Adaptimmune Therapeutics PLC
Form 10-Q
August 08, 2016
Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

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

For the quarterly period ended June 30, 2016

OR

o 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

(44) 1235 430000

(Address of principal executive offices)

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. x Yes o 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). x Yes o No

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 o	Accelerated filer o
Non-accelerated filer x	Smaller reporting company o

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

As of August 5, 2016 the number of outstanding ordinary shares par value £0.001 per share of the Registrant is 424,711,900.

Table of Contents

TABLE OF CONTENTS

PART I FINANCIAL INFORMATION		
Item 1.	Financial Statements:	
	Unaudited Condensed Consolidated Balance Sheets as of June 30, 2016 and December 31, 2015	5
	Unaudited Condensed Consolidated Statement of Operations for the three and six months ended June 30, 2016 and 2015	6
	Unaudited Condensed Consolidated Statements of Comprehensive Loss for the three and six months ended June 30, 2016 and 2015	7
	Unaudited Condensed Consolidated Statements of Changes in Equity for the six months ended June 30, 2016	8
	Unaudited Condensed Consolidated Cash Flow Statements for the six months ended June 30, 2016 and 2015	9
	Notes to the Condensed Consolidated Financial Statements	10
Item 2.	Management s Discussion and Analysis of Financial Condition and Results of Operations	16
Item 3.	Quantitative and Qualitative Disclosures About Market Risk	28
Item 4.	Controls and Procedures	29
PART II OTHER INFORMATION		
Item 1.	Legal Proceedings	30
Item 1A.	Risk Factors	30
Item 2.	Unregistered Sales of Equity Securities and Use of Proceeds	67
Item 3.	Defaults Upon Senior Securities	67
Item 4.	Mine Safety Disclosures	67
Item 5.	Other Information	67
Item 6.	Exhibits	68
Signatures		69

Table of Contents

General information

In this Quarterly Report on Form 10-Q (Quarterly 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 Quarterly 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 Quarterly 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;

- our ability to successfully advance our MAGE-A10 and AFP SPEAR T-cells through clinical development and to advance our MAGE-A4 SPEAR T-cells into clinical development;

- our ability to further develop our commercial manufacturing process for our SPEAR T-cells and transfer such commercial process to third party contract manufacturers;

- 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;

Table of Contents

- 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;

- 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;

- 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 II, Item 1A in this Quarterly Report on Form 10-Q 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 Quarterly Report not to occur. The words believe, may, will, estimate, continue, anticipate, intend, expect and similar words are intended to identify estimates and forw 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 Quarterly 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.

Table of Contents

PART I FINANCIAL INFORMATION

Item 1. Financial Statements.

ADAPTIMMUNE THERAPEUTICS PLC

UNAUDITED CONDENSED CONSOLIDATED BALANCE SHEETS

(in thousands, except share data)

	June 30, 2016	December 31, 2015
Assets		
Current assets		
Cash and cash equivalents	$ 150,894	$ 194,263
Short-term deposits	55,031	54,620
Accounts receivable, net of allowance for doubtful accounts of $- and $- (including amounts due from related parties of $- and $2)		744
Other current assets and prepaid expenses (including current portion of clinical materials)	12,257	13,420
Total current assets	**218,182**	**263,047**
Restricted cash	4,229	4,508
Clinical materials	2,695	4,736
Property, plant and equipment, net	13,444	13,225
Intangibles, net	1,010	305
Total assets	**$ 239,560**	**$ 285,821**
Liabilities and Stockholders equity		
Current liabilities		
Accounts payable (including amounts due to related parties of $9 and $-)	$ 2,474	$ 7,884
Accrued expenses and other accrued liabilities (including amounts due to related parties of $77 and $288)	7,723	7,518
Deferred revenue	9,940	12,487
Total current liabilities	**20,137**	**27,889**
Deferred revenue, less current portion	22,432	22,939
Total liabilities	**42,569**	**50,828**
Contingencies and commitments Note 8		
Equity		
Common stock - Ordinary shares par value £0.001, 574,711,900 authorized and 424,711,900 issued and outstanding (2015: 574,711,900 authorized and 424,711,900 issued and outstanding)	682	682
Additional paid in capital	336,904	332,363
Accumulated other comprehensive loss	(13,011)	(8,139)
Accumulated deficit	(127,584)	(89,913)

Total equity		**196,991**		**234,993**
Total liabilities and stockholders equity	$	**239,560**	**$**	**285,821**

See accompanying notes to unaudited condensed consolidated financial statements.

Table of Contents

ADAPTIMMUNE THERAPEUTICS PLC

UNAUDITED CONDENSED CONSOLIDATED STATEMENT OF OPERATIONS

(in thousands, except share and per share data)

	Three months ended June 30,		Six months ended June 30,	
	2016	**2015**	**2016**	**2015**
Revenue	**$ 328**	**$ 2,783**	**$ 3,246**	**$ 5,511**
Operating expenses				
Research and development	(16,219)	(8,404)	(30,107)	(14,380)
General and administrative	(6,809)	(5,486)	(12,664)	(7,845)
Total operating expenses (including purchases from related parties, net of reimbursements of $536, $74, $1,329 and $1,254)	**(23,028)**	**(13,890)**	**(42,771)**	**(22,225)**
Operating loss	**(22,700)**	**(11,107)**	**(39,525)**	**(16,714)**
Interest income	291	188	550	298
Other income (loss), net	607	(3,502)	1,656	101
Loss before income taxes	**(21,802)**	**(14,421)**	**(37,319)**	**(16,315)**
Income taxes	(293)	(147)	(352)	(198)
Net loss	**(22,095)**	**(14,568)**	**(37,671)**	**(16,513)**
Deemed dividend on convertible preferred shares		(2,229)		(8,663)
Net loss available to ordinary shareholders	**$ (22,095)**	**$ (16,797)**	**$ (37,671)**	**$ (25,176)**
Net loss per ordinary share basic and diluted (Note 4)	**$ (0.05)**	**$ (0.05)**	**$ (0.09)**	**$ (0.10)**
Weighted average shares outstanding, basic and diluted	424,711,900	316,559,989	424,711,900	248,222,243

See accompanying notes to unaudited condensed consolidated financial statements.

Table of Contents

ADAPTIMMUNE THERAPEUTICS PLC

UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

(in thousands)

	Three months ended June 30,		Six months ended June 30,	
	2016	**2015**	**2016**	**2015**
Net loss	$ (22,095)	$ (14,568)	$ (37,671)	$ (16,513)
Other comprehensive (loss) income, net of tax				
Foreign currency translation adjustments, net of tax of $-, $-, $- and $-	(2,327)	(5,430)	(4,872)	533
Total comprehensive loss for the period	**$ (24,422)**	**$ (19,998)**	**$ (42,543)**	**$ (15,980)**

See accompanying notes to unaudited condensed consolidated financial statements.

Table of Contents

ADAPTIMMUNE THERAPEUTICS PLC

UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(in thousands, except share data)

	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
Net loss					(37,671)	(37,671)
Other comprehensive loss, net of tax				(4,872)		(4,872)
Share-based compensation expense			4,541			4,541
Balance at June 30, 2016	**424,711,900**	**$ 682**	**$ 336,904**	**$ (13,011)**	**$ (127,584)**	**$ 196,991**

See accompanying notes to unaudited condensed consolidated financial statements.

Table of Contents

ADAPTIMMUNE THERAPEUTICS PLC

UNAUDITED CONDENSED CONSOLIDATED CASH FLOW STATEMENTS

(in thousands)

	Six months ended June 30,	
	2016	**2015**
Cash flows from operating activities		
Net loss	$ (37,671)	$ (16,513)
Adjustments to reconcile net income to net cash used in operating activities:		
Depreciation	1,512	365
Amortization	82	
Share-based compensation expense	4,541	6,292
Unrealized foreign exchange (gains) losses	(2,004)	2,234
Changes in operating assets and liabilities:		
Decrease (increase) in receivables and other operating assets	601	(4,989)
Decrease in non-current operating assets	2,041	
Decrease in payables and deferred revenue	(4,274)	(934)
Net cash used in operating activities	**(35,172)**	**(13,545)**
Cash flows from investing activities		
Acquisition of property, plant and equipment	(2,910)	(3,117)
Acquisition of intangibles	(861)	
Proceeds from sale of property, plant and equipment		122
Maturity of short-term deposits	41,661	
Investment in short-term deposits	(42,837)	(28,594)
Net cash used in investing activities	**(4,947)**	**(31,589)**
Cash flows from financing activities		
Proceeds from issuance of common stock upon initial public offering, net of issuance costs of $13,387		175,989
Net cash provided by financing activities		**175,989**
Effect of currency exchange rate changes on cash and cash equivalents	(3,250)	(3,473)
Net (decrease) increase in cash and cash equivalents	(43,369)	127,382
Cash and cash equivalents at start of period	194,263	101,664
Cash and cash equivalents at end of period	**$ 150,894**	**$ 229,046**

See accompanying notes to unaudited condensed consolidated financial statements.

Table of Contents

ADAPTIMMUNE THERAPEUTICS PLC

NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL 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 (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, 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 $127.6 million as of June 30, 2016.

Note 2 - Summary of Significant Accounting Policies

(a) Basis of presentation

The condensed consolidated interim financial statements of Adaptimmune Therapeutics plc and its subsidiaries and other financial information included in this Quarterly Report are unaudited and have been prepared in accordance with generally accepted accounting principles in the United States of America (U.S. 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 unaudited condensed interim financial statements presented in this Quarterly Report should be read in conjunction with the consolidated financial statements and accompanying notes included in Item 9.01 of the Company s Current Report on Form 8-K filed with the SEC on July 8, 2016. The balance sheet as of December 31, 2015 was derived from audited consolidated financial statements included in Item 9.01 of the Company s Current Report on Form 8-K filed with the SEC on July 8, 2016 but does not include all disclosures required by U.S. GAAP. The

Company s significant accounting policies are described in Note 2 to those consolidated financial statements.

Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted from these interim financial statements. However, these interim financial statements include all adjustments, consisting only of normal recurring adjustments, which are, in the opinion of management, necessary to fairly state the results of the interim period. The interim results are not necessarily indicative of results to be expected for the full year.

(b) Use of estimates in interim financial statements

The preparation of interim 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 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) Intangible assets

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 June 30, 2016 is 7 years.

Intangibles also include acquired computer software licenses, which are recorded at cost and amortized over the estimated useful lives of the software.

Table of Contents

Intangibles are assessed for impairment whenever events or changes in circumstances indicate that an asset s carrying amount may not be recoverable.

(d) New accounting pronouncements

Adopted with effect from January 1, 2016

Customer s accounting for fees paid in a cloud computing arrangement

The Company has adopted Accounting Standards Update (ASU) 2015-05 - *Internal-Use Software: Customer s Accounting for Fees Paid in a Cloud Computing Arrangement* issued by the Financial Accounting Standards Board (FASB) in April 2015 which clarifies a customer s accounting for fees paid in a cloud computing arrangement. The guidance provides a customer with guidance on 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 financial position, results of operations or cash flows.

To be adopted in future periods

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 supersedes nearly all existing revenue recognition guidance under U.S. GAAP. 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. Additionally, qualitative and quantitative disclosures are required about customer contracts, significant judgments and changes in judgments, and assets recognized from the costs to obtain or fulfill a contract. The guidance is effective for the fiscal year beginning January 1, 2018, including interim reporting periods within that reporting period. Earlier application is permitted only as of annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period. 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 currently assessing the impact of adopting the guidance, including the selection of the transition method and date of adoption.

In March 2016, the FASB issued ASU 2016-08 - *Revenue from Contracts with Customers: Principal versus Agent Considerations (Reporting Revenue Gross versus Net),* which provided further clarification on the principal versus agent considerations included within the new revenue recognition guidance. This guidance will be effective upon the adoption of the new revenue recognition guidance. The Company is currently assessing the impact of adopting the guidance.

Table of Contents

In April 2016, the FASB issued ASU 2016-10 - *Revenue from Contracts with Customers: Identifying Performance Obligations and Licensing*, which provided further clarification on identifying performance obligations in a contract with a customer and provided implementation guidance on whether licenses are satisfied at a point in time or over time. This guidance will be effective upon the adoption of the new revenue recognition guidance. The Company is currently assessing the impact of adopting the guidance.

In May 2016, the FASB issued ASU 2016-12 - *Revenue from Contracts with Customers: Narrow-Scope Improvements and Practical Expedients*, which provided further clarification on the new revenue recognition guidance. This clarification did not change the core principles but provided narrow-scope improvements to the guidance and certain practical expedients available upon transitioning to the guidance. The Company is currently assessing the impact of adopting the guidance.

Note 3 Revenue

GSK Collaboration and License Agreement

Revenue represents recognized income from the GSK Collaboration and License agreement, whereby GSK funds the development of, and has an option to obtain an exclusive license to, our NY-ESO SPEAR T-cells. In addition, GSK has the right to nominate four additional target peptides, excluding those where the Company has already initiated development of a SPEAR T-cell candidate. The Company received an upfront payment of $42 million (£25 million) in June 2014 and has achieved various development milestones totaling $22 million (£14 million). No milestones were achieved during the three and six months ended June 30, 2016. The Company is entitled to further milestone payments based on the achievement of specified development and commercialization milestones by either the Company or GSK.

The revenue recognized to date relates to the upfront fee and development milestones payments received, which are being recognized in revenue over the period in which the Company is delivering services under the GSK Collaboration and License Agreement. The Company recognized revenue of $328,000 and $2,783,000 in the three months ended June 30, 2016 and 2015, respectively and $3,246,000 and $5,511,000 in the six months ended June 30, 2016 and 2015, respectively.

We regularly review and monitor the progress of the GSK Collaboration and License Agreement to determine the period over which to recognize revenue. In the three months ended June 30, 2016, the estimate of the period over which the Company will deliver services under the GSK Collaboration and License Agreement was increased. This change in estimate resulted in a decrease in revenue of $2,785,000 in the three months ended June 30, 2016 and will result in a decrease in revenue of $672,000 and $1,344,000 in the six months ended December 31, 2016 and the year ended December 31, 2017, respectively, and an increase in revenue of $1,793,000, $1,187,000 and $1,642,000 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 Earnings (loss) per share

Basic earnings (loss) per share is determined by dividing net income or loss available to ordinary shareholders by the weighted average number of ordinary shares outstanding during the period. Diluted earnings (loss) per share is determined by dividing net income or loss applicable 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 earnings (loss) per share computation (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2016	**2015**	**2016**	**2015**
Numerator for basic and diluted EPS				
Net loss	$ (22,095)	$ (14,568)	$ (37,671)	$ (16,513)
Deemed dividend on convertible preferred shares		(2,229)		(8,663)
Net loss available to ordinary shareholders	**$ (22,095)**	**$ (16,797)**	**$ (37,671)**	**$ (25,176)**
Denominator for basic and diluted EPS				
Weighted average number of shares used to calculate basic and diluted loss per share	424,711,900	316,559,989	424,711,900	248,222,243

Table of Contents

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:

	Three months ended June 30,		Six months ended June 30,	
	2016	2015	2016	2015
Share options	46,127,274	31,473,477	46,127,274	31,473,477

Note 5 Property, plant and equipment, net

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

	June 30, 2016	December 31, 2015
Computer equipment	$ 1,538	$ 1,182
Laboratory equipment	11,276	11,016
Office equipment	237	258
Leasehold improvements	1,521	1,631
Assets under construction	2,130	1,147
	16,702	15,234
Less accumulated depreciation	(3,258)	(2,009)
	$ 13,444	**$ 13,225**

Depreciation expense was $804,000 and $297,000 for the three months ended June 30, 2016 and 2015, respectively and $1,512,000 and $365,000 for the six months ended June 30, 2016 and 2015, respectively.

Note 6 Intangible assets, net

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

	June 30, 2016	December 31, 2015
Acquired software licenses	$ 1,080	$ 399
IP rights for licensed technology	93	
	1,173	399
Less accumulated amortization	(163)	(94)
	$ 1,010	**$ 305**

Amortization expense was $44,000 and $- for the three months ended June 30, 2016 and 2015, respectively and $82,000 and $- for the six months ended June 30, 2016 and 2015, respectively. The estimated aggregate amortization expense in respect of these assets for each of the five years ended June 30, 2021 is $145,000, $85,000, $33,000, $21,000 and $21,000, respectively.

Note 7 Accrued expenses and other current liabilities

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

	June 30, 2016	December 31, 2015
Accrued purchases and clinical trial expenditure	$ 7,049	$ 6,406
Accrued employee compensation and benefits payable	545	368
Other current liabilities	129	744
	$ 7,723	**$ 7,518**

Table of Contents

Note 8 Contingencies and commitments

Leases

Future minimum lease payments under operating leases at June 30, 2016 are presented below (in thousands):

		June 30, 2016
2016	$	700
2017		2,567
2018		3,068
2019		3,969
2020		3,725
2021		3,255
Thereafter		18,609
	$	**35,893**

The Company leases property under operating leases expiring through 2027. Lease expenses amounted to $406,000 and $235,000 for the three months ended June 30, 2016 and 2015, respectively and $831,000 and $403,000 for the six months ended June 30, 2016 and 2015, respectively, which expenses are included within Research and development and General and administrative expenses in the Company s Consolidated statement of operations.

Capital commitments

At June 30, 2016, the Company had commitments for capital expenditure totaling $18,637,000, of which the Company expects to pay $13,789,000 within one year and $4,848,000 in one to three years.

Purchase commitments for clinical materials, clinical trials and contract manufacturing

At June 30, 2016, the Company had commitments to pay vendors for purchase of clinical materials, executing and administering clinical trials and for contract manufacturing of $47,524,000, of which the Company expects to pay $28,810,000 within one year, $11,896,000 in one to three years and $6,818,000 in three to five years. The timing of these payments vary depending on the rate of progress of development and clinical trial enrollment rates. Our subcontracted costs for clinical trials and contract manufacturing were $6,323,000 and $2,845,000 for the three months ended June 30, 2016 and 2015, respectively, and $9,876,000 and $4,633,000 for the six months ended June 30, 2016 and 2015, respectively.

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 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 Scientific) that provide the Company with a field-based exclusive license under certain intellectual property rights owned or controlled by ThermoFisher Scientific. 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 Scientific 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 Scientific 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 Scientific has the right to terminate the supply agreement for material breach or insolvency.

Table of Contents

Note 9 Share-based compensation

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

	Three months ended June 30,		Six months ended June 30,	
	2016	2015	2016	2015
Research and development	$ 1,376	$ 2,533	$ 2,268	$ 3,500
General and administrative	1,063	2,277	2,273	2,792
	$ 2,439	$ 4,810	$ 4,541	$ 6,292

There were 1,768,243 and 1,885,615 share options granted in the three months ended June 30, 2016 and 2015, respectively, and 15,343,797 and 11,069,517 share options granted in the six months ended June 30, 2016 and 2015, respectively. The weighted average fair value of stock options granted was $0.89 and $1.45 in the three months ended June 30, 2016 and 2015, respectively, and $0.70 and $0.94 in the six months ended June 30, 2016 and 2015.

The fair value of the share options granted during the period was calculated using the Black-Scholes option-pricing model using the following assumptions:

	Six months ended June 30,	
	2016	2015
Expected term (years)	5 years	5 years
Expected volatility	68-73%	60%
Risk free rate	0.86-1.07%	1.03-1.39%
Expected dividend yield	0%	0%

The expected term of the option is based on management judgment. Forfeitures are recognized when they occur. To date, our forfeitures have been minimal. 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.

At June 30, 2016, there were 3,074,600 share options granted to nonemployees outstanding. 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 operation over the requisite service period. The total share based payment expense relating to these options was a charge of $274,000 and $1,707,000 in the three months ended June 30, 2016 and 2015, respectively and a benefit of $108,000 and a charge of $2,506,000 in the six months ended June 30, 2016 and 2015, respectively.

Table of Contents

Item 2. Management s Discussion and Analysis of Financial Condition and Results of Operations

The statements in this discussion regarding industry outlook, our expectations regarding our future performance, liquidity and capital resources and other non-historical statements are forward-looking statements. These forward-looking statements are subject to numerous risks and uncertainties, including, but not limited to, the risks and uncertainties described in Risk Factors and Forward-Looking Statements in this Quarterly Report on Form 10-Q. Our actual results may differ materially from those contained in or implied by any forward-looking statements.

The following discussion should be read in conjunction with the unaudited consolidated financial statements and accompanying notes included elsewhere in this report, the Company s consolidated financial statements and accompanying notes for the period ended December 31, 2015 included in Item 9.01 of the Company s Current Report on Form 8-K filed with the SEC on July 8, 2016, the Company s Transition Report on Form 20-F for the six months ended December 31, 2015, prepared under IFRS and presented in pounds sterling and the Company s Annual Report on Form 20-F for the year ended June 30, 2015, prepared under IFRS and presented in pounds sterling.

Update on Clinical Pipeline Progress

The Company has three SPEAR T-cells either in clinical trials or with an Investigational New Drug Application, or IND, open. An IND for a further SPEAR T-cell directed to the MAGE-A4 target, the MAGE-A4 SPEAR T-cell, is anticipated to filed in late 2016 or first quarter of 2017. In addition, INDs for second generation SPEAR T-cells are anticipated to be filed from 2017 onwards.

Our Sponsored NY-ESO SPEAR T-cell trials

Our first SPEAR T-cell targets the NY-ESO-1 target peptide and is currently in clinical trials in the United States. Pilot studies are ongoing in synovial sarcoma, melanoma, multiple myeloma, non small cell lung cancer (NSCLC) and ovarian indications and a trial in myxoid round cell lyposarcoma (MRCLS) is due to start in late 2016 or early 2017.

- ***Synovial sarcoma***: Four cohorts are currently ongoing for synovial sarcoma with enrollment in the first cohort being completed. Enrollment continues in the second cohort (low NY-ESO target expression) and third cohort (no fludarabine conditioning). Accrual to the fourth cohort which uses different doses of cyclophosphamide and fludarabine pre-conditioning regimen is dependent on the data obtained from the third cohort, but is now being initiated at several U.S. sites. The fourth cohort is likely to start accrual in the second half of 2016. Data from the third cohort suggest that fludarabine may be required as part of the pre-conditioning regimen. The Company is in discussions with the U.S. Food and Drug Administration, or 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 its commercial-ready manufacturing process. The pivotal trial is currently anticipated to start in the second half of 2017 which will allow for the performance of analytical comparability studies between the current and

the commercial processes and the submission of a Special Protocol Assessment as requested by the FDA. The synovial sarcoma trials are also being extended to sites outside of the United States with submissions made to the Medicines and Healthcare Products Regulatory Agency, or MHRA, in the United Kingdom and to Health Canada in Canada. Health Canada has approved the clinical trial application.

- ***MRCLS***: A trial in MRCLS is also planned to start in late 2016 or early 2017. The FDA has issued a partial clinical hold for the trial following review of the protocol submitted for the trial. This trial is not yet active at any investigational site and has not yet recruited any subjects. The FDA notification is not based on safety concerns and does not affect the current pilot trial in synovial sarcoma or any of our other studies with our NY-ESO SPEAR T-cell therapy. In its correspondence the FDA requests additional Chemistry Manufacturing and Controls, or CMC, data with the cell process and vector to be used in this trial and information on and modification of certain clinical trial design features. Addressing these will result in an amendment to the protocol for the trial. The requested modifications will not change the eligibility criteria, treatment plan, or overall conduct of the study. We intend to provide a response to all of the FDA requests shortly and the FDA has 30 days from receipt of our response in which to respond. Provided the discussions with the FDA are favorable and the hold is lifted during this period, we would expect to initiate the MRCLS trial as planned in late 2016 or first quarter of 2017. If discussions take longer then initiation of the MRCLS trial may be delayed to the second half of 2017.

- ***Ovarian:*** Data from the trial in ovarian cancer were reported at the 2016 American Society of Clinical Oncology, or ASCO, meeting. The protocol for the ovarian study has been amended to include a preconditioning regimen which includes both fludarabine and cyclophosphamide. This protocol amendment is being evaluated at existing trial sites and enrollment under the amended protocol is anticipated to occur on the new protocol later in 2016.

- ***Melanoma***: Data from the trial in melanoma were reported at the 2016 ASCO meeting. No objective responses were observed in the six patients treated and a combination study with immune check point inhibitors (CPI) is currently being considered.

- ***Myeloma***: Enrollment in the myeloma trial (with autologous SCT) has completed. The second myeloma trial (no transplant) is currently paused and the Company is considering combination approaches for treatment of myeloma, with a combination study anticipated to start in the first half of 2017.

Table of Contents

- ***NSCLC***: A trial in NSCLC opened in 2016. Enrollment has been more challenging than anticipated with no patients as yet enrolled. Initial data is currently anticipated in 2017 but availability of data for publication will depend on the number of patients recruited to the trial. The chemotherapy preconditioning regimen is being modified in a protocol amendment to include both fludarabine and cyclophosphamide.

Our NY-ESO TCR therapeutic is also being used in an investigator-initiated clinical program funded by the European Union, Adoptive engineered T-cell Targeting to Activate Cancer Killing program, or 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. To date, 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 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 Foundation Trust, in relation to continuation of the trial.

Our MAGE-A10 SPEAR T-cell

The MAGE-A10 trial in NSCLC initiated in late 2015. Enrollment of patients has been challenging and initial data are currently anticipated in 2017. A three tumor trial in bladder, melanoma and ovarian cancers received Recombinant DNA Advisory Committee (RAC) approval in May 2016 and the trial is currently being initiated at sites in the United States and Canada.

Our AFP SPEAR T-cell

An IND for a clinical trial of our AFP SPEAR T-cell in hepatocellular cancer was opened in 2016 and we anticipate enrollment will start in the first half of 2017. Enrollment is dependent on our supply of vector to manufacture our AFP SPEAR T-cell.

Our MAGE-A4 SPEAR T-cell

An IND submission for our next proprietary therapy the MAGE-A4 SPEAR T-cell in multiple tumor types is anticipated to be filed in early 2017.

Significant Events in the Three Months Ended June 30, 2016

IND for our AFP SPEAR T-cell in Locally Advanced or Metastatic Hepatocellular Carcinoma

On April 7, 2016, the Company announced that the FDA had accepted the Company s IND application for its AFP SPEAR T-cells in patients with locally advanced or metastatic hepatocellular carcinoma. This is the Company s second unpartnered therapeutic candidate to enter clinical trials. Enrollment in a clinical trial of the Company s AFP SPEAR T-cells is expected to initiate in the first half of 2017.

Presentation of Corporate and Clinical Updates at Investor and Analyst Day

On April 22, 2016, the Company hosted an Investor and Analyst meeting in New York and presented clinical and corporate updates that included progress with pipeline development and manufacturing process optimization. The presentations included updates on the Company s synovial sarcoma and multiple myeloma studies, as well as on progress with optimization of manufacturing processes and the construction of a dedicated manufacturing plant in Philadelphia scheduled to open in 2017.

The Company also announced:

- it had adopted the name SPEAR T-cells (Specific Peptide Enhanced Affinity Receptor T-cells) to describe its proprietary technology.

- its next target for development of a SPEAR T-cell is MAGE-A4, with the objective of achieving IND acceptance in 2017.

- the appointment of leading immunology, immunotherapy and oncology experts from across the United States and Europe to its newly formed scientific advisory board (SAB). Crystal Mackall, M.D., Professor of Pediatrics and Medicine and Associate Director of the Stanford Cancer Institute, will serve as Chair of the SAB. The SAB will serve as a strategic resource for Adaptimmune and help to steer the Company s development efforts in the field of immuno-oncology.

Table of Contents

Notification of Termination of Funding for ATTACK 2 Program

In May 2016, the Company received notification that the European Commission was terminating the funding provided for the ATTACK 2 collaboration program due to the lack of progress seen on the program. Such termination became effective on June 27, 2016. This program evaluates our NY-ESO TCR therapeutic in esophageal cancer and is sponsored by the Christie Trials Co-ordination Unit. Two patients have been treated to date and the Company is in active discussions with the Christie Trials Co-ordination Unit in relation to the continuation of the program with an amended protocol.

Presentation of Preclinical and Clinical Data at the 2016 ASCO Meeting

In June 2016, the Company presented new data relating to the incidence of cytokine release syndrome with its NY-ESO SPEAR T-cell, data describing the clinical response seen in its synovial sarcoma and myeloma trials and the Company s preclinical safety package.

Positive Opinion by European Medicines Agency s (EMA) Committee for Orphan Medicinal Products (COMP)

On June 20, 2016, the Company announced that the EMA s COMP had adopted a positive opinion recommending the Company s SPEAR T-cell therapy targeting NY-ESO for designation as an orphan medicinal product for the treatment of soft tissue sarcoma. The COMP adopts an opinion on the granting of orphan drug designation, after which the opinion is submitted to the European Commission for endorsement. 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.

Supply Agreement with ThermoFisher Scientific, Inc.

On June 21, 2016, the Company announced that it had entered into a supply agreement with ThermoFisher Scientific 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 Scientific for a period of 5 years and there are also minimum purchasing obligations. ThermoFisher Scientific has the right to terminate the supply agreement for material breach or insolvency.

Recent events

Orphan Drug Designation by European Commission

On July 27, 2016, the Company announced that the European Commission had adopted a decision designating the Company s NY-ESO SPEAR T-cell therapy as an orphan medicinal product for the treatment of soft tissue sarcoma, a solid tumor cancer. Adaptimmune previously received orphan drug designation from the FDA for its NY-ESO SPEAR T-cell therapy in this indication. 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.

PRIME Regulatory Access Granted for NY-ESO SPEAR T-cell

On July 28, 2016, the Company announced that the EMA granted access to its newly-established Priority Medicines (PRIME) regulatory initiative for the Company s NY-ESO SPEAR T-cell for the treatment of HLA-A0201, HLA-A0205, or HLA-A0206 patients with inoperable or metastatic synovial sarcoma who have received prior chemotherapy. The PRIME initiative provides support to optimize regulatory applications and accelerate the review of medicines that address a high unmet need.

Equity Sales Agreement

On July 27, 2016, the Company entered into a sales agreement with Cowen and Company, LLC (Cowen), under which the Company may, from time to time, issue and sell through Cowen, American Depositary Shares (ADSs) of the Company having an aggregate offering price of up to $75 million (the Agreement). Under the Agreement, Cowen may sell ADSs by methods deemed to be an at-the-market offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended. The Company will pay Cowen compensation at a commission rate of up to 3.0% of the gross proceeds from sales of ADSs pursuant to the terms of the Agreement. The Company is not obligated to make any sales under the Agreement.

Table of Contents

Financial operations overview

Revenue

To date, we have not generated any revenue from the sale of our SPEAR T-cells. Our revenues have been solely derived from our collaboration and license agreement with GSK (the GSK Collaboration and License Agreement). The terms of this arrangement contain multiple milestones associated with: (i) co-development of our NY-ESO SPEAR T-cells, (ii) associated manufacturing optimization work and (iii) co-development of other TCR target programs. GSK is also obligated to pay us certain milestone fees, which are generally non-refundable and are payable upon satisfactory completion of specified research and development activities.

In February 2016, the terms of the GSK Collaboration and License Agreement were expanded by an amendment agreement effective February 2, 2016 (the Amendment Agreement). The Amendment Agreement enables the acceleration of development of our 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 Agreement also provides the opportunity for up to eight combination studies using our NY-ESO SPEAR T-cells. The Amendment Agreement increases the potential development milestones that the Company is eligible to receive but does not result in any additional separate standalone deliverables.

Consideration received under the GSK Collaboration and License Agreement is allocated between the separate deliverables within the arrangement and the revenue allocated to each is recognized as that revenue is earned. 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 for which the Company has continuing performance obligations, if the milestones are not considered substantive.

Research and Development Expenses

Research and development expenses consist principally of:

- 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 of related facilities, materials and equipment;

- 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.

Research and development expenditure is expensed as incurred.

Expenses related to clinical trials are based on estimates of the services received and efforts expended pursuant to contracts with multiple Contract Research Organizations, or 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. 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.

Although we do not expect our estimates to be materially different from amounts actually incurred, if our estimates of the status and timing of services performed differ from the actual status and timing of services performed, 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.

Table of Contents

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.

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 government grants and reimbursable tax credits from the U.K. government, when it is probable that the Company has complied with any attached conditions and will receive the reimbursement.

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 and the U.K. Research and Development Expenditure Credit Scheme, or the U.K. RDEC 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 refundable tax credit. 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.

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.

We may never succeed in achieving regulatory approval for any of our SPEAR T-cells. 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; and

- the timing and receipt of any regulatory approvals.

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.

We may not be able to continue to claim certain research and development 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 research and development 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.

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 not related to research and development activities;

- cost of facilities, communication, and office expenses;

- information technology expenses;

Table of Contents

- 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 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.

Taxation

We are subject to corporate taxation in the United Kingdom. Our subsidiary Adaptimmune LLC is subject to corporate taxation in the United States. Our tax recognized represents the sum of the tax currently payable or recoverable. No deferred tax assets are recognized on our losses carried forward because there is currently no indication that we shall make sufficient profits to utilize these tax losses.

Unsurrendered tax losses can be carried forward to be offset against future taxable profits. After accounting for tax credits receivable, there are accumulated tax losses for carry forward in the United Kingdom amounting to $46.2 million at December 31, 2015. These tax losses do not expire.

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 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 UK tax authorities. Similarly, VAT paid on purchase invoices paid by Adaptimmune Limited and Adaptimmune Therapeutics plc is reclaimable from the UK tax authorities.

Critical Accounting Policies and Significant Judgments and Estimates

The preparation of our unaudited condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities, and the revenues and expenses incurred during the reported periods. We base our estimates on historical experience and on various other factors that we believe are relevant under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. The accounting policies considered to be critical to the judgments and estimates used in the preparation of our financial statements are disclosed in the Management s Discussion and Analysis of Financial Condition and Results of Operations included in Item 2.02 of our Current Report on Form 8-K filed with the SEC on July 8, 2016. There has been no change in the accounting policies considered to be critical accounting judgments and estimates.

The estimate of the period over which we are delivering services to GSK is a critical accounting estimate identified in Item 2.02 of our Current Report on Form 8-K filed with the SEC on July 8, 2016. In the three months ended June 30, 2016 we increased our estimate of the period over which we are delivering services, which resulted in a decrease in revenue of $2,785,000 in the three months ended June 30, 2016 compared to the revenue that would have been recognized based on previous estimates and will result in a decrease in revenue of $672,000 and $1,344,000 in the six months ended December 31, 2016 and the year ended December 31, 2017, respectively, and an increase in revenue of $1,793,000, $1,187,000 and $1,642,000 in the years ended December 31, 2018, 2019 and 2020, respectively, compared to the revenue that would have been recognized based on previous estimates.

Table of Contents

Results of operations

Comparison of Three Months Ended June 30, 2016 and 2015

The following table summarizes the results of our operations for the three months ended June 30, 2016 and 2015, together with the changes to those items:

	Three months ended June 30,			
(in thousands)	**2016**	**2015**	**Increase/decrease**	
Revenue	**$ 328**	**$ 2,783**	**$ (2,455)**	**(88)%**
Research and development expenses	(16,219)	(8,404)	(7,815)	93%
General and administrative expenses	(6,809)	(5,486)	(1,323)	24%
Total operating expenses	**(23,028)**	**(13,890)**	**(9,138)**	66%
Operating loss	**(22,700)**	**(11,107)**	**(11,593)**	104%
Interest income	291	188	103	55%
Other income (expense), net	607	(3,502)	4,109	(117)%
Loss before income taxes	**(21,802)**	**(14,421)**	**(7,381)**	**51%**
Income taxes	(293)	(147)	(146)	99%
Loss for the period	**$ (22,095)**	**$ (14,568)**	**$ (7,527)**	**52%**

Revenue

Revenue decreased from $2.8 million for the three months ended June 30, 2015 to $0.3 million for the three months ended June 30, 2016. We regularly review and monitor the progress of the GSK Collaboration and License Agreement to determine the period over which to recognize revenue. In the three months ended June 30, 2016, the estimate of the period over which the Company will deliver services under the GSK Collaboration and License Agreement was increased. This change in estimate resulted in a decrease in revenue of $2,785,000 in the three months ended June 30, 2016 and will result in a decrease in revenue of $672,000 and $1,344,000 in the six months ended December 31, 2016 and the year ended December 31, 2017, respectively, and an increase in revenue of $1,793,000, $1,187,000 and $1,642,000 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 in the full year to December 31, 2016 to be similar to the full year ended December 31, 2015, excluding the impact of foreign exchange.

Research and Development Expenses

Research and development expenses increased by 93% to $16.2 million for the three months ended June 30, 2016 from $8.4 million for the three months ended June 30, 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 $7.8 million for the three months ended June 30, 2016 compared to the same period in 2015 was primarily due to:

- an increase of $6.0 million 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 82 to 204; and

- an increase of $3.5 million in subcontracted expenditures, including clinical trial expenses, contract research organization (CRO) costs, and manufacturing expenses driven by increased recruitment in our clinical trials;

partially offset by:

- a decrease of $1.2 million in share-based compensation expense due to a decrease in share-based compensation expense for nonemployee share options of $1.4 million offset by an increase in share-based compensation expense for employees of $0.2 million; and

- an increase of $0.5 million in reimbursements in the form of grants and R&D expenditure credits and tax credits from the U.K. government.

Table of Contents

Our subcontracted costs for the three months ended June 30, 2016 were $6.3 million, of which $5.2 million related to our NY-ESO SPEAR T-cells and the remaining $1.1 million related to other projects, including our MAGE-A10 and AFP SPEAR T-cells.

In the year ended December 31, 2016 and into 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-A10 and AFP SPEAR T-cells) 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 expenses, as well as require higher expenditures on facilities, materials and equipment.

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 5% increase in the share price at June 30, 2016 would have increased the share-based compensation expense for the three months to June 30, 2016 by approximately $44,000.

General and Administrative Expenses

General and administrative expenses increased by 24% to $6.8 million for the three months ended June 30, 2016 from $5.5 million in the same period in 2015.

The increase of $1.3 million was due to:

- an increase of $1.3 million in personnel costs, primarily due to the addition of key management and other professionals to support our growth;

- an increase of $0.5 million in property costs; and

- an increase of $0.7 million in other corporate costs, including costs in relation to our Nasdaq listing, consultants, additional audit costs and investor relations,

partially offset by:

- a decrease of $1.2 million in share-based compensation expense.

We expect that our general and administrative expenses will continue to increase, primarily due to the costs of operating as a public company, such as additional legal, accounting, and corporate governance expenses, including expenses related to compliance with the Sarbanes-Oxley Act, directors and officers insurance premiums, and investor relations activity.

Other Income (Expense), net

Other income (expense), net was an income of $0.6 million for the three months ended June 30, 2016 compared to an expense of $3.5 million for the three months ended June 30, 2015. Other income (expense), net primarily relates to unrealized foreign exchange gains and losses on cash and cash equivalents, intercompany loans and short-term deposits held in U.S. dollars.

Table of Contents

Comparison of Six Months Ended June 30, 2016 and 2015

The following table summarizes the results of our operations for the six months ended June 30, 2016 and 2015, together with the changes to those items:

	Six months ended June 30,			
(in thousands)	**2016**	**2015**	**Increase/decrease**	
Revenue	**$ 3,246**	**$ 5,511**	**$ (2,265)**	**(41)%**
Research and development expenses	(30,107)	(14,380)	(15,727)	109%
General and administrative expenses	(12,664)	(7,845)	(4,819)	61%
Total operating expenses	**(42,771)**	**(22,225)**	**(20,546)**	**92%**
Operating loss	**(39,525)**	**(16,714)**	**(22,811)**	**136%**
Interest income	550	298	252	85%
Other income, net	1,656	101	1,555	1540%
Loss before income taxes	**(37,319)**	**(16,315)**	**(21,004)**	**129%**
Income taxes	(352)	(198)	(154)	78%
Loss for the period	**$ (37,671)**	**$ (16,513)**	**$ (21,158)**	**128%**

Revenue

Revenue decreased from $5.5 million for the six months ended June 30, 2015 to $3.2 million for the six months ended June 30, 2016. We regularly review and monitor the progress of the GSK Collaboration and License Agreement to determine the period over which to recognize revenue. In the three months ended June 30, 2016, the estimate of the period over which the Company will deliver services under the GSK Collaboration and License Agreement was increased. This change in estimate resulted in a decrease in revenue of $2,785,000 in the three months ended June 30, 2016 and will result in a decrease in revenue of $672,000 and $1,344,000 in the six months ended December 31, 2016 and the year ended December 31, 2017, respectively, and an increase in revenue of $1,793,000, $1,187,000 and $1,642,000 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 in the full year to December 31, 2016 to be similar to the full year ended December 31, 2015 due to a full year s recognition of revenue relating to milestone payments achieved in 2015 and potential future development milestones.

Research and Development Expenses

Research and development expenses increased by 109% to $30.1 million for the six months ended June 30, 2016 from $14.4 million for the six months ended June 30, 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 $15.7 million for the six months ended June 30, 2016 compared to the same period in 2015 was primarily due to:

- a $11.0 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 75 to 195;

- a $5.2 million increase in subcontracted expenditures, including clinical trial expenses, CRO costs, and manufacturing expenses driven by increased recruitment in our clinical trials; and

- a $3.0 million payment to Universal Cells for in-process R&D;

partially offset by

- a $1.2 million decrease in share-based compensation expense due to a decrease in share-based compensation expense for nonemployee share options of $2.4 million offset by an increase in share-based compensation expense for employees of $0.9 million; and

- a $2.3 million increase in reimbursements in the form of grants and R&D expenditure credits and tax credits from the U.K. government.

Table of Contents

Our subcontracted costs for the six months ended June 30, 2016 were $9.9 million, of which $8.3 million related to our NY-ESO SPEAR T-cells and the remaining $1.6 million related to other projects, including our MAGE-A10 and AFP SPEAR T-cells.

In the year ended December 31, 2016 and into 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-A10 and AFP SPEAR T-cells) 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 expenses, as well as require higher expenditures on facilities, materials and equipment.

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 5% increase in the share price at June 30, 2016 would have increased the share-based compensation expense for the six months to June 30, 2016 by approximately $44,000.

General and Administrative Expenses

General and administrative expenses increased by 61% to $12.7 million for the six months ended June 30, 2016 from $7.8 million in the same period in 2015.

The increase of $4.8 million was due to:

- a $2.4 million of increased personnel costs, primarily due to the addition of key management and other professionals to support our growth;

- a $1.0 million of increased property costs; and

- a $1.9 million of increased other corporate costs, including costs in relation to our Nasdaq listing, consultants, additional audit costs and investor relations activity;

partially offset by:

- a $0.5 million of decreased share-based compensation expense;

We expect that our general and administrative expenses will continue to increase, primarily due to the costs of operating as a public company, such as additional legal, accounting, and corporate governance expenses, including expenses related to compliance with the Sarbanes-Oxley Act, directors and officers insurance premiums, and investor relations activity.

Other Income, net

Other income, net increased by 1540% to $1.7 million for the six months ended June 30, 2016 from $0.1 million for the six months ended June 30, 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.

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 credits. From inception through to June 30, 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;
- $63.7 million upfront fees and milestones under our GSK Collaboration and License Agreement;
- $2.4 million of income in the form of government grants from the United Kingdom; and
- $7.2 million in the form of research and development tax credits and receipts from the U.K. RDEC Scheme.

Table of Contents

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 June 30, 2016, we had cash and cash equivalents of $150.9 million, in addition to short-term deposits of $55.0 million. Our Total Liquidity Position as of June 30, 2016 was $205.9 million. We believe that our Total Liquidity Position as of June 30, 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 six months ended June 30, 2016 and 2015 (in thousands):

	Six months ended June 30,	
	2016	**2015**
Net cash used in operating activities	$ (35,172)	$ (13,545)
Net cash used in investing activities	(4,947)	(31,589)
Net cash provided by financing activities		175,989
Cash and cash equivalents at the end of the period	150,894	229,046

Operating Activities

Net cash used in operating activities increased by $21.6 million to $35.2 million for the six months ended June 30, 2016 from $13.5 million for the six months ended June 30, 2015. The increase in cash used in operations was primarily the result of an increase in research and development costs due to the ongoing advancement of our preclinical programs and clinical trials and an increase in general and administrative expenses.

Components of Cash Flows used in Operating Activities

Net cash used in operating activities of $35.2 million for the six months ended June 30, 2016 comprised a net loss of $37.7 million, net cash out flow of $1.6 million from changes in operating assets and liabilities and noncash items of $4.1 million. The non-cash items consisted primarily of depreciation expense on plant and equipment of $1.5 million, amortization expense of $0.1 million and equity-settled share-based compensation expense of $4.5 million, partially offset by unrealized foreign exchange gains of $2.0 million.

Net cash used in operating activities of $13.5 million for the six months ended June 30, 2015 comprised a net loss of $16.5 million and net cash outflow of $5.9 million from changes in operating assets and liabilities, partially offset by non-cash items of $8.9 million. The non-cash items

consisted primarily of unrealized foreign exchange losses of $2.2 million, depreciation expense on plant and equipment of $0.4 million and equity-settled share-based compensation expense of $6.3 million. The changes in operating assets and liabilities is predominantly due to an increase in receivables and other operating assets as a result of an increase in prepaid expenses.

Investing Activities

Net cash used in investing activities was $4.9 million and $31.6 million for the six months ended June 30, 2016 and 2015, respectively. Net cash used in investing activities for the six months ended June 30, 2016 comprised investment in short-term deposits of $42.8 million, purchases of property and equipment of $2.9 million and acquisition of intangibles of $0.9 million for the six months ended June 30, 2016, offset by cash inflows from the maturity of short-term deposits of $41.7 million. The purchases of property, plant and equipment for the six months ended June 30, 2016 related predominantly to the investment in our laboratory facilities in the United Kingdom. Net cash used in investing activities for the six months ended June 30, 2015 predominantly comprised of investments in short-term deposits of $28.6 million and purchases of property and equipment of $3.1 million.

Financing Activities

Net cash provided by financing activities was $nil and $176.0 million for the six months ended June 30, 2016 and 2015, respectively. Net cash provided by financing activities for the six months ended June 30, 2015 comprised proceeds from issuance of common stock upon the Company s initial public offering on NASDAQ of $176.0 million, net of issuance costs of $13.4 million.

Table of Contents

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 Statements of Financial Position. 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)	June 30, 2016	December 31, 2015
Cash and cash equivalents	$ 150,894	$ 194,263
Short-term deposits	55,031	54,620
Total Liquidity Position	$ **205,925**	$ **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 8 of the consolidated financial statements included in Item 1 of this Quarterly Report.

Contractual Obligations

The following table summarizes our contractual commitments and obligations as of June 30, 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)	$ 35,893	$ 1,986	$ 6,330	$ 7,337	$ 20,240
Purchase obligations(2)	68,525	43,713	18,012	1,800	5,000
Total contractual cash obligations	$ 104,418	$ 45,699	$ 24,342	$ 9,137	$ 25,240

(1) As of June 30, 2016, operating lease obligations consisted 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 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.

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. These 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 Scientific that provide the Company with a field-based exclusive license under certain intellectual property rights owned or controlled by ThermoFisher Scientific. 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 will be recognized as an intangible asset due to the technology now having alternative future use in research and development projects. The minimum annual royalties have been expensed as incurred.

Table of Contents

On June 16, 2016, we entered into a supply agreement with ThermoFisher Scientific 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.

Safe Harbor

See the section titled Information Regarding Forward-Looking Statements at the beginning of this Quarterly Report

Item 3. 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 June 30, 2016, we had cash and cash equivalents of $150.9 million and short-term deposits of $55.0 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 June 30, 2016, the last business day of the reporting period, was £1.00 to $1.3397. The exchange rate on July 31, 2016 was £1.00 to $1.3225. 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 $150.9 million and short-term deposits of $55.0 million as of June 30, 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 June 30, 2016. Trade receivables may arise in future periods in relation to the GSK Collaboration and License Agreement. The Company has been transacting with GSK for 25 months, during which time no impairment losses have been recognized. There are no amounts which are past due as of June 30, 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

Table of Contents

operations change in size or nature. We have no exposure to equity securities price risk as we hold no listed or other equity investments.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e)) under the Securities and Exchange Act of 1934, as amended (Exchange Act) as of June 30, 2016. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of June 30, 2016, 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.

Changes in Internal Control over Financial Reporting

This Quarterly Report does not include any report or update of management s assessment regarding internal control over financial reporting due to a transition period established by the SEC s rules for newly public companies.

Table of Contents

PART II - OTHER INFORMATION

Item 1. Legal Proceedings.

As of June 30, 2016, we were not a party to any material legal proceedings.

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 Quarterly 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 T-cell receptors, or TCRs, and are new and largely unproven. Our limited operating history, particularly in light of the rapidly evolving cancer immunotherapy field, may make it difficult to evaluate our current business and predict our future performance. Investment in biopharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate effect or an acceptable safety profile, gain regulatory approval and become commercially viable. Our inability to address these risks successfully would have a materially adverse effect on our business and prospects.

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

We have generated losses since our inception in 2008, during which time we have devoted substantially all of our resources to research and development efforts relating to our SPEAR T-cells, including engaging in activities to manufacture and supply our SPEAR T-cells for clinical trials in compliance with current good manufacturing practices, or cGMP, conducting clinical trials of our SPEAR T-cells, providing general and administrative support for these operations and protecting our intellectual property. We do not have any products approved for sale and have not generated any revenue from product supplies or royalties. Based on our current plans, we do not expect to generate product or royalty revenues unless and until we obtain marketing approval for, and commercialize, any of our SPEAR T-cells.

For the years ended December 31, 2015, 2014 and 2013, we incurred net losses of $39.5 million, $12.2 million and $9.6 million, respectively. As of June 30, 2016, we had accumulated losses of $127.6 million. We expect to continue incurring significant losses as we continue with our research and development programs and to incur general and administrative costs associated with our operations. The extent of funding required to develop our product candidates is difficult to estimate given the novel nature of our SPEAR T-cells and their un-proven route to market. Our profitability is dependent upon the successful development, approval, and commercialization of our SPEAR T-cells, successfully 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 research regarding, and preclinical and clinical development of, our SPEAR T-cells;

- obtaining regulatory approvals and marketing authorizations for our SPEAR T-cells for which we complete clinical trials;

Table of Contents

- 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 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 U.S. Food and Drug Administration, or 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 June 30, 2016, we had $150.9 million of cash and cash equivalents and $55.0 million of short-term deposits. We expect to use these funds to advance and accelerate the clinical development of our MAGE-A10 SPEAR T-cell, 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 may cause us to increase our spending significantly faster than we currently anticipate. We may require additional capital for the further development and commercialization of our SPEAR T-cells and may need to raise additional funds sooner if we choose to expand more rapidly than we presently anticipate.

We cannot be certain that additional funding will be available on acceptable terms, or at all. We have no committed source of additional capital and if we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of our SPEAR T-cells or other research and development initiatives. Our license and supply agreements may also be terminated if we are unable to meet the payment obligations under these agreements. We could be required to seek collaborators for our SPEAR T-cells at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available or relinquish or license on unfavorable terms our rights to our SPEAR T-cells in markets where we otherwise would seek to pursue development or commercialization ourselves. Any of the above events could significantly harm our business, prospects, financial condition and results of operations and cause the price of our American Depositary Shares, or ADSs, to decline.

Table of Contents

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 therapy 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-cell. Failure to submit further INDs 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 NY-ESO SPEAR T-cell or that amendments to existing protocols will not be required. In particular, The FDA has issued a partial clinical hold for the Company s proposed MRCLS trial with NY-ESO following review of the Investigational New Drug Application or IND submitted for the trial. The FDA notification is not based on safety concerns. In its correspondence the FDA requests additional Chemistry Manufacturing and Controls or CMC and clinical information prior to the trial commencement. The response to the FDA will result in an amendment to the ADP-0011-007 protocol for the trial; however, the requested modifications will not change the eligibility criteria, treatment plan, or overall conduct of the study. There can be no guarantee that the FDA will lift the partial clinical hold within the timescales anticipated by the Company or at all and the start of clinical trials in MRCLS will be delayed as a result.

We are currently in the process of developing our MAGE-A4 SPEAR T-cell. Our ability to submit an IND for our MAGE-A4 SPEAR T-cell will depend on the completion of preclinical development and the design of a protocol for use of that MAGE-A4 SPEAR T-cell which is acceptable to the FDA or any foreign equivalent regulatory authority. Progression of our MAGE-A4 SPEAR T-cell into clinical programs will depend on our ability to find clinical sites able and willing to carry out such clinical programs and recruitment of patients into resulting clinical programs.

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 abandoned 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 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 the same 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.

Table of Contents

Cross-reactivity or allo-reactivity (binding to peptides presented on other Human Leukocyte Antigen, or 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 and have identified such allo-reactivity for one rare allele in the case of our MAGE-A10 SPEAR T-cell. 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 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 the same 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 revenues from our SPEAR T-cells.

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

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

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

- Random gene insertion associated with retrovirus-mediated genetically modified products, known as insertional oncogenesis, could lead to lymphoma, leukemia or other cancers, or other aberrantly functioning cells. Insertional oncogenesis was seen in early gene therapy studies conducted outside of the United States in 2003. In

those studies, insertional oncogenesis resulted in patients developing leukemia following treatment with the relevant gene therapy, with one patient dying. As a result of the data from those studies, the FDA temporarily halted gene therapy trials in the United States. The previous trials involved modification of stem cells rather than T cells and utilized a murine gamma-retroviral vector rather than a lentiviral vector. We cannot guarantee that insertional oncogenesis resulting from administration of our SPEAR T-cells will not occur.

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

- There is the potential for delayed adverse events following exposure to gene therapy products due to persistent biological activity of the genetic material or other components of products used to carry the genetic material. In part for this reason, the FDA recommends a 15-year follow-up observation period for all surviving patients who receive treatment using gene therapies in clinical trials. We may need to adopt such an observation period for our therapeutic candidates; however, the FDA does not require that the tracking be complete prior to its review of the Biologics License Application, or BLA.

- Clinical trials using genetically modified cells conducted at institutions that receive funding for recombinant DNA research from the U.S. National Institutes of Health, or NIH, may be subject to review by the NIH Office of Biotechnology Activities Recombinant DNA Advisory Committee, or RAC. The RAC review process can delay or impede the initiation of a clinical trial. New guidelines were introduced by the NIH in April 2016 relating to the RAC

Table of Contents

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.

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.

In our NY-ESO SPEAR T-cell trials, adverse events that have been reported as of January 27, 2016 in more than 15% of patients and considered by investigators to be at least possibly related to our NY-ESO SPEAR T-cell include: rash, diarrhea, fever, fatigue, nausea, anemia, low white blood cell, neutrophil, lymphocyte and platelet counts, vomiting, abnormal liver chemistry tests, cough, and cytokine release syndrome. 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, diarrhea, low white blood cell, neutrophil, lymphocyte and platelet counts, graft versus host disease (GVHD), and dehydration. To date, GVHD, impacting the skin and gastrointestinal tract, has only been reported in our myeloma study involving autologous stem cell transplants (auto-SCT). Although GVHD is a known complication of auto-SCT, 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: grade 4 supraventricular tachycardia (SVT) in one patient and grade 4 respiratory failure with grade 4 febrile neutropenia in a second patient in our Company sponsored trials. This second patient recovered from respiratory failure and febrile neutropenia but later experienced fatal bone marrow failure. Since 27 January 2016 one case of pre-existing pericardial effusion have also been reported.

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

Table of Contents

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 has been modified to 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 (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. 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 enrollment of patients in our own sponsored clinical trials using our NY-ESO SPEAR T-cells have so far not been affected, although regulatory authorities in the United Kingdom and United States were informed of the event. When recruitment re-starts in the ATTACK 2 program, if at all, 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.

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. It is difficult to predict the investment in appropriate mechanisms and systems that will be required to ensure such fail-safe tracking and 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.

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

Table of Contents

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 NY-ESO SPEAR T-cell, MAGE-A10 SPEAR T-cell, AFP SPEAR T-cell and MAGE-A4 SPEAR T-cell.

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 NY-ESO, AFP and MAGE-A10 SPEAR T-cell programs and may significantly harm our business, prospects, financial condition and results of operations. If resources become limited or if we fail to identify suitable target peptides, TCRs or affinity-enhanced TCRs, our ability to submit INDs for further SPEAR T-cells may be delayed or never realized, which would have a materially adverse effect on our business.

We 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. 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.

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 currently, and expect to continue to, 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. 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.

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.

Table of Contents

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. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects, and other supply disruptions.

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.

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, and could cause our SPEAR T-cells to perform differently and 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 small 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, and timely availability of reagents or raw materials. 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 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 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

Table of Contents

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.

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 regulations and guidelines. 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. 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.

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 risk versus benefit profile in its intended patient population and for its intended use. The risk/benefit 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 has issued a partial clinical hold for the Company s MRCLS trial with NY-ESO following review of the IND submitted for the trial. There can be no guarantee that the FDA will lift the partial clinical hold within the timescales anticipated by the Company, or at all, and the start of clinical trials in MRCLS would be delayed as a result. 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.

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

Table of Contents

results from trials using our NY-ESO SPEAR T-cell. The patient s tumor markers were also falling during this time. To manage the cytokinerelease 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 cytokinerelease syndrome in future patients, which has been shown to control cytokinerelease syndrome likely without abrogating the anti-tumor response. As another example, in the European investigator-initiated clinical program in gastro-esophageal cancer there has been one patient death.

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.

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.

In our NY-ESO SPEAR T-cell trials, adverse events that have been reported as of January 27, 2016 in more than 15% of patients and considered by investigators to be at least possibly related to our NY-ESO SPEAR T-cell include: rash, diarrhea, fever, fatigue, nausea, anemia, low white blood cell, neutrophil, lymphocyte and platelet counts, vomiting, abnormal liver chemistry tests, cough, and cytokine release syndrome. 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, diarrhea, low white blood cell, neutrophil, lymphocyte and platelet counts, graft versus host disease (GVHD), and dehydration. To date, GVHD, impacting the skin and gastrointestinal tract, has only been reported in our myeloma study involving autologous stem cell transplants (auto-SCT). Although GVHD is a known complication of auto-SCT, 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: grade 4 supraventricular tachycardia (SVT) in one patient and grade 4 respiratory failure with grade 4 febrile neutropenia in a second patient in our Company sponsored trials. This second patient recovered from respiratory failure and febrile neutropenia but later experienced fatal bone marrow failure. Since January 27, 2016 one case of acute myelogenous leukemia thought more likely to be related to prior cancer therapies, and one case of pre-existing pericardial effusion have also been reported.

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. The protocol has been modified to 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 (Adoptive engineered T-cell Targeting to

Table of Contents

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. 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 enrollment of patients in our own sponsored clinical trials using our NY-ESO SPEAR T-cells have so far not been affected, although regulatory authorities in the United Kingdom and United States were informed of the event. When recruitment re-starts in this program, if at all, 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 will 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.

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

Table of Contents

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;
- 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 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.

Table of Contents

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 conduct small trials 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 has also requested that the Company file a Special Protocol Assessment, or SPA, in relation to the design of the pivotal study. Such requirements and requests for additional information will delay the start of the pivotal trial by at least 6 months and there is no guarantee that the FDA will not continue to require further or additional information ahead of approving any pivotal trial.

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, the Institutional Review Boards, or 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 registrational 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

Table of Contents

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;

- 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.

Table of Contents

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, 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.

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 for products that have obtained fast track designation. 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 current good clinical practices, or 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

Table of Contents

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 designation.

As part of its marketing authorization process, the European Medicines Agency, or 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.

Table of Contents

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 are 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.

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

Table of Contents

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. Even after an orphan drug is approved, the FDA can subsequently approve another drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care.

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

The production of our SPEAR T-cells is highly regulated and subject to constant inspection. The regulatory environment may also change from time to time. Any failure to comply with regulatory requirements, whether in the United States or in other countries in which our SPEAR T-cells are supplied, may result in investigation by regulatory authorities, suspension of regulatory authorizations and, as a result, suspension of clinical programs or ability to supply any of our SPEAR T-cells and potentially significant fines or other penalties being imposed in relation to any breach. Any failure may also harm our reputation and impact our ability going forward to obtain regulatory approvals for other SPEAR T-cells or require us to undertake additional organizational changes to minimize the risk of further breach.

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 U.K. 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.

Table of Contents

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

Table of Contents

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 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 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.

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.

Table of Contents

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
- 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

Table of Contents

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.

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.

Table of Contents

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

Third-party payors, whether domestic or foreign, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. In both the United States and certain foreign jurisdictions, there have been a number of legislative and regulatory changes to the health care system that could impact our ability to sell our products profitably. In particular, the recently enacted U.S. Healthcare Reform Act and its implementing regulations, among other things, revised the methodology by which rebates owed by manufacturers to the state and federal government for covered outpatient drugs and certain biologics, including our SPEAR T-cells, under the Medicaid Drug Rebate Program are calculated, increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid Drug Rebate Program, extended the Medicaid Drug Rebate program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations, subjected manufacturers to new annual fees and taxes for certain branded prescription drugs, and provided incentives to programs that increase the federal government s comparative effectiveness research.

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

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

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. We cannot predict the initiatives that may be adopted in the future. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

Table of Contents

- 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 four target programs in addition to the NY-ESO SPEAR T-cell program 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, GSK will assume full responsibility for our NY-ESO SPEAR T-cell program.

The current development plan 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 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 plan 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 to the development plan may impact the timing and extent of milestone payments made by GSK to us.

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 Limited, or 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.

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 commercialisation 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.

Table of Contents

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 Scientific Inc., or 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 5 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 which could impact the timing of supply of 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. An alternative source may be difficult to find or more expensive, which may delay timeframes either for clinical programs or ultimately commercial supply of our SPEAR T-cells. A requirement to identify an alternative source may also require a change in our regulatory application or additional regulatory testing to ensure that any alternative source is comparable and does not present any additional risk which could also result in our program experiencing delays and increased costs.

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

We rely on third parties to manufacture and supply our SPEAR T-cells, and 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 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

Table of Contents

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.

- 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.

- 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 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 are 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 certainly 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. Two of our directors, Ian Laing and Jonathan Knowles, our chairman, also serve on the board of Immunocore, of which Dr. Knowles is also chairman, and two of our greater than 5% ordinary shareholders, Nicholas Cross 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.

Table of Contents

We have a collaboration agreement with Immunocore regarding target identification and T-cell cloning which provides joint access to all currently identified peptide targets and use of Immunocore employees in conducting such identification. We have also implemented our own T-cell cloning and target identification capabilities. In addition, under the terms of the target collaboration agreement, Immunocore may terminate such agreement for any reason with six months notice. Under the terms of the target collaboration agreement, we share a database of identified targets with Immunocore which has resulted from our joint target identification efforts. 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. If Immunocore is acquired, restructured or otherwise subject to a change of control or otherwise becomes insolvent or lacks liquidity, we could become associated with a third party and the working relationship between the two companies could be compromised. In any of these circumstances, Immunocore may cease cooperating with us or refuse or be unable to provide planned resources.

In addition, many of the patents relating to our underlying core technology in TCR engineering, are co-owned by us and Immunocore pursuant to an 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 occupy a significant proportion of our corporate headquarters at Milton Park, Oxfordshire, United Kingdom, where we conduct most of our operations, including our in-house research and laboratory facilities, under subleases from Immunocore. These subleases contain rolling mutual break option provisions that could be effective from June 1, 2017 onwards, on service of six months prior notice. In September 2015, we entered into an agreement directly with the owner of Milton Park for the construction and lease of a new approximately 67,000 square foot laboratory and office building. We also have a transitional services agreement with Immunocore which provides for certain limited ongoing services between the two companies. If our relationship with Immunocore deteriorated, whether as a result of a change at that company or due to external events affecting Immunocore, then notwithstanding our additional building that is under construction, our relationship with Immunocore as our current landlord could be adversely affected.

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.

Table of Contents

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 (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 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. 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.

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.

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

Table of Contents

of our SPEAR T-cells and technology. Filing, prosecuting and defending patents throughout the world would be prohibitively expensive, so our policy is to patent technology in jurisdictions with significant commercial opportunities. However, patent protection may not be available for some of the SPEAR T-cells or technology we are developing. If we must spend significant time and money protecting or enforcing our patents, designing around patents held by others or licensing, potentially for large fees, patents or other proprietary rights held by others, our business results of operations and financial condition may be harmed. We may not develop additional proprietary products that are patentable.

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

In addition, patents have a limited lifespan. In most countries, including the United States, the standard expiration of a patent is 20 years from the effective filing date. Various extensions of patent term may be available in particular countries; however, in all circumstances the life of a patent, and the protection it affords, has a limited term. If we encounter delays in obtaining regulatory approvals, the period of time during which we could market a product under patent protection could be reduced. We expect to seek extensions of patent terms where these are available in any countries where we are prosecuting patents. Such possible extensions include those permitted under the Drug Price Competition and Patent Term Restoration Act of 1984 in the United States, which permits a patent term extension of up to five years to cover an FDA-approved product. The actual length of the extension will depend on the amount of patent term lost while the product was in clinical trials. However, the applicable authorities, including the FDA in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may be able to take advantage of our investment in development and clinical trials by referencing our clinical and non-clinical data, and then may be able to launch their product earlier than might otherwise be the case.

Any loss of, or failure to obtain, patent protection could have a material adverse impact on our business. 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 Limited 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

Table of Contents

which we may not be able to obtain a license on commercially acceptable terms or at all. In addition, provision of samples and our confidential information to such parties could facilitate or assist such parties in development of competing products.

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

There is a substantial amount of litigation, both within and outside the United States, involving patents and other intellectual property rights in the pharmaceutical industry. We may, from time to time, be notified of claims that we are infringing upon patents, trademarks, copyrights, or other intellectual property rights owned by third parties, and we cannot provide assurances that other companies will not, in the future, pursue such infringement claims against us or any third-party proprietary technologies we have licensed. If we were found to infringe upon a patent or other intellectual property right, or if we failed to obtain or renew a license under a patent or other intellectual property right from a third party, or if a third party that we were licensing technologies from was found to infringe upon a patent or other intellectual property rights of another third party, we may be required to pay damages, including triple damages if the infringement is found to be willful, suspend the manufacture of certain SPEAR T-cells or reengineer or rebrand our SPEAR T-cells, if feasible, or we may be unable to enter certain new product markets. Any such claims could also be expensive and time- consuming to defend and divert management s attention and resources. Our competitive position could suffer as a result. In addition, if we have declined to enter into a valid non-disclosure or assignment agreement for any reason, we may not own an invention or intellectual property rights and may not be adequately protected. Although we have reviewed certain third-party patents and patent filings that we believe may be relevant to our SPEAR T-cells, we have not conducted a full freedom-to-operate search or analysis for such SPEAR T-cells, and we may not be aware of patents or pending or future patent applications that, if issued, would block us from commercializing our SPEAR T-cells. Thus, we cannot guarantee that we can successfully commercialize SPEAR T-cells in a way that will not infringe any third party s intellectual property.

Licenses may be required from third parties in relation to any SPEAR T-cells developed or commercialized by us.

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

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 intend to file further observations in relation to those claims. 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.

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

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

Where we license patent rights or technology from a third-party, control of such third party patent rights may vest in the licensor, particularly where the license is non-exclusive or field restricted. This may mean that we are not able to control or affect the scope of the claims of any relevant third-party patent or have control over any enforcement of such a patent. Where a licensor brings an enforcement action, this could negatively impact our business or result in additional restrictions being imposed on the license we have and the scope of such license, or result in invalidation or limitation of the scope of the licensed patent. In addition, should we

Table of Contents

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.

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.

Table of Contents

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. Gwendolyn Binder-Scholl, our Chief Technology Officer, Rafael Amado, our Chief Medical 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 mutual six months notice periods in the case of Mr. Noble and Dr. Tayton-Martin; mutual three months notice periods in the case of senior managers and mutual one month notice periods for all other employees. In the United States, these employment agreements provide for at-will employment except that our employment agreement with Dr. Binder-Scholl provides for a mutual one month notice period, and our employment agreements with Dr. Rafael Amado, our Chief Medical Officer, and Adrian Rawcliffe, our Chief Financial Officer, provide that Dr. Amado 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. Binder-Scholl, Dr. Amado 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 June 30, 2016, we had 263 full-time equivalent employees. As our development and commercialization plans and strategies develop, we must add a significant number of additional managerial, operational, sales, marketing, financial, and other personnel. Future growth will impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining, and motivating additional employees;

- managing our internal development efforts effectively, including the clinical and FDA review process for our SPEAR T-cells, while complying with our contractual obligations to contractors and other third parties; and

- improving our operational, financial and management controls, reporting systems, and procedures.

Our future financial performance and our ability to commercialize our SPEAR T-cells will depend, in part, on our ability to effectively manage any future growth, and our management may also have to divert a disproportionate amount of its attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities.

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

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

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.

Table of Contents

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, Bellicum Pharmaceuticals Inc and Takara Bio, Inc. Kite Pharma has a murine derived TCR product in pre-clinical development targeting NY-ESO-1. Should Kite Pharma 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 referendum was advisory, and 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.

Table of Contents

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 currently expected to be treated as a PFIC for U.S. federal income tax purposes for the U.S. taxable year ended

December 31, 2016.

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. For more information related to classification as a PFIC, see Item 10E Taxation U.S. Federal Income Taxation Passive Foreign Investment Company Considerations in our Annual Report on Form 20-F filed on October 13, 2015.

Table of Contents

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

The price of our ADSs may be volatile.

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

- the commencement, enrollment or results of our planned clinical trials;
- the loss of any of our key scientific or management personnel;
- announcements of the failure to obtain regulatory approvals or receipt of a complete response letter from the FDA;
- announcements of undesirable restricted labeling indications or patient populations, or changes or delays in regulatory review processes;
- announcements of therapeutic innovations or new products by us or our competitors;
- adverse actions taken by regulatory agencies with respect to our clinical trials, manufacturing supply chain or sales and marketing activities;
- changes or developments in laws or regulations applicable to our SPEAR T-cells;
- any adverse changes to our relationship with licensors, manufacturers or suppliers;
- the failure of our testing and clinical trials;

- unanticipated safety concerns;
- the failure to retain our existing, or obtain new, collaboration partners;
- announcements concerning our competitors or the pharmaceutical industry in general;
- the achievement of expected product sales and profitability;
- the failure to obtain reimbursements for our SPEAR T-cells, if approved for marketing, or price reductions;
- 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.

Table of Contents

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 June 30, 2016, an aggregate of 14,330,537 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.

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

We have determined that we do not qualify as a foreign private issuer as of the last business day of our second fiscal quarter and as a result we would be required to use the forms and follow the reporting requirements for a U.S. domestic issuer beginning on the first day of our next fiscal year which is 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 and expect to continue to incur significant legal, accounting and other expenses as we adjust to reporting in US dollars and under U.S. GAAP and follow the form and substantive accounting and disclosure requirements applicable to U.S. domestic issuers. As a result, we believe that our decision to report under the regime applicable to U.S. domestic issuers earlier than required will further increase our legal, accounting and other related expenses.

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; a requirement of only two years of audited financial statements in addition to any required interim financial statements and correspondingly reduced disclosure in management s discussion and analysis of financial condition and results of operations; 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.

Table of Contents

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.

We expect our first Section 404(a) assessment will take 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, we 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.

Table of Contents

U.S. investors may have difficulty enforcing civil liabilities against us, our directors, members of senior management and the experts named in this quarterly report.

Some of our directors, members of senior management and the experts named in this Quarterly Report are non-residents of the United States, and all or a substantial portion of the assets of such persons are located outside the United States. As a result, it may not be possible to serve process on such persons or us in the United States or to enforce judgments obtained in U.S. courts against them or us based on civil liability provisions of the securities laws of the United States. Mayer Brown International LLP, our English counsel, has advised us that there is doubt as to whether English courts would enforce certain civil liabilities under U.S. securities laws in original actions or judgments of U.S. courts based upon these civil liability provisions. In addition, awards of punitive damages in actions brought in the United States or elsewhere may be unenforceable in the United Kingdom. An award for monetary damages under the U.S. securities laws would be considered punitive if it does not seek to compensate the claimant for loss or damage suffered and is intended to punish the defendant. The enforceability of any judgment in the United Kingdom will depend on the particular facts of the case as well as the laws and treaties in effect at the time. The United States and the United Kingdom do not currently have a treaty providing for recognition and enforcement of judgments (other than arbitration awards) in civil and commercial matters.

The rights of our shareholders may differ from the rights typically offered to shareholders of a U.S. corporation.

We are incorporated under English law. The rights of holders of 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. See Item 10 B Description of Share Capital Differences in Corporate Law in our Annual Report on Form 20-F filed on October 13, 2015 for a description of the principal differences between the provisions of the Companies Act 2006 applicable to us and, for example, the Delaware General Corporation Law relating to shareholders rights and protections.

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, among other things, to an offer for 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 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 determines 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 2. Unregistered Sales of Equity Securities and Use of Proceeds.

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Table of Contents

Item 6. Exhibits.

The following exhibits are either provided with this Quarterly Report on Form 10-Q 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 *	Commercial Development and Supply Agreement, dated June 16, 2016, between Life Technologies Corporation and Adaptimmune Limited (incorporated by reference to Exhibit 10.1 to our Form 8-K filed with the SEC on June 21, 2016).
10.2*	Letter of Appointment, dated May 23, 2016, between Adaptimmune Therapeutics plc and Barbara Duncan (incorporated by reference to Exhibit 99.1 to our Form 8-K filed with the SEC on June 23, 2016).
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.
101.LAB**	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document.

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* Previously filed.

** Filed herewith.

Confidential treatment previously requested and granted as to portions of the exhibit. Confidential materials omitted and filed separately with the Securities and Exchange Commission.

Table of Contents

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

ADAPTIMMUNE THERAPEUTICS PLC

August 8, 2016	/s/ James Noble James Noble *Chief Executive Officer*
August 8, 2016	/s/ Adrian Rawcliffe Adrian Rawcliffe *Chief Financial Officer*