Company, Executive hereby grants to the Company a perpetual, exclusive, royalty-free, transferable, assignable, irrevocable, worldwide license (with rights to sublicense through multiple tiers of sublicensees) to practice such non-assignable rights, title, and interest. To the extent any of the rights, title, and interest in and to Company Work Product can neither be assigned nor licensed by Executive to the Company, Executive hereby irrevocably waives and agrees never to assert such non-assignable and non-licensable rights, title, and interest against the Company or its affiliates, or its and their directors, officers, agents, employees, contractors, successors, or assigns. For the avoidance of doubt, this Section 7(e) shall not apply to any Work Product that (i) does not relate, at the time of creation, making, development, discovery, derivation, conception, reduction to practice, authoring, or fixation in a tangible medium of expression of such Work Product, to the Company's business or actual or demonstrably anticipated research, development or business; and (ii) was developed entirely on Executive's own time; and (iii) was developed without use of any of the Company's equipment, supplies, facilities, or trade secret information; and (iv) did not result from any work Executive performed for the Company.

(f) Executive agrees, represents, and warrants that to the extent any Prior Work Product exists relating in any way to the Company's existing business, or demonstrably anticipated research and development or future business, which was created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression by Executive prior to Executive's employment with the Company (collectively, the "Prior Work Product") the Executive shall notify the Company of such Prior Work Product and obtain the Company's prior written consent prior to using in any way the Prior Work Product during the course of the Executive's employment with the Company. Executive agrees, represents, and warrants that Executive has no rights in or to any Work Product related to Executive's employment with the Company, or to the Company and its affiliates generally, other than the Prior Work Product. Executive hereby grants to the Company a perpetual, royalty-free, irrevocable, worldwide, fully paid-up license (with rights to transfer, assign, and sublicense through multiple tiers of sublicensees) to practice all Intellectual Property Rights relating to any Prior Work Product that Executive uses, incorporates, or permits to be incorporated, in any Company Work Product. Notwithstanding the foregoing, Executive will not use, incorporate, or permit to be incorporated, any Prior Work Product in any Company Work Product without the Company's prior written consent.

(g) Executive agrees, during and after Executive's employment, to perform and to assist the Company, its affiliates, and its and their successors, assigns, delegates, nominees, and legal representatives with all acts that the Company deems necessary or desirable to permit and assist the Company in applying for, obtaining, perfecting, protecting, and enforcing the full benefits, enjoyment, rights, and title throughout the world of the Company in and to all Company Work Product, which acts and assistance may include, without limitation, the signing and execution of documents (at no cost to the Company) and assistance or cooperation in the filing, prosecution, registration, and memorialization of assignment of any applicable Intellectual Property Rights; acts pertaining to the enforcement of any applicable Intellectual Property Rights; and acts pertaining to other legal proceedings related to Company Work Product. If the Company is unable for any reason to secure Executive's signature to any document that the Company deems necessary or desirable to permit and assist the Company in applying for, obtaining, perfecting, protecting, and enforcing the full benefits, enjoyment, rights and title throughout the world of the Company in and to all Company Work Product, Executive hereby irrevocably designates and appoints the Company, its officers, and directors as Executive's attorney in fact to sign and execute such documents in Executive's name, all with the same legal force and effect as if executed by Executive. This designation of power of attorney is a power coupled with an interest and is irrevocable. Executive will not retain any proprietary interest in any Company Work Product and shall not register, file, seek to obtain, or obtain any Intellectual Property Rights covering any Company Work Product in Executive's own name.

(h) Executive agrees to disclose and describe to the Company promptly and in writing to the Company all Company Work Product to which the Company is entitled as provided above. Executive shall deliver all Company Work Product in Executive's possession whenever the Company so requests, and, in any event, prior to or upon Executive's termination of employment. After the Company confirms receipt of Company Work Product, Executive shall delete or destroy all Company Work Product in Executive's possession whenever the Company so requests and at the Company's reasonable

direction, without retaining any copies thereof, and, in any event, prior to or upon Executive's termination of employment.

(i) Consistent with Executive's obligations under Section 6, Executive shall hold in the strictest confidence, and will not disclose, furnish or make accessible to any person or entity (directly or indirectly) Company Work Product, except as required in accordance with Executive's duties as an employee of the Company.

(j) Executive agrees to disclose promptly in writing to the Company all Work Product created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression by Executive for three (3) months after the termination of employment with the Company, whether or not Executive believes such Work Product is subject to this Agreement, to permit a determination by the Company as to whether or not the Work Product is or should be the property of the Company. Executive recognizes that Work Product or Confidential Information relating to Executive's activities while working for the Company and created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression by Executive, alone or with others, within three (3) months after termination of Executive's employment with the Company, may have been so created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression by Executive in significant part while employed by the Company. Accordingly, Executive agrees that such Work Product and Confidential Information shall be presumed to have been created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression during Executive's employment with the Company and are to be promptly disclosed and assigned to the Company unless and until Executive establishes the contrary by written evidence satisfying a clear and convincing evidence standard of proof.

(k) For the avoidance of doubt, Executive shall not be entitled to any additional or special compensation or reimbursement in fulfilling Executive's obligations under this Section 7, except that the Company, in its sole discretion, may reimburse Executive for any reasonable expenses which Executive may incur on behalf of the Company.

8. Immunity under Defend Trade Secrets Act of 2016

The Defend Trade Secrets Act of 2016 (the "Act") provides that: (1) An individual shall not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that: (A) is made — (i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. The Act further provides that: an individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual: (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order.

9. Non-Competition; Non-Solicitation.

(a) Non-Competition. During the Employment Period and for a period of twelve (12) months thereafter (the "Restricted Period"), Executive shall not, without the prior written consent of the Board, directly or indirectly, whether as owner, consultant, employee, partner, venturer, agent, through stock ownership, investment of capital, lending of money or property, rendering of services, or otherwise, engage or participate in a Competitive Business operating within the Restricted Area.

As used in this Agreement, the term "Competitive Business" means any firm or business organization that competes with the Company or any affiliated company in the business of developing, designing, testing, marketing, selling, distributing or manufacturing products or services involving the use of T cell receptors in T cell therapy to treat or diagnose human disease. Notwithstanding the foregoing, Executive may own up to one percent (1%) of the outstanding stock of a publicly held corporation which constitutes or is affiliated with a Competitive Business.

As used in this Agreement, the term "Restricted Area" means the United States, the United Kingdom and any other country in which the Company or any affiliated company; (i) at any time in the twelve (12) months preceding the termination of the Employment Period, has marketed, sold and/or distributed products or services involving the use of T cell receptors in T cell therapy to treat or diagnose human disease; or (ii) plans to, during the Restricted Period, market, sell and/or distribute products or services involving the use of T cell receptors in T cell therapy to treat or diagnose human disease.

(b) Non-Solicitation of Employees. During the Employment Period and the Restricted Period, Executive shall not, directly or indirectly (through another person, entity or otherwise): (i) solicit, induce or attempt to induce any Restricted Person of the Company or any affiliated company to leave the employ of the Company or any affiliated company, or in any way interfere with the relationship between the Company or any affiliated company and any employee thereof; or (ii) hire any Restricted Person who was employed by the Company or any affiliated company at any time during the six (6) months prior to such person's hiring by Executive.

In this Agreement, "Restricted Person" means anyone employed or engaged by the Company or any affiliated company at the level of line management or above or equivalent or scientific staff and who was so employed or engaged in the six months prior to the termination of employment. The non-solicitation provisions explicitly cover all forms of oral, written or electronic communication, including, but not limited to, communications by email, regular mail, telephone, fax, instant message and social media platforms whether or not in existence at the date of this Agreement.

(c) Non-Solicitation of Others. During the Employment Period and the Restricted Period, Executive shall not, directly or indirectly (through another person, entity or otherwise): (i) contact, solicit or accept the business of any customer, vendor or client of the Company or affiliated company for any reason except for non-competing purposes unrelated to the use of T cell receptors in T cell therapy to treat or diagnose human disease; or (ii) induce or seek to influence any customer, vendor or client of the Company or affiliated company to discontinue, modify or reduce its business relationship with the Company or affiliated company for any reason.

(d) If, at the time of enforcement of Section 6, 7 or 9 of this Agreement, a court shall hold that the duration, scope or geographical area restrictions stated herein are unreasonable under circumstances then existing, the parties hereto agree that the maximum duration, scope or geographical area reasonable under such circumstances shall be substituted for the stated duration, scope or area and that the court shall be allowed to revise the restrictions contained herein to cover the maximum period, scope and area permitted by law.

(e) Executive acknowledges that Executive's compliance with Sections 6, 7 and 9 of this Agreement is necessary to protect the goodwill, customer relations, trade secrets, confidential information and other proprietary and legitimate business interests of the Company. Executive acknowledges that any breach of any of these covenants will result in irreparable and continuing damage to the Company's business for which there will be no adequate remedy at law and Executive agrees that, in the event of any such breach of the aforesaid covenants, the Company and its successors and assigns shall be entitled to injunctive relief and to such other and further relief as may be available at law or in equity. Accordingly, Executive expressly agrees that upon any breach, or threatened breach, of the terms of this Agreement, the Company shall be entitled as a matter of right, in any court of competent jurisdiction in equity or otherwise to enforce the specific performance of the Executive's obligations under this Agreement, to obtain temporary and permanent injunctive relief without the necessity of proving actual damage to the Company or the inadequacy of a legal remedy, and without posting bond. In the event a court orders the Company to post a bond in order to obtain such injunctive relief for a claim under this Agreement, Executive agrees that the Company will be required to post only a nominal bond. The rights conferred upon the Company in this Section shall not be exclusive of any other rights or remedies that the Company may have at law, in equity or otherwise.

(f) In the event that Executive violates any of the covenants in this Agreement and the Company commences legal action for injunctive or other relief, then the Company shall have the benefit of the full period of the covenants such that the covenants shall have the duration of twelve (12) months computed from the date Executive ceased violation of the covenants, either by order of the court

or otherwise. Executive acknowledges that any claim or cause of action of Executive against the Company shall not constitute a defense to the enforcement by the Company of the covenants of Executive in this Agreement. In the event the Company obtains any such injunction, order, decree or other relief, in law or in equity, Executive shall be responsible for reimbursing the Company for all costs associated with obtaining the relief, including reasonable attorneys' fees and expenses and costs of suit.

(g) Executive acknowledges and agrees that the restrictive covenants contained herein (i) are necessary for the reasonable and proper protection of the goodwill of the Company and its trade secrets, proprietary data and confidential information, (ii) are reasonable with respect to length of time, scope and geographic area and (iii) will not prohibit Executive from engaging in other businesses or employment for the purpose of earning a livelihood following the termination of Executive's relationship with the Company.

10. Executive's Representations and Covenants. Executive hereby represents and warrants to the Company that: (i) the execution, delivery and performance of this Agreement by Executive do not and shall not conflict with, breach, violate or cause a default under any contract, agreement, instrument, order, judgment or decree to which Executive is a party or by which Executive is bound; (ii) Executive is not a party to or bound by any employment agreement, non-compete agreement or confidentiality agreement with any other person or entity; (iii) upon the execution and delivery of this Agreement by the Company, this Agreement shall be the valid and binding obligation of Executive, enforceable in accordance with its terms; and (iv) Executive is authorized to work in the United States without restriction. Executive hereby acknowledges and represents that she has been made aware of her right to consult with independent legal counsel regarding her rights and obligations under this Agreement and that she fully understands the terms and conditions contained herein. Executive further covenants that she shall not make any statements, other than pursuant to the performance of her job duties and responsibilities, to the press or other media in connection with the Company and/or any affiliated company at any time either during or after the Employment Period without the prior consent of the Chief Executive Officer.

11. Debarment

(a) Executive hereby certifies to the Company that, as provided in Section 306(a) and Section 306(b) of the U.S. Federal Food, Drug and Cosmetic Act (21 U.S.C. SS 335a(a) and 335a(b)) and/or under any equivalent law within or outside the United States, Executive has not in the past been and/or is not currently (or threatened to be or subject to any pending action, suit, claim investigation or administrative proceeding which could result in Executive being) (i) debarred or (ii) excluded from participation in any federally funded healthcare program or (iii) otherwise subject to any governmental sanction in any jurisdiction (including disqualification from participation in clinical research) that would affect or has affected Executive's ability to perform Executive's obligations under this Agreement, or Executive's employment with the Company or prevent Executive from working for the Company in any capacity in any jurisdiction.

(b) Executive hereby confirms that Executive is not on any of the following exclusion lists: (a) Food and Drug Administration Debarment List; (b) General Services Administration Excluded Parties List System; or (c) Office of Inspector General List of Excluded Individuals/Entities. Executive warrants and represents to the Company that Executive will notify the Company immediately if any of the foregoing occurs or is threatened and that the obligation to provide such notice will remain

in effect following the termination of Executive's employment with the Company for any reason, voluntary or involuntary. Any violation of this section by Executive may result in the withdrawal of the offer of engagement or the termination of Executive's employment with the Company. Immediately upon the request of the Company at any time, Executive will certify to the Company in writing Executive's compliance with the provisions of this section. Executive hereby confirms that Executive understands that the Company will verify the information the Executive certifies under this Agreement. Falsified or incorrect information provided by the Executive may result in the withdrawal of the offer of engagement or the termination of Executive's employment with the Company.

12. Survival. Sections 5 through 23, inclusive, shall survive and continue in full force in accordance with their terms notwithstanding the termination of the Employment Period.

13. Notices. Any notice provided for in this Agreement shall be in writing and shall be either personally delivered, sent by reputable overnight courier service or mailed by first class mail, return receipt requested, to the recipient at the address below indicated:

Notices to Executive:
Gwendolyn Binder-Scholl
at such address as most currently appears in the records of the Company

Notices to the Company:
Adaptimmune, LLC
351 Rouse Boulevard
Philadelphia
PA 19112
Attention: Chief Executive Officer

or such other address or to the attention of such other person as the recipient party shall have specified by prior written notice to the sending party. Any notice under this Agreement shall be deemed to have been given when so delivered, sent or mailed.

14. Severability. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement or any action in any other jurisdiction, but this Agreement shall be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provision had never been contained herein.

15. Complete Agreement. This Agreement, those documents expressly referred to herein and other documents of even date herewith embody the complete agreement and understanding among the parties and supersede and preempt any prior understandings, agreements or representations by or among the parties, written or oral, which may have related to the subject matter hereof in any way.

16. No Strict Construction. The language used in this Agreement shall be deemed to be the language chosen by the parties hereto to express their mutual intent, and no rule of strict construction shall be applied against any party.

17. Counterparts. This Agreement may be executed in separate counterparts (including by means of telecopied signature pages or electronic transmission in portable document format (pdf)), each of which is deemed to be an original and all of which taken together constitute one and the same agreement.

18. Successors and Assigns. This Agreement, including, but not limited to, the terms and conditions in Sections 6, 7 and 9, shall inure to the benefit of, and be binding upon, the heirs, executors, administrators, successors and assigns of the respective parties hereto, but in no event may Executive assign or delegate to any other party Executive's rights, duties or obligations under this Agreement. Executive further hereby consents and agrees that the Company may assign this Agreement (including, but not limited to, Sections 6, 7 and 9) and any of the rights or obligations hereunder to any third party in connection with the sale, merger, consolidation, reorganization, liquidation or transfer, in whole or in part, of the Company's control and/or ownership of its assets or business. In such event, Executive agrees to continue to be bound by the terms of this Agreement.

19. Choice of Law. All issues and questions concerning the construction, validity, enforcement and interpretation of this Agreement and the exhibits and schedules hereto shall be governed by, and construed in accordance with, the laws of the Commonwealth of Pennsylvania, without giving effect to any choice of law or conflict of law rules or provisions (whether of the Commonwealth of Pennsylvania or any

other jurisdiction) that would cause the application of the laws of any jurisdiction other than the Commonwealth of Pennsylvania.

20. Amendment and Waiver. The provisions of this Agreement may be amended or waived only with the prior written consent of the Company and Executive, and no course of conduct or course of dealing or failure or delay by any party hereto in enforcing or exercising any of the provisions of this Agreement (including, without limitation, the Company's right to terminate the Employment Period with or without Cause) shall affect the validity, binding effect or enforceability of this Agreement or be deemed to be an implied waiver of any provision of this Agreement.

21. Insurance. The Company may, at its discretion, apply for and procure in its own name and for its own benefit life and/or disability insurance on Executive in any amount or amounts considered advisable. Executive agrees to cooperate in any medical or other examination, supply any information and execute and deliver any applications or other instruments in writing as may be reasonably necessary to obtain and constitute such insurance.

22. Agreement to Arbitrate.

(a) Notwithstanding any express provision to the contrary, Executive and the Company agree that any claim, controversy or dispute between Executive and the Company (including without limitation the Company's affiliates, officers, executives, representatives, or agents) arising out of or relating to this Agreement, the employment of Executive, the cessation of employment of Executive, or any matter relating to the foregoing shall be submitted to and settled by arbitration before a single arbitrator in a forum of the American Arbitration Association ("AAA") located in Philadelphia, Pennsylvania, and conducted in accordance with the National Rules for the Resolution of Employment Disputes. In such arbitration: (i) the arbitrator shall agree to treat as confidential evidence and other information presented by the parties to the same extent as Confidential Information under this Agreement must be held confidential by the Executive; (ii) the arbitrator shall have no authority to amend or modify any of the terms of this Agreement; and (iii) the arbitrator shall have ten (10) business days from the closing statements or submission of post-hearing briefs by the parties to render his/her decision.

(b) All AAA-imposed costs of said arbitration, including the arbitrator's fees, if any, shall be borne by the Company. All legal fees incurred by the parties in connection with such arbitration shall be borne by the party who incurs them, unless applicable statutory authority provides for the award of attorneys' fees to the

prevailing party and the arbitrator's decision and award provides for the award of such fees.

(c) Any arbitration award shall be final and binding upon the parties, and any court having jurisdiction may enter a judgment on the award. The foregoing requirement to arbitrate claims, controversies, and disputes applies to all claims or demands by the Executive, including without limitation, any rights or claims the Executive may have under the Age Discrimination in Employment Act of 1967, Title VII of the Civil Rights Act of 1964, the Americans with Disabilities Act of 1991, the Equal Pay Act, the Family and Medical Leave Act or any other federal, state or local laws or regulations pertaining to the Executive's employment or the termination of the Executive's employment.

(d) All claims must be arbitrated, with the limited exception of claims for violations ofSections 6, 7 and 9 of this Agreement. In the event of an alleged breach of Sections 6, 7 or 9 of this Agreement by Executive, the Company has the option to elect between arbitration and a judicial forum.

23. Corporate Opportunity. During the Employment Period, Executive shall submit to the Company all business, commercial and investment opportunities or offers presented to Executive or of which Executive becomes aware (including in Executive's capacity as agent, employee, director or officer of the Company), irrespective of Executive's evaluation of the reasonableness or desirability of the Company's investigation thereof, which relate to the business of the Company or any of its affiliates or subsidiaries (the "Business") at any time during the Employment Period ("Corporate Opportunities"). Executive acknowledges that all such Corporate Opportunities are for the benefit of the Company and that Executive would be in breach of her duties to the Company if Executive accepted or pursued, directly or indirectly, any such Corporate Opportunity on Executive's own behalf.

As used in this Agreement, the term "Business" means the business of developing, designing, testing, marketing, selling, distributing or manufacturing products or services involving the use of T cell therapy to treat or diagnose human disease and/or any further business that may be developed by the Company or any of its affiliates of which Executive is aware.

24. Executive's Cooperation. During the Employment Period and thereafter, Executive shall reasonably cooperate with the Company and its affiliates or subsidiaries in any internal investigation or administrative, regulatory or judicial proceeding as reasonably requested by the Company (including, without limitation, Executive's being reasonably available to the Company upon reasonable notice for interviews and factual investigations, appearing at the Company's reasonable request to give testimony without requiring service of a subpoena or other legal process, volunteering to the Company all pertinent information and turning over to the Company all relevant documents which are or may come into Executive's possession, all at times and on schedules that are reasonably consistent with Executive's other permitted activities and commitments) at reasonable times. In the event the Company requires Executive's cooperation in accordance with this Section 24, the Company shall reimburse Executive solely for reasonable travel expenses (including lodging and meals, upon submission of receipts). Nothing about the foregoing shall preclude Executive from testifying truthfully in any forum or from providing truthful information to any government agency or commission.

25. 409A Compliance.

(a) The intent of the parties is that payments and benefits under this Agreement comply with Section 409A and, accordingly, to the maximum extent permitted, this Agreement shall be interpreted to be in compliance therewith. In no event shall the Company or its subsidiaries or affiliates be liable for any additional tax, interest or penalty that may be imposed on Executive under Section 409A or damages for failing to comply with Section 409A.

(b) A termination of employment shall not be deemed to have occurred for purposes of any provision of this Agreement providing for the payment of any amounts or benefits upon or following a termination of employment unless such termination is also a "separation from service" within the meaning of Section 409A and, for purposes of any such provision of this Agreement, references to a "termination," "termination of employment" or like terms shall mean "separation from service."

(c) To the extent that reimbursements or other in-kind benefits under this Agreement constitute "nonqualified deferred compensation" for purposes of Section 409A: (i) all such expenses or other reimbursements hereunder shall be made on or prior to the last day of the taxable year following the taxable year in which such expenses were incurred by the Executive; (ii) any such right to reimbursement or in-kind benefits shall not be subject to liquidation or exchange for another benefit; and (iii) no such reimbursement, expenses eligible for reimbursement, or in-kind benefits provided in any taxable year shall in any way affect the expenses eligible for reimbursement, or in-kind benefits to be provided, in any other taxable year.

(d) For purposes of Section 409A, the Executive's right to receive any installment payments pursuant to this Agreement shall be treated as a right to receive a series of separate and distinct payments.

(e) Notwithstanding any other provision of this Agreement to the contrary, in no event shall any payment under this Agreement that constitutes "nonqualified deferred compensation" for purposes of Section 409A be subject to offset by any other amount unless otherwise permitted by Section 409A.

IN WITNESS WHEREOF, the parties hereto have executed this Employment Agreement as of the date first written above.

ADAPTIMMUNE, LLC

By: /s/ H Tayton-Martin

Name: Helen Tayton-Martin

Position: President & Secretary

/s/ Gwendolyn Binder-Scholl
Gwendolyn Binder-Scholl

EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT (this "Agreement") is made as of March 10, 2017, by and between Adaptimmune, LLC (the "Company"), a limited liability corporation and wholly-owned subsidiary of Adaptimmune Limited, and Adrian Rawcliffe of 440 South Broad Street, Unit 1803, Philadelphia PA 19146 ("Executive").

WHEREAS the Company and Executive desire to enter into this Agreement to establish and govern the terms and conditions of Executive's employment by the Company;

NOW THEREFORE, in consideration of the promises and mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Employment. The Company agrees to employ Executive and the Executive agrees to provide services to the Company from March 16, 2015 ("Commencement of Employment") until the termination of Executive's employment hereunder pursuant to Section 5. The period from Commencement of Employment through the date of Executive's termination of employment shall be referred to as the "Employment Period."

2. Position and Duties.

(a) During the Employment Period, Executive shall serve as the Chief Financial Officer (CFO) of the Group and in such capacity shall have the normal duties, responsibilities, functions and authority of a CFO., subject to the power and authority of the Company's Chief Executive Officer and the board of directors or the remuneration committee of such board of directors, as applicable (the "Board") of Adaptimmune Therapeutics plc to expand or limit such duties, responsibilities, functions and authority, and the power and authority of the Board to overrule actions of officers of the Company. During the Employment Period, Executive shall render such services to the Company which are consistent with Executive's position and as the Chief Executive Officer and the Board may from time to time direct.

In this Agreement, "Group" means Adaptimmune Therapeutics plc and its subsidiaries from time to time and "Group Company" means a company which is a member of the Group and includes the Company.

(b) During the Employment Period, Executive shall report to the Chief Executive Officer and shall devote his best efforts and his full business time and attention to the business and affairs of the Company. Executive shall perform his duties, responsibilities and functions to the best of his abilities in a diligent, trustworthy, professional and efficient manner, shall comply with the policies and procedures of the Company and of Adaptimmune Therapeutics plc and shall comply with all applicable federal, state and/or local laws. In performing his duties and exercising his authority under this Agreement, Executive shall develop, support and implement the business and strategic plans approved from time to time by the Board. So long as Executive is employed by the Company, Executive shall not, without the prior written consent of the Board, accept other employment or perform other services for compensation which might reasonably be considered to interfere with Executive's duties under this Agreement. Notwithstanding the foregoing, nothing in this Agreement shall preclude the Executive from engaging in educational, charitable, political, professional and civic activities, provided that such engagement does not interfere with Executive's duties and responsibilities hereunder.

(c) During the Employment Period, Executive's primary work location shall be Philadelphia, Pennsylvania; provided, however, that Executive shall travel to other locations and countries as and when required by the Company including, but not limited to, travel to the Company's affiliate offices in the United Kingdom.

3. At-Will Relationship. Executive's employment with the Company is at-will and not for any specified period and may be terminated by either Executive or the Company at any time for any or no reason, subject to Section 5 of this Agreement. Nothing in this Agreement is intended to or should be construed to contradict, modify or alter this at-will employment relationship.

4. Compensation and Benefits.

(a) Base Salary. During the Employment Period, Executive's base salary initially, with effect from January 1, 2017, shall be $443,700 per annum, which may be modified by the Company in its sole discretion (the "Base Salary"), and which shall be payable by the Company in regular installments in accordance with the Company's payroll practices in effect from time to time, less applicable deductions and withholding as required by law. For the avoidance of doubt, in any partial calendar year in the Employment Period, the Base Salary shall be prorated to reflect the period of time for which Executive is actually employed by the Company pursuant to this Agreement. During the Employment Period, the Base Salary shall be reviewed annually by the Company in accordance with the guidelines and procedures of the Company and any Group Company applicable to similarly situated executives.

(b) Bonus. Subject to the terms of the Executive Severance Policy of Adaptimmune Therapeutics plc, in force from time to time (the "Executive Severance Policy"), in addition to the Base Salary, Executive will be eligible to receive a bonus, determined by the Board, following the end of each calendar year that ends during the Employment Period ("Annual Bonus"), subject to: (i) objective criteria set forth by the Board or an authorized delegate thereof on an annual basis; and (ii) the overall performance of the Company and the Group. The initial target Annual Bonus with effect from January 1, 2017 shall be forty-five percent (45%) of Executive's Base Salary. The Annual Bonus shall be pro-rated for any year of employment and paid in a single lump sum no later than March 15, of the year following the calendar year in which the Annual Bonus, if any, was earned. For clarity the Executive will be eligible to receive an Annual Bonus for each calendar year where the objective criteria referred to in Section 4(b)(i) above are met unless as a result of the overall performance of the Company and any Group Company in any particular calendar year, the Board or an authorized delegate thereof determines that: (i) no annual bonuses (or equivalent payments) will be paid to any senior executives of the Company and/or of any Group Company with respect to such calendar year, in which case the Annual Bonus will not be paid to the Executive; or (ii) reduced annual bonuses (or equivalent payments) will be paid to any senior executives of the Company and/or of any Group Company with respect to such calendar year, in which case the Annual Bonus payable to the Executive shall also be reduced.

Executive must be employed by the Company on December 31st of the calendar year on which the bonus is based in order to be eligible to receive the Annual Bonus. Any Annual Bonus payments shall be paid to Executive less applicable deductions and withholding as required by law. Nothing in this Agreement will preclude the Company from changing or altering the objective criteria referred to under Section 4(b)(i), in whole or in part, in the Company's sole discretion.

(c) Stock Options. During the Employment Period, Executive shall be eligible to participate in the equity plans sponsored and/or maintained by the Company and its affiliates from time to time, in accordance with the terms of any such plans, at the sole and absolute discretion of the Company and the Board.

(d) Additional City Tax Compensation. The Company shall add to each payment of Base Salary and Annual Bonus an additional periodic payment in order to help defray Executive's obligation to pay the Philadelphia City Tax ("Additional City Tax Compensation"). The Additional City Tax Compensation will be calculated in accordance with the Philadelphia City Tax rates, which will vary from time to time in accordance with the Philadelphia Wage Tax. The Additional City Tax Compensation shall be subject to applicable deductions and withholding as required by law.

(e) Employee Benefits. During the Employment Period, Executive shall be entitled to participate in all of the Company's then-existing employee benefit programs for which senior executive employees of the Company are generally eligible. Nothing in this Agreement will preclude the Company from changing, altering or terminating any of the plans or programs for which employees of the Company are eligible, in whole or in part, in the Company's sole discretion.

(f) Vacation. During the Employment Period, Executive shall receive paid vacation per calendar year (prorated to reflect the period of time for which Executive is actually employed by the Company pursuant to this Agreement), to be accrued and taken in accordance with the Company's then-existing vacation policies. Any accrued but unused vacation remaining at the end of the Employment Period shall be paid to Executive in accordance with the Company's payroll practices in effect at such time.

(g) Business Equipment. During the Employment Period, the Company shall provide Executive with specific equipment for business use in accordance with the Company's then-existing device policy ("Business Equipment"). The Company also agrees to pay reasonable related monthly service charges for the Business Equipment. Executive understands that the Business Equipment provided by the Company is for business use and will remain the property of the Company. Upon termination of employment or on demand by the Company at any time, Executive agrees to immediately return the Business Equipment without copying, deleting or otherwise modifying any data, documents or information stored on the Business Equipment.

5. Notice of Termination

(a) Notice of Termination. Subject to the terms of this Agreement, the Employment Period and Executive's employment with the Company may be terminated by the Company immediately at any time and for any or no reason and by Executive for any reason including but not limited to Good Reason, on provision of 60 days written notice. Any termination of employment by the Company or by Executive under this Section 5 shall be communicated by a written notice to the other party hereto indicating the specific termination provision in this Agreement relied upon (a "Notice of Termination").

(b) The Executive Severance Policy as in force from time to time shall apply to Executive in relation to the Employment. Such policy may be amended or terminated in accordance with the terms of the policy, save that where any proposed amendment or termination substantially reduces the rights of Executive following the termination of Executive's employment: (i) the Company will consult with Executive on such proposed amendment or termination; and (ii) any such substantial reduction in the rights or benefits of Executive must be agreed with Executive. Where, following consultation, Executive does not agree to any such proposed amendment or termination, then the Executive Severance Policy shall continue in full force and effect without such proposed amendment or termination.

6. Confidential Information.

(a) Executive shall not, except as may be required to perform his duties hereunder or as required by applicable law, during the Employment Period and after employment ends (regardless of the reason), without limitation in time or until such information shall have become public other than by Executive's unauthorized disclosure, disclose to others or use, whether directly or indirectly, any non-public confidential or proprietary information with respect to the Company and/or its subsidiaries and affiliates, including, without limitation, their business relationships, negotiations and past, present and prospective activities, methods of doing business, know-how, trade secrets, data, formulae, product designs and styles, product development plans, customer lists, investors, and all papers, resumes and records (including computer records) of the documents containing such information ("Confidential

Information"). Executive stipulates and agrees that as between Executive and the Company the foregoing matters are important and that material and confidential proprietary information and trade secrets affect the successful conduct of the businesses of the Company and its subsidiaries and affiliates (and any successor or assignee of the Company or its subsidiaries and affiliates). Nothing about the foregoing shall preclude Executive from testifying truthfully in any forum or from providing truthful information to any government agency or commission.

(b) Executive agrees not to remove from the Company's premises any property of the Company including, but not limited to, documents, records, or materials containing any Confidential Information, except as necessary to perform Executive's work for the Company.

(c) Executive agrees to deliver or return to the Company, at the Company's request at any time or upon termination of Executive's employment (regardless of the reason): (i) all documents, computer tapes and disks, records, lists, data, drawings, prints, notes and written information (and all copies thereof) furnished by or on behalf of or for the benefit of the Company or its subsidiaries or affiliates or prepared by Executive during the term of Executive's employment by the Company, regardless of whether Confidential Information is contained therein; and (ii) all physical property of the Company or its subsidiaries or affiliates which Executive received in connection with Executive's employment with the Company including, without limitation, credit cards, passes, door and file keys, and computer hardware and software existing in tangible form.

(d) Executive represents and warrants to the Company that Executive took nothing with him which belonged to any former employer when Executive left his prior position and that Executive has nothing that contains any information which belongs to any former employer. If at any time Executive discovers this is incorrect, Executive shall promptly return any such materials to Executive's former employer. The Company does not want any such materials, and Executive shall not be permitted to use or refer to any such materials in the performance of Executive's duties hereunder.

7. Work Product and Intellectual Property, Inventions and Patents.

(a) For purposes of this Agreement, "Work Product" shall include (i) all works, materials, ideas, innovations, inventions, discoveries, techniques, methods, processes, formulae, compositions, developments, improvements, technology, know-how, algorithms, data and data files, computer process systems, computer code, software, databases, hardware configuration information, research and development projects, experiments, trials, assays, lab books, test results, specifications, formats, designs, drawings, blueprints, sketches, artwork, graphics, documents, records, writings, reports, machinery, prototypes, models, sequences, and components; (ii) all tangible and intangible embodiments of the foregoing, of any kind or format whatsoever, including in printed and electronic media; and (iii) all Intellectual Property Rights (as defined below) associated with or related to the foregoing.

"Company Work Product" shall include all Work Product that Executive partially or completely creates, makes, develops, discovers, derives, conceives, reduces to practice, authors, or fixes in a tangible medium of expression, whether solely or jointly with others and whether on or off the Company's premises, in connection with the Company's business (w) while employed by the Company, or (x) with the use of the time, materials, or facilities of the Company or its affiliates, or (y) relating to any product, service, or activity of the Company or its affiliates of which Executive has knowledge, or (z) suggested by or resulting from any work performed by Executive for the Company or its affiliates.

(b) For purposes of this Agreement, "Intellectual Property Rights" means any and all worldwide rights, title, or interest existing now or in the future under patent law, trademark law, copyright law, industrial rights design law, moral rights law, trade secret law, and any and all similar proprietary rights, however denominated, and any and all continuations, continuations-in-part, divisions, renewals, reissue, reexaminations, extensions and/or restorations thereof, now or hereafter in force and effect, including without limitation all patents, patent applications, industrial rights, mask works rights, trademarks, trademark applications, trade names, slogans, logos, service marks and

other marks, copyrightable material, copyrights, copyright applications, moral rights, trade secrets, and trade dress.

(c) Executive acknowledges and agrees that all Company Work Product is and shall belong to the Company. Executive shall and hereby does irrevocably assign and transfer to the Company all of Executive's right, title, and interest in and to all Company Work Product, which assignment shall be effective as of the moment of creation of such Company Work Product without requiring any additional actions of the parties.

(d) All copyrightable material included in Company Work Product that qualifies as a "work made for hire" under the U.S. Copyright Act is deemed a "work made for hire" created for and owned exclusively by the Company, and the Company shall be deemed the owner of the copyright and all other Intellectual Property Rights associated therewith.

(e) To the extent any of the rights, title, and interest in and to Company Work Product cannot be assigned by Executive to the Company, Executive hereby grants to the Company a perpetual, exclusive, royalty-free, transferable, assignable, irrevocable, worldwide license (with rights to sublicense through multiple tiers of sublicensees) to practice such non-assignable rights, title, and interest. To the extent any of the rights, title, and interest in and to Company Work Product can neither be assigned nor licensed by Executive to the Company, Executive hereby irrevocably waives and agrees never to assert such non-assignable and non-licensable rights, title, and interest against the Company or its affiliates, or its and their directors, officers, agents, employees, contractors, successors, or assigns. For the avoidance of doubt, this Section 7(e) shall not apply to any Work Product that (i) does not relate, at the time of creation, making, development, discovery, derivation, conception, reduction to practice, authoring, or fixation in a tangible medium of expression of such Work Product, to the Company's business or actual or demonstrably anticipated research, development or business; and (ii) was developed entirely in Executive's own time; and (iii) was developed without use of any of the Company's equipment, supplies, facilities, or trade secret information; and (iv) did not result from any work Executive performed for the Company.

(f) Executive agrees, represents, and warrants that to the extent any Prior Work Product exists relating in any way to the Company's existing business, or demonstrably anticipated research and development or future business, which was created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression by Executive prior to Executive's employment with the Company (collectively, the "Prior Work Product") the Executive shall notify the Company of such Prior Work Product and obtain the Company's prior written consent prior to using in any way the Prior Work Product during the course of the Executive's employment with the Company. Executive agrees, represents, and warrants that Executive has no rights in or to any Work Product related to Executive's employment with the Company, or to the Company and its affiliates generally, other than the Prior Work Product. Executive hereby grants to the Company a perpetual, royalty-free, irrevocable, worldwide, fully paid-up license (with rights to transfer, assign, and sublicense through multiple tiers of sublicensees) to practice all Intellectual Property Rights relating to any Prior Work Product that Executive uses, incorporates, or permits to be incorporated, in any Company Work Product. Notwithstanding the foregoing, Executive will not use, incorporate, or permit to be incorporated, any Prior Work Product in any Company Work Product without the Company's prior written consent.

(g) Executive agrees, during and after Executive's employment, to perform and to assist the Company, its affiliates, and its and their successors, assigns, delegates, nominees, and legal representatives with all acts that the Company deems necessary or desirable to permit and assist the Company in applying for, obtaining, perfecting, protecting, and enforcing the full benefits, enjoyment, rights, and title throughout the world of the Company in and to all Company Work Product, which acts and assistance may include, without limitation, the signing and execution of documents (at no cost to the Company) and assistance or cooperation in the filing, prosecution, registration, and memorialization of assignment of any applicable Intellectual Property Rights; acts pertaining to the enforcement of any applicable Intellectual Property Rights; and acts pertaining to other legal proceedings related to

Company Work Product. If the Company is unable for any reason to secure Executive's signature to any document that the Company deems necessary or desirable to permit and assist the Company in applying for, obtaining, perfecting, protecting, and enforcing the full benefits, enjoyment, rights and title throughout the world of the Company in and to all Company Work Product, Executive hereby irrevocably designates and appoints the Company, its officers, and directors as Executive's attorney in fact to sign and execute such documents in Executive's name, all with the same legal force and effect as if executed by Executive. This designation of power of attorney is a power coupled with an interest and is irrevocable. Executive will not retain any proprietary interest in any Company Work Product and shall not register, file, seek to obtain, or obtain any Intellectual Property Rights covering any Company Work Product in Executive's own name.

(h) Executive agrees to disclose and describe to the Company promptly and in writing to the Company all Company Work Product to which the Company is entitled as provided above. Executive shall deliver all Company Work Product in Executive's possession whenever the Company so requests, and, in any event, prior to or upon Executive's termination of employment. After the Company confirms receipt of Company Work Product, Executive shall delete or destroy all Company Work Product in Executive's possession whenever the Company so requests and at the Company's reasonable direction, without retaining any copies thereof, and, in any event, prior to or upon Executive's termination of employment.

(i) Consistent with Executive's obligations under Section 6, Executive shall hold in the strictest confidence, and will not disclose, furnish or make accessible to any person or entity (directly or indirectly) Company Work Product, except as required in accordance with Executive's duties as an employee of the Company.

(j) Executive agrees to disclose promptly in writing to the Company all Work Product created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression by Executive for three (3) months after the termination of Executive's employment with the Company, whether or not Executive believes such Work Product is subject to this Agreement, to permit a determination by the Company as to whether or not the Work Product is or should be the property of the Company. Executive recognizes that Work Product or Confidential Information relating to Executive's activities while working for the Company and created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression by Executive, alone or with others, within three (3) months after termination of Executive's employment with the Company, may have been so created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression by Executive in significant part while employed by the Company. Accordingly, Executive agrees that such Work Product and Confidential Information shall be presumed to have been created, made, developed, discovered, derived, conceived, reduced to practice, authored, or fixed in a tangible medium of expression during Executive's employment with the Company and are to be promptly disclosed and assigned to the Company unless and until Executive establishes the contrary by written evidence satisfying a clear and convincing evidence standard of proof.

(k) For the avoidance of doubt, Executive shall not be entitled to any additional or special compensation or reimbursement in fulfilling Executive's obligations under this Section 7, except that the Company, in its sole discretion, may reimburse Executive for any reasonable expenses which Executive may incur on behalf of the Company.

8. Immunity under Defend Trade Secrets Act of 2016

The Defend Trade Secrets Act of 2016 (the "Act") provides that: (1) An individual shall not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that: (A) is made — (i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. The Act further provides that: an individual

who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual: (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order.

9. Non-Competition; Non-Solicitation.

(a) Non-Competition. During the Employment Period and for a period of twelve (12) months thereafter (the "Restricted Period"), Executive shall not, without the prior written consent of the Board, directly or indirectly, whether as owner, consultant, employee, partner, venturer, agent, through stock ownership, investment of capital, lending of money or property, rendering of services, or otherwise, engage or participate in a Competitive Business operating within the Restricted Area.

As used in this Agreement, the term "Competitive Business" means any firm or business organization that competes with the Company or any affiliated company in the business of developing, designing, testing, marketing, selling, distributing or manufacturing products or services involving the use of T cell receptors in T cell therapy to treat or diagnose human disease. Notwithstanding the foregoing, Executive may own up to one percent (1%) of the outstanding stock of a publicly held corporation which constitutes or is affiliated with a Competitive Business.

As used in this Agreement, the term "Restricted Area" means the United States, the United Kingdom and any other country in which the Company or any affiliated company; (i) at any time in the twelve (12) months preceding the termination of the Employment Period, has marketed, sold and/or distributed products or services involving the use of T cell receptors in T cell therapy to treat or diagnose human disease; or (ii) plans to, during the Restricted Period, market, sell and/or distribute products or services involving the use of T cell receptors in T cell therapy to treat or diagnose human disease.

(b) Non-Solicitation of Employees. During the Employment Period and the Restricted Period, Executive shall not, directly or indirectly (through another person, entity or otherwise): (i) solicit, induce or attempt to induce any Restricted Person of the Company or any affiliated company to leave the employ of the Company or any affiliated company, or in any way interfere with the relationship between the Company or any affiliated company and any employee thereof; or (ii) hire any Restricted Person who was employed by the Company or any affiliated company at any time during the six (6) months prior to such person's hiring by Executive.

In this Agreement, "Restricted Person" means anyone employed or engaged by the Company or any affiliated company at the level of line management or above or equivalent or scientific staff and who was so employed or engaged in the six months prior to the termination of employment. The non-solicitation provisions explicitly cover all forms of oral, written or electronic communication, including, but not limited to, communications by email, regular mail, telephone, fax, instant message and social media platforms whether or not in existence at the date of this Agreement.

(c) Non-Solicitation of Others. During the Employment Period and the Restricted Period, Executive shall not, directly or indirectly (through another person, entity or otherwise): (i) contact, solicit or accept the business of any customer, vendor or client of the Company or affiliated company for any reason except for non-competing purposes unrelated to the use of T cell receptors in T cell therapy to treat or diagnose human disease; or (ii) induce or seek to influence any customer, vendor or client of the Company or affiliated company to discontinue, modify or reduce its business relationship with the Company or affiliated company for any reason.

(d) If, at the time of enforcement of Section 6, 7 or 9 of this Agreement, a court shall hold that the duration, scope or geographical area restrictions stated herein are unreasonable under circumstances then existing, the parties hereto agree that the maximum duration, scope or geographical area reasonable under such circumstances shall be substituted for the stated duration,

scope or area and that the court shall be allowed to revise the restrictions contained herein to cover the maximum period, scope and area permitted by law.

(e) Executive acknowledges that Executive's compliance with Sections 6, 7 and 9 of this Agreement is necessary to protect the goodwill, customer relations, trade secrets, confidential information and other proprietary and legitimate business interests of the Company. Executive acknowledges that any breach of any of these covenants will result in irreparable and continuing damage to the Company's business for which there will be no adequate remedy at law and Executive agrees that, in the event of any such breach of the aforesaid covenants, the Company and its successors and assigns shall be entitled to injunctive relief and to such other and further relief as may be available at law or in equity. Accordingly, Executive expressly agrees that upon any breach, or threatened breach, of the terms of this Agreement, the Company shall be entitled as a matter of right, in any court of competent jurisdiction in equity or otherwise to enforce the specific performance of the Executive's obligations under this Agreement, to obtain temporary and permanent injunctive relief without the necessity of proving actual damage to the Company or the inadequacy of a legal remedy, and without posting bond. In the event a court orders the Company to post a bond in order to obtain such injunctive relief for a claim under this Agreement, Executive agrees that the Company will be required to post only a nominal bond. The rights conferred upon the Company in this Section shall not be exclusive of any other rights or remedies that the Company may have at law, in equity or otherwise.

(f) In the event that Executive violates any of the covenants in this Agreement and the Company commences legal action for injunctive or other relief, then the Company shall have the benefit of the full period of the covenants such that the covenants shall have the duration of twelve (12) months computed from the date Executive ceased violation of the covenants, either by order of the court or otherwise. Executive acknowledges that any claim or cause of action of Executive against the Company shall not constitute a defense to the enforcement by the Company of the covenants of Executive in this Agreement. In the event the Company obtains any such injunction, order, decree or other relief, in law or in equity, Executive shall be responsible for reimbursing the Company for all costs associated with obtaining the relief, including reasonable attorneys' fees and expenses and costs of suit.

(g) Executive acknowledges and agrees that the restrictive covenants contained herein (i) are necessary for the reasonable and proper protection of the goodwill of the Company and its trade secrets, proprietary data and confidential information, (ii) are reasonable with respect to length of time, scope and geographic area and (iii) will not prohibit Executive from engaging in other businesses or employment for the purpose of earning a livelihood following the termination of his relationship with the Company.

10. Executive's Representations and Covenants. Executive hereby represents and warrants to the Company that: (i) the execution, delivery and performance of this Agreement by Executive do not and shall not conflict with, breach, violate or cause a default under any contract, agreement, instrument, order, judgment or decree to which Executive is a party or by which Executive is bound; (ii) Executive is not a party to or bound by any employment agreement, non-compete agreement or confidentiality agreement with any other person or entity; (iii) upon the execution and delivery of this Agreement by the Company, this Agreement shall be the valid and binding obligation of Executive, enforceable in accordance with its terms; and (iv) Executive is authorized to work in the United States without restriction. Executive hereby acknowledges and represents that he has been made aware of his right to consult with independent legal counsel regarding his rights and obligations under this Agreement and that he fully understands the terms and conditions contained herein. Executive further covenants that he shall not make any statements, other than pursuant to the performance of his job duties and responsibilities, to the press or other media in connection with the Company and/or any affiliated company at any time either during or after the Employment Period without the prior consent of the Chief Executive Officer.

11. Debarment

(a) Executive hereby certifies to the Company that, as provided in Section 306(a) and Section 306(b) of the U.S. Federal Food, Drug and Cosmetic Act (21 U.S.C. SS 335a(a) and 335a(b)) and/or under any equivalent law within or outside the United States, Executive has not in the past been and/or is not currently (or threatened to be or subject to any pending action, suit, claim investigation or administrative proceeding which could result in Executive being) (i) debarred or (ii) excluded from participation in any federally funded healthcare program or (iii) otherwise subject to any governmental sanction in any jurisdiction (including disqualification from participation in clinical research) that would affect or has affected Executive's ability to perform Executive's obligations under this Agreement, or Executive's employment with the Company or prevent Executive from working for the Company in any capacity in any jurisdiction.

(b) Executive hereby confirms that Executive is not on any of the following exclusion lists: (a) Food and Drug Administration Debarment List; (b) General Services Administration Excluded Parties List System; or (c) Office of Inspector General List of Excluded Individuals/Entities. Executive warrants and represents to the Company that Executive will notify the Company immediately if any of the foregoing occurs or is threatened and that the obligation to provide such notice will remain in effect following the termination of Executive's employment with the Company for any reason, voluntary or involuntary. Any violation of this section by Executive may result in the withdrawal of the offer of engagement or the termination of Executive's employment with the Company. Immediately upon the request of the Company at any time, Executive will certify to the Company in writing Executive's compliance with the provisions of this section. Executive hereby confirms that Executive understands that the Company will verify the information the Executive certifies under this Agreement. Falsified or incorrect information provided by the Executive may result in the withdrawal of the offer of engagement or the termination of Executive's employment with the Company.

12. Survival. Sections 5 through 18 and Sections 22 through 27, inclusive, shall survive and continue in full force in accordance with their terms notwithstanding the termination of the Employment Period.

13. Notices. Any notice provided for in this Agreement shall be in writing and shall be either personally delivered, sent by reputable overnight courier service or mailed by first class mail, return receipt requested, to the recipient at the address below indicated:

Notices to Executive:
Adrian Rawcliffe
at such address as most currently appears in the records of the Company

Notices to the Company:
Adaptimmune, LLC
351 Rouse Boulevard
Philadelphia
PA 19112
Attention: Chief Executive Officer

or such other address or to the attention of such other person as the recipient party shall have specified by prior written notice to the sending party. Any notice under this Agreement shall be deemed to have been given when so delivered, sent or mailed.

14. Severability. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction,

such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement or any action in any other jurisdiction, but this Agreement shall be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provision had never been contained herein.

15. Complete Agreement. This Agreement, those documents expressly referred to herein and other documents of even date herewith embody the complete agreement and understanding among the parties and supersede and preempt any prior understandings, agreements or representations by or among the parties, written or oral, which may have related to the subject matter hereof in any way.

16. No Strict Construction. The language used in this Agreement shall be deemed to be the language chosen by the parties hereto to express their mutual intent, and no rule of strict construction shall be applied against any party.

17. Counterparts. This Agreement may be executed in separate counterparts (including by means of telecopied signature pages or electronic transmission in portable document format (pdf)), each of which is deemed to be an original and all of which taken together constitute one and the same agreement.

18. Successors and Assigns. This Agreement, including, but not limited to, the terms and conditions in Sections 6, 7 and 9, shall inure to the benefit of, and be binding upon, the heirs, executors, administrators, successors and assigns of the respective parties hereto, but in no event may Executive assign or delegate to any other party Executive's rights, duties or obligations under this Agreement. Executive further hereby consents and agrees that the Company may assign this Agreement (including, but not limited to, Sections 6, 7 and 9) and any of the rights or obligations hereunder to any third party in connection with the sale, merger, consolidation, reorganization, liquidation or transfer, in whole or in part, of the Company's control and/or ownership of its assets or business. In such event, Executive agrees to continue to be bound by the terms of this Agreement.

19. Withholding; Payment of Taxes.

(a) 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.

(b) 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 Section 19(b), 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.

20. Tax Equalization/Tax Indemnity.

(a) Generally. The Company agrees that it shall indemnify Executive for any additional taxes incurred by him 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 his compensation from the Company than he would have if he were performing his services for the Company and its affiliates entirely in the

United States during each year or partial year of his 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 20 being a "Tax Indemnity Amount"). The Company shall also pay or

reimburse Executive for the cost of preparing his U.S. federal, state, local, and United Kingdom income tax returns by an accounting firm in order to implement this paragraph 20. 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.

(b) Tax Indemnity Adjustments.

20(b)(i) Any Tax Indemnity Amount payable to Executive pursuant to this paragraph 20 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).

20(b)(ii) 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 his 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 his compensation from the Company than he would have if he were performing his services for the Company and its affiliates entirely in the United States during each year or partial year of his 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 his compensation from the Company than he would have if he were performing his services for the Company and its affiliates entirely in the United States during each year or partial year of his employment with the Company) to the Company within 60 days after the Insufficiency Amount is determined, including without limitation, for the 2015/2016 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.

20(b)(iii) This First Amendment shall be and is hereby incorporated in and forms a part of the Employment Agreement.

20(b)(iv) Except as amended and set forth herein, the Employment Agreement shall continue in full force and effect.

22. Choice of Law. All issues and questions concerning the construction, validity, enforcement and interpretation of this Agreement and the exhibits and schedules hereto shall be governed by, and construed in accordance with, the laws of the Commonwealth of Pennsylvania, without giving effect to any choice of law or conflict of law rules or provisions (whether of the Commonwealth of Pennsylvania or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the Commonwealth of Pennsylvania.

23. Amendment and Waiver. The provisions of this Agreement may be amended or waived only with the prior written consent of the Company and Executive, and no course of conduct or course of dealing or failure or delay by any party hereto in enforcing or exercising any of the provisions of this Agreement (including, without limitation, the Company's right to terminate the Employment Period with

or without Cause) shall affect the validity, binding effect or enforceability of this Agreement or be deemed to be an implied waiver of any provision of this Agreement.

24. Insurance. The Company may, at its discretion, apply for and procure in its own name and for its own benefit life and/or disability insurance on Executive in any amount or amounts considered advisable. Executive agrees to cooperate in any medical or other examination, supply any information and execute and deliver any applications or other instruments in writing as may be reasonably necessary to obtain and constitute such insurance.

25. Agreement to Arbitrate.

(a) Notwithstanding any express provision to the contrary, Executive and the Company agree that any claim, controversy or dispute between Executive and the Company (including without limitation the Company's affiliates, officers, executives, representatives, or agents) arising out of or relating to this Agreement, the employment of Executive, the cessation of employment of Executive, or any matter relating to the foregoing shall be submitted to and settled by arbitration before a single arbitrator in a forum of the American Arbitration Association ("AAA") located in Philadelphia, Pennsylvania, and conducted in accordance with the National Rules for the Resolution of Employment Disputes. In such arbitration: (i) the arbitrator shall agree to treat as confidential evidence and other information presented by the parties to the same extent as Confidential Information under this Agreement must be held confidential by the Executive; (ii) the arbitrator shall have no authority to amend or modify any of the terms of this Agreement; and (iii) the arbitrator shall have ten (10) business days from the closing statements or submission of post-hearing briefs by the parties to render his decision.

(b) All AAA-imposed costs of said arbitration, including the arbitrator's fees, if any, shall be borne by the Company. All legal fees incurred by the parties in connection with such arbitration shall be borne by the party who incurs them, unless applicable statutory authority provides for the award of attorneys' fees to the prevailing party and the arbitrator's decision and award provides for the award of such fees.

(c) Any arbitration award shall be final and binding upon the parties, and any court having jurisdiction may enter a judgment on the award. The foregoing requirement to arbitrate claims, controversies, and disputes applies to all claims or demands by the Executive, including without limitation, any rights or claims the Executive may have under the Age Discrimination in Employment Act of 1967, Title VII of the Civil Rights Act of 1964, the Americans with Disabilities Act of 1991, the Equal Pay Act, the Family and Medical Leave Act or any other federal, state or local laws or regulations pertaining to the Executive's employment or the termination of the Executive's employment.

(d) All claims must be arbitrated, with the limited exception of claims for violations ofSections 6, 7 and 9 of this Agreement. In the event of an alleged breach of Sections 6, 7 or 9 of this Agreement by Executive, the Company has the option to elect between arbitration and a judicial forum.

26. Corporate Opportunity. During the Employment Period, Executive shall submit to the Company all business, commercial and investment opportunities or offers presented to Executive or of which Executive becomes aware (including in Executive's capacity as agent, employee, director or officer of the Company), irrespective of Executive's evaluation of the reasonableness or desirability of the Company's investigation thereof, which relate to the business of the Company or any of its affiliates or subsidiaries (the "Business") at any time during the Employment Period ("Corporate Opportunities"). Executive acknowledges that all such Corporate Opportunities are for

the benefit of the Company and that Executive would be in breach of his duties to the Company if Executive accepted or pursued, directly or indirectly, any such Corporate Opportunity on Executive's own behalf.

As used in this Agreement, the term "Business" means the business of the Company or any of its affiliates or subsidiaries in developing, designing, testing, marketing, selling, distributing or manufacturing products or services involving the use of T cell therapy to treat or diagnose human disease and/or any further business that may be developed by the Company or any of its affiliates of which Executive is aware.

27. Executive's Cooperation. During the Employment Period and thereafter, Executive shall reasonably cooperate with the Company and its affiliates or subsidiaries in any internal investigation or administrative, regulatory or judicial proceeding as reasonably requested by the Company (including, without limitation, Executive's being reasonably available to the Company upon reasonable notice for interviews and factual investigations, appearing at the Company's reasonable request to give testimony without requiring service of a subpoena or other legal process, volunteering to the Company all pertinent information and turning over to the Company all relevant documents which are or may come into Executive's possession, all at times and on schedules that are reasonably consistent with Executive's other permitted activities and commitments) at reasonable times. In the event the Company requires Executive's cooperation in accordance with this Section 27, the Company shall reimburse Executive solely for reasonable travel expenses (including lodging and meals, upon submission of receipts). Nothing about the foregoing shall preclude Executive from testifying truthfully in any forum or from providing truthful information to any government agency or commission.

28. 409A Compliance.

(a) The intent of the parties is that payments and benefits under this Agreement comply with Section 409A and, accordingly, to the maximum extent permitted, this Agreement shall be interpreted to be in compliance therewith. In no event shall the Company or its subsidiaries or affiliates be liable for any additional tax, interest or penalty that may be imposed on Executive under Section 409A or damages for failing to comply with Section 409A.

(b) A termination of employment shall not be deemed to have occurred for purposes of any provision of this Agreement providing for the payment of any amounts or benefits upon or following a termination of employment unless such termination is also a "separation from service" within the meaning of Section 409A and, for purposes of any such provision of this Agreement, references to a "termination," "termination of employment" or like terms shall mean "separation from service."

(c) To the extent that reimbursements or other in-kind benefits under this Agreement constitute "nonqualified deferred compensation" for purposes of Section 409A: (i) all such expenses or other reimbursements hereunder shall be made on or prior to the last day of the taxable year following the taxable year in which such expenses were incurred by the Executive; (ii) any such right to reimbursement or in-kind benefits shall not be subject to liquidation or exchange for another benefit; and (iii) no such reimbursement, expenses eligible for reimbursement, or in-kind benefits provided in any taxable year shall in any way affect the expenses eligible for reimbursement, or in-kind benefits to be provided, in any other taxable year.

(d) For purposes of Section 409A, the Executive's right to receive any installment payments pursuant to this Agreement shall be treated as a right to receive a series of separate and distinct payments.

(e) Notwithstanding any other provision of this Agreement to the contrary, in no event shall any payment under this Agreement that constitutes "nonqualified deferred compensation" for purposes of Section 409A be subject to offset by any other amount unless otherwise permitted by Section 409A.

IN WITNESS WHEREOF, the parties hereto have executed this Employment Agreement as of the date first written above.

ADAPTIMMUNE, LLC

By: /s/ H Tayton-Martin

Name: Helen Tayton-Martin

Position: President & Secretary

/s/ Adrian Rawcliffe

Adrian Rawcliffe

EXECUTIVE SEVERANCE POLICY

This Executive Severance Policy ("Policy") has been established by Adaptimmune Therapeutics plc (the "Company") on March 10, 2017 to provide Executives with the opportunity to receive severance benefits following termination of employment under certain conditions. The purpose of the Policy is to attract and retain qualified executives. This Policy is applicable to all Executives regardless of base location. This Policy is intended to be a top hat welfare benefit plan under the U.S. Employee Retirement Income Security Act of 1974, as amended ("ERISA"), maintained for a select group of management or highly compensated employees.

1. Notice of Termination; Company's Obligations Upon Cessation of Employment Period.

(a) Notice of Termination. Notice of termination will be provided in accordance with the terms of the relevant Executive's Employment Agreement.

(b) Company's Obligations Upon Cessation of the Employment Period.

(i) Accrued Benefits. Unless stated otherwise, where terms of this Policy are inconsistent to the terms of Executive's Employment Agreement, the terms of Executive's Employment Agreement shall prevail. Subject to Executive's Employment Agreement, upon Executive's termination of employment for any reason and save as explicitly otherwise provided in Executive's Employment Agreement, Executive shall be entitled to receive: (A) Base Salary (as defined in Executive's Employment Agreement) earned for services rendered by Executive through the date of termination, which shall be paid on the next succeeding payroll date unless otherwise mutually agreed; (B) payment of any accrued but unused vacation as of the date of termination owed to Executive as provided for under Executive's Employment Agreement; (C) any unpaid expense reimbursement owed to Executive under Executive's Employment Agreement, which shall be paid within thirty (30) days of the date of termination; and (D) any amount earned, accrued and arising from Executive's participation in, or benefits accrued under, any Company employee benefit plan or arrangement, which amounts shall be payable in accordance with the terms and conditions of such employee benefit plans and arrangements (collectively, the "Accrued Benefits").

(ii) Termination by Company Without Cause or by Executive For Good Reason; No Change in Control. If the Employment Period is terminated by the Company without Cause or if Executive resigns for Good Reason other than in the twelve (12) months following a Change in Control Date, in addition to the Accrued Benefits, Executive shall be entitled to receive: (A) an amount equal to his or her Base Salary (as in effect immediately prior to termination of employment) for a period of nine (9) months following the date of termination, paid in a single lump sum as soon as administratively feasible within sixty (60) days following the date of termination; (B) any unpaid Annual Bonus (as defined in Executive's Employment Agreement) relating to the year prior to the year in which the date of termination of employment occurs, paid in a single lump sum no later than March 15 of the year following the calendar year in which the Annual Bonus, if any, was earned; (C) at the discretion of the Board of Directors of the Company (the "Board") a prorated amount of any Annual Bonus relating to the year in which the date of termination of employment occurs, based on the number of full calendar months worked by Executive during such year divided by twelve (12), and paid in a single lump sum no later than March 15 of the year following the calendar year in which the prorated Annual Bonus,

if any, was earned; and (D) either (a) reimbursement of Executive's payment of the full monthly premiums required for Executive's continued participation in the Company's group health coverage shall be pursuant to the U.S. Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), through the end of the ninth (9th) month following the date of termination, provided that Executive is eligible for and timely elects to receive COBRA coverage and that such provision of healthcare does not result in discrimination in the Company's healthcare plan in which Executive participates under Section 105(h) of the U.S. Internal Revenue Code of 1986, as amended (the "Code"), and the regulations promulgated thereunder or (b) where COBRA does not apply to Executive, continuation of the health coverage provided under Executive's Employment Agreement through the end of the ninth (9th) month following the date of termination provided such continuation is permitted under the terms of the relevant insurance, or (at the election of a UK Executive) payment of the cash equivalent of the cost to the Company of providing such health coverage during such period. The benefits identified under Section 1(b)(ii)(A) to (D) are collectively referred to as "Severance Benefits"). The payment of Base Salary under Section 1(b)(ii)(A) and any payment in respect of health coverage under Section 1(b)(ii)(D) shall be reduced by any Base Salary or health coverage payments otherwise made to Executive by way of a payment in lieu of notice under Executive's Employment Agreement. Executive shall not be entitled to any other salary, compensation or other benefits after termination of the Employment Period, except as specifically provided for in the Company's employee benefit plans or as otherwise expressly required by applicable law.

(iii) Termination by Company Without Cause or by Executive For Good Reason Following a Change in Control If the Employment Period is terminated by the Company without Cause or if Executive resigns for Good Reason within twelve (12) months following a Change in Control Date, in addition to the Accrued Benefits, Executive shall be entitled to receive: (A) an amount equal to his or her Base Salary (as in effect immediately prior to termination of employment) for a period of twelve (12) months following the date of termination, paid in a single lump sum as soon as administratively feasible within sixty (60) days following the date of termination; (B) any unpaid Annual Bonus relating to the year prior to the year in which the date of termination of employment occurs, paid in a single lump sum no later than March 15 of the year following the calendar year in which the Annual Bonus, if any, was earned; (C) an Annual Bonus equivalent to a 12 month bonus, relating to the year in which the date of termination of employment occurs, paid in a single lump sum no later than March 15 of the year following the calendar year in which the Annual Bonus, if any, was earned; (D) either (a) reimbursement of Executive's payment of the full monthly premiums required for Executive's continued participation in the Company's group health coverage pursuant to COBRA through the end of the twelfth (12th) month following the date of termination, provided that Executive is eligible for and timely elects to receive COBRA coverage and that such provision of healthcare does not result in discrimination in the Company's healthcare plan in which Executive participates under Section 105(h) of the Code and the regulations promulgated thereunder or (b) where COBRA does not apply to the Executive, continuation of the health coverage provided under Executive's Employment Agreement through the end of the twelfth (12th) month following the date of termination provided such continuation is permitted under the terms of the relevant insurance, or (at the election of a UK Executive) payment of the cash equivalent of the cost to the Company of providing such health coverage during such period; and (E) immediate vesting and exercisability of all of Executive's Company stock options that are outstanding and unvested as of the date of termination of employment (the payments and benefits set forth in this Section 1(b)(iii)(A) to (E) are hereinafter, collectively, the "CIC Severance Benefits"). The payment of Base Salary under Section 1(b)(iii)(A) and any payment in respect of health coverage under Section 1(b)(iii)(D) shall be reduced by any Base Salary or health coverage

payments otherwise made to Executive by way of a payment in lieu of notice under the Executive's EmploymentAgreement. Executive shall not be entitled to any other salary, compensation or other benefits after termination of the Employment Period, except as specifically provided for in the Company's employee benefit plans or as otherwise expressly required by applicable law. For the avoidance of doubt, where Company stock options are no longer outstanding as of the date of termination of employment (including as a result of any lapse in connection with a Change in Control), they shall not become exercisable following Executive's termination by reason of this provision.

(iv) Termination for Death or Incapacity. If the Employment Period is terminated for death or Incapacity (as determined by the Board in its good faith judgment), in addition to the Accrued Benefits, Executive (or Executive's estate, if applicable) shall be entitled to receive: (A) any unpaid Annual Bonus relating to the year prior to the year in which the date of termination of employment occurs, paid in a single lump sum no later than March 15 of the year following the calendar year in which the Annual Bonus, if any, was earned; and (B) a prorated amount of any Annual Bonus relating to the year in which the date of termination of employment occurs, based on the number of full calendar months worked by Executive during such year divided by twelve (12), and paid in a single lump sum no later than March 15 of the year following the calendar year in which the prorated Annual Bonus, if any, was earned. Executive (or Executive's estate, as applicable) shall not be entitled to any other salary, compensation or other benefits after termination of the Employment Period, except as specifically provided for in the Company's employee benefit plans or as otherwise

expressly required by applicable law.

(v) Termination for Cause or Resignation for Other than Good Reason If the Employment Period is terminated by the Company for Cause or upon Executive's resignation (other than resignation for Good Reason), Executive shall only be entitled to receive the Accrued Benefits, and shall not be entitled to any other salary, compensation or benefits from the Company or its parent, affiliates or subsidiaries after termination of the Employment Period, except as otherwise specifically provided for under Executive's Employment Agreement and the Company's employee benefit plans or as otherwise expressly required by applicable law.

(vi) Except as otherwise expressly provided herein or in Executive's Employment Agreement, all of Executive's rights to salary, bonuses, employee benefits and other compensation hereunder which would have accrued or become payable after the termination of the Employment Period shall cease upon such termination, other than those expressly required under applicable law including but not limited to Executive's rights under COBRA. The Company may offset any amounts Executive owes the Company or its affiliates or subsidiaries against any amounts the Company owes Executive hereunder subject to applicable law.

(vii) The Company's obligation to provide the Severance Benefits or CIC Severance Benefits to Executive shall be conditioned upon the Executive's execution and the irrevocability of a general release in a form acceptable to the Company within 60 days following termination of employment. Executive shall not be entitled to any other salary, compensation, or other benefits after termination of the Employment Period, for the execution of a general release form except as specifically provided for in the Company's employee benefit plans or as otherwise expressly required by applicable law.

(viii) Any Severance Benefits or CIC Severance Benefits payable shall not be paid until the first scheduled payment date following the date the general release is executed and no longer subject to revocation, with the first such payment being in an

amount equal to the total amount to which Executive would otherwise have been entitled during theperiod following the date of termination if such deferral had not been required; provided, however,

(A) that any such amounts that constitute nonqualified deferred compensation within the meaning of Internal Revenue Code Section 409A and the regulations and guidance promulgated thereunder ("Section 409A") shall not be paid until the 60th day following such termination to the extent necessary to avoid adverse tax consequences under Section 409A, and, if such payments are required to be so deferred, the first payment shall be in an amount equal to the total amount to which Executive would otherwise have been entitled during the period following the date of termination if such deferral had not been required; and

(B) if Executive is a "specified employee" within the meaning of Section 409A, any Severance Benefits or CIC Severance Benefits payable to Executive during the first six months and one day following the date of termination that constitute nonqualified deferred compensation within the meaning of Section 409A shall not be paid until the date that is six (6) months and one day following such termination to the extent necessary to avoid adverse tax consequences under Section 409A, and, if such payments are required to be so deferred, the first payment shall be in an amount equal to the total amount to which Executive would otherwise have been entitled to during the period following the date of termination if such deferral had not been required.

2. Definitions.

(a) For purposes of this Policy, "Executive" shall mean an executive officer of the Company or a member of its group chosen by the Board or the Remuneration Committee to be subject to this Policy.

(b) For purposes of this Policy, "Employment Agreement" shall mean the employment agreement by and between the Company or a member of its group and Executive in force from time to time.

(c) For the purposes of this Policy, "Employment Period" shall mean the period from the effective date of employment through to the date of Executive's termination of employment.

(d) For purposes of this Policy, "Cause" shall mean with respect to Executive one or more of the following: (i) acts or omissions constituting gross negligence, recklessness or willful misconduct on the part of Executive with respect to Executive's obligations or otherwise relating to the business of Company; (ii) Executive's material breach of Company rules, policies and/or procedures; (iii) Executive's material insubordination or material non-performance or willful neglect of assigned duties; (iv) acts or omissions which bring the reputation of the Company into material disrepute; (v) any act or omission by Executive aiding or abetting a competitor, supplier or customer of the Company and/or any of its subsidiaries or affiliates to the material disadvantage or

detriment of the Company and/or any of its subsidiaries or affiliates; (vi) Executive's commission offraud, misappropriation, embezzlement or theft; or (vii) Executive's material breach of his or her Employment Agreement, including, but not limited to, violation of any of the restrictive covenants set forth in the Employment Agreement.

(e) For purposes of this Policy, "Good Reason" shall mean that Executive has complied with the "Good Reason Process" (hereinafter defined) following the occurrence of any of the following events: (i) the Company materially reduces the amount of the Base Salary, except for across-the-board salary reductions based on the Company's financial performance similarly affecting all or substantially all senior management employees of the Company or as otherwise agreed with the Executive; (ii) the Company breaches its material obligations under the Employment Agreement, or (iii) the Company materially reduces Executive's authority, duties or responsibilities without Executive's consent. "Good Reason Process" shall mean that: (w) Executive notifies the Company in writing of the first occurrence of one of the Good Reason condition within sixty (60) days of the first occurrence of such condition; (x) Executive cooperates in good faith with the Company's efforts, for a period not less than thirty (30) days following such notice (the "Cure Period"), to remedy the condition; (y) notwithstanding such efforts, the Good Reason condition continues to exist; and (z) Executive terminates his or her employment within sixty (60) days after the end of the Cure Period. If the Company cures the Good Reason condition during the Cure Period, Good Reason shall be deemed not to have occurred and no right to terminate for Good Reason shall exist. There is however no obligation on the Company to remedy the condition that is considered by Executive to be Good Reason.

(f) For purposes of this Policy "Incapacity" shall be deemed to occur if the Board, in its good faith judgment, considers that Executive is mentally or physically disabled or incapacitated such that Executive cannot perform his or her duties and responsibilities under the Employment Agreement and notifies Executive, and, within thirty (30) days of receipt of the Board's good faith notification, either (i) Executive fails to undertake a physical and/or mental examination by a physician mutually acceptable to the Board and Executive or (ii) after Executive undertakes a physical and/or mental examination by a physician mutually acceptable to the Board and Executive, such physician fails to certify to the Board that Executive is physically and mentally able and capable of performing his or her duties and responsibilities under Executive's Employment Agreement.

(g) For purposes of this Policy, a "Change in Control" shall mean the occurrence of any one or more of the following events: (i) the consummation of a merger or consolidation of the Company with any other entity, other than a merger or consolidation in which voting securities of the Company outstanding immediately prior

thereto continue to represent more than fifty percent (50%) percent of the total voting power of the Company or such surviving entity immediately after such merger or consolidation; (ii) the acquisition of all of the Company's outstanding capital stock by a single person or entity or a group acting in concert to effect such acquisition other than an acquisition in which voting securities of the Company outstanding immediately prior thereto continue to represent more than fifty percent (50%) percent of the total voting power of the Company or such surviving entity immediately after such merger or consolidation; or (iii) the sale or disposition of all or substantially all of the assets of Company.

3. Claims and Appeals Procedures.

(a) Initial Claims. An Executive who believes he or she is entitled to a payment under the Policy that has not been received is to follow the Procedure as set out in Schedule A.

4. Miscellaneous.

(a) Administration. The Administrator has the exclusive right, power and authority, in its sole and absolute discretion, to administer and interpret the Policy. The Administrator has all powers reasonably necessary to carry out its responsibilities under the Policy. The decision of the Administrator on any disputes arising under the Policy, including (but not limited to) questions of construction, interpretation and administration shall be final, conclusive and binding on all persons having an interest in or under the Policy. For the avoidance of doubt, the role of the Administrator is limited to the administration of this Policy and, as such, it is acknowledged that determinations by the Administrator are not final or binding with respect to any subsequent dispute resolution process and shall not be afforded a special status during any legal action.

(b) Amendment and Termination. The Company reserves the right to amend or terminate the Policy at any time by action of the Board. However, the Company shall consult with Executive in relation to any proposed significant amendment or termination. Where any proposed amendment or termination of this Policy substantially reduces the rights or benefits of Executive, then such amendment or termination will only take effect if made in accordance with the terms of Executive's Employment Agreement.

(c) At-Will Employment. The Policy does not alter the status of each Executive, for Executives based in the US such Executives are employed as an at-will employee of the Company. Nothing contained herein shall be deemed to give any Executive the right to remain employed by the Company or to interfere with the rights of the Company to terminate the employment of any Executive at any time, with or without Cause.

(d) Unfunded Obligations. The amounts to be paid to Executives under the Policy are unfunded obligations of the Company. The Company is not required to segregate any monies or other assets from its general funds with respect to these obligations. Executives shall not have any preference or security interest in any assets of the Company other than as a general unsecured creditor.

(e) Transfer and Assignment. Neither an Executive nor any other person shall have any right to sell, assign, transfer, pledge, anticipate or otherwise encumber, transfer, hypothecate or convey any amounts payable under the Policy prior to the date that such amounts are paid.

(f) References to the Company. Where the employing company of the Executive is not the Company but another member of the Company's group, references in this Policy to the Company shall be construed accordingly and, where necessary, shall be deemed to be or include references to the relevant employing company.

Schedule A

An Executive may submit a written claim for benefits to the Administrator within 60 days after the termination of employment. The Administrator is the Remuneration Committee of the Board or its designee. Claims should be addressed and sent to the Board Remuneration Committee, marked for the attention of the Remuneration Committee chairman, and sent by post or courier to the registered office address of Adaptimmune Therapeutics plc.

If Executive's claim is denied, in whole or in part, Executive will be furnished with written notice of the denial within 30 days after the Administrator's receipt of Executive's written claim. Written notice of the denial of Executive's claim will contain the following information:

(i) the specific reason or reasons for the denial of Executive's claim;

(ii) references to the specific Policy provisions on which the denial of Executive's claim was based;

(iii) a description of any additional information or material required by the Administrator to reconsider Executive's claim (to the extent applicable) and an explanation of why such material or information is necessary; and

(iv) a description of the Policy's review procedures and time limits applicable to such procedures, including a statement of Executive's right to bring a civil action under applicable law for example Section 502(a) of ERISA following a benefit claim denial on review.

(g) Appeal of Denied Claims. If Executive's claim is denied and he or she wishes to submit a request for a review of the denied claim, Executive or his or her authorized representative must follow the procedures described below:

(i) Upon receipt of the denied claim, Executive (or his or her authorized representative) may file a request for review of the claim in writing with the Administrator. This request for review must be filed no later than 60 days after Executive has received written notification of the denial.

(ii) Executive has the right to submit in writing to the Administrator any comments, documents, records or other information relating to his or her claim for benefits.

(iii) Executive has the right to be provided with, upon request and free of charge, reasonable access to and copies of all pertinent documents, records and other information that is relevant to his or her claim for benefits.

(iv) The review of the denied claim will take into account all comments, documents, records and other information that Executive submitted relating to his or her claim, without regard to whether such information was submitted or considered in the initial denial of his or her claim.

(h) Administrator's Response to Appeal. The Administrator will provide Executive with written notice of its decision within 30 days after the Administrator's receipt of Executive's written claim for review. The Administrator's decision on

Executive's claim for review will be communicated to Executive in writing and will clearly state:

(i) the specific reason or reasons for the denial of Executive's claim;

(ii) reference to the specific Policy provisions on which the denial of Executive's claim is based;

(iii) a statement that Executive is entitled to receive, upon request and free of charge, reasonable access to, and copies of, the Policy and all documents, records, and other information relevant to his or her claim for benefits; and

(iv) a statement describing Executive's right to bring an action under applicable law for example Section 502(a) of ERISA.

(i) Exhaustion of Administrative Remedies. The exhaustion of these claims procedures is mandatory for resolving every claim and dispute arising under the Policy. As to such claims and disputes no claimant shall be permitted to commence any legal action to recover benefits or to enforce or clarify rights under the Policy under any provision of law, whether or not statutory, until these claims procedures have been exhausted in their entirety.

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 13, 2017 with respect to the consolidated balance sheets of Adaptimmune Therapeutics plc and subsidiaries as of December 31, 2016, December 31, 2015 and June 30, 2015, and the related consolidated statements of operations, comprehensive loss, changes in equity, and cash flows for the year ended December 31, 2016, the six month period ended December 31, 2015 and the years ended June 30, 2015 and June 30, 2014, which report appears in the December 31, 2016 annual report on Form 10-K of Adaptimmune Therapeutics plc.

/s/ KPMG LLP

Reading, United Kingdom
March 13, 2017

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 13, 2017

/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 13, 2017

/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, 2016, 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 13, 2017

/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, 2016, 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 13, 2017

/s/ Adrian Rawcliffe
Adrian Rawcliffe
Chief Financial Officer