Filed Pursuant to Rule 424(b)(4)
Registration No. 333-255158

6,500,000 American Depositary Shares

Representing 6,500,000 Ordinary Shares

We are offering 6,500,000 American Depositary Shares, or ADSs, each representing one ordinary share, nominal value £0.000025 per share, of Vaccitech plc. This is the initial public offering of the ADSs, and no public market currently exists for the ADSs or ordinary shares. All of the ADSs are being sold by us. The initial public offering price is $17.00 per ADS. We have been approved to have the ADSs listed on The Nasdaq Global Market under the symbol "VACC."

We are an "emerging growth company" as defined in Section 2(a) of the Securities Act of 1933, as amended (the "Securities Act"), and have elected to comply with certain reduced public company reporting requirements. See "Prospectus Summary—Implications of Being an Emerging Growth Company."

Investing in the ADSs involves a high degree of risk. See the "Risk Factors" section beginning on page 16 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	PER ADS	TOTAL
Initial public offering price	*$17.00*	*$ 110,500,000*
Underwriting commissions[(1)]	*$ 1.19*	*$ 7,735,000*
Proceeds to Vaccitech plc, before expenses	*$15.81*	*$ 102,765,000*

(1) ***We have agreed to reimburse the underwriters for certain expenses. See "Underwriting" for additional information regarding underwriting compensation.***

Delivery of the ADSs is expected to be made on or about May 4, 2021. We have granted the underwriters an option for a period of 30 days from the date of this prospectus to purchase up to 975,000 additional ADSs. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be $8,895,250, and the total proceeds to us, before expenses, will be $118,179,750.

Morgan Stanley ***Jefferies*** ***Barclays*** ***William Blair***

H.C. Wainwright & Co.

Prospectus dated April 29, 2021

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Through and including May 24, 2021 (25 days after the date of this prospectus), all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This delivery is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

Neither we nor any of the underwriters have authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any amendment or supplement to this prospectus and any related free writing prospectus prepared by or on behalf of us or to which we have referred you. We and the underwriters take no responsibility for, and can provide no assurances as to the reliability of, any other information that others may give you. We are offering to sell, and seeking offers to buy, ADSs only in jurisdictions where offers and sales are permitted. The information contained in this prospectus or in any applicable free writing prospectus related thereto is current only as of its date, regardless of its time of delivery or any sale of ADSs. Our business, financial condition, results of operations and future prospects may have changed since that date.

For investors outside the United States: Neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the ADSs and the distribution of this prospectus outside of the United States.

ABOUT THIS PROSPECTUS

In connection with our corporate reorganization, on March 31, 2021, all shareholders of Vaccitech (UK) Limited (formerly Vaccitech Limited) exchanged each of the shares held by them for newly issued shares of the same class and with the same shareholder rights of Vaccitech Rx Limited. As a result, Vaccitech (UK) Limited (formerly Vaccitech Limited) became a wholly owned subsidiary of Vaccitech Rx Limited. Subsequently, the legal status of Vaccitech Rx Limited under the laws of England and Wales was altered from a private limited company by re-registering as a public limited company and our name was changed from Vaccitech Rx Limited to Vaccitech plc. Our audited consolidated financial statements for the fiscal years ended December 31, 2019 and 2020 pertained to Vaccitech (UK) Limited (formerly Vaccitech Limited). Because Vaccitech plc was not in existence for that period and its operations to date have been limited to the creation of its capital structure and the operations of Vaccitech (UK) Limited (formerly Vaccitech Limited), the financial statements of Vaccitech (UK) Limited (formerly Vaccitech Limited), included elsewhere in this prospectus, will be substantially the same as those of Vaccitech plc. Please see "Corporate Reorganization" for more information.

Unless otherwise indicated or the context otherwise requires, all references in this prospectus to the terms "Vaccitech," "the company," "we," "us" and "our" refer to (i) Vaccitech (UK) Limited (formerly Vaccitech Limited) and its subsidiaries for the period prior to the completion of our corporate reorganization, (ii) Vaccitech Rx Limited and its subsidiaries following the completion of our corporate reorganization, but prior to the re-registration of Vaccitech Rx Limited as a public limited company and the change of its name to Vaccitech plc and (iii) Vaccitech plc and its subsidiaries following completion of the re-registration of Vaccitech Rx Limited as a public limited company.

We own various trademark registrations and applications, and unregistered trademarks, including our name and our corporate logo. All other trade names, trademarks and service marks of other companies appearing in this prospectus are the property of their respective holders. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend to use or display other companies' trademarks and trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

Except for the historical consolidated financial statements of Vaccitech (UK) Limited included herein, and except where the context otherwise requires or where otherwise indicated, all share and per share amounts in this registration statement reflect and assume (i) our corporate reorganization and (ii) subsequent to our corporate reorganization, a 309-for-one forward split of our ordinary and preferred shares, which will become effective immediately prior to the closing of this offering.

PRESENTATION OF FINANCIAL INFORMATION

We maintain our books and records primarily in pounds sterling, our results are subsequently represented in U.S. dollars and we prepare our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America, or U.S. GAAP. Unless otherwise indicated, certain pounds sterling amounts contained in this prospectus for the period ended December 31, 2019 have been translated into U.S. dollars at the rate of $1.3269 to £1.00, which was the noon buying rate of the Federal Reserve Bank of New York on December 31, 2019, the last business day of the year ended December 31, 2019 and certain pounds sterling amounts contained in this prospectus for the year ended December 31, 2020 have been translated into U.S. dollars at the rate of $1.3662 to £1.00, which was the noon buying rate of the Federal Reserve Bank of New York on December 31, 2020, the last business day of the year ended December 31, 2020.

We have historically conducted our business through Vaccitech (UK) Limited (formerly Vaccitech Limited), and therefore our historical consolidated financial statements present the consolidated results of operations of Vaccitech (UK) Limited (formerly Vaccitech Limited) and its subsidiaries, Vaccitech Australia Pty Limited, Vaccitech Oncology Limited, Vaccitech USA, Inc. and Vaccitech Italia S.R.L. Following the completion of this offering, and after the consummation of the transactions described under the section "Corporate Reorganization," our consolidated financial results will represent the consolidated results of operations for Vaccitech plc and its subsidiaries.

Our board of directors approved the change of our fiscal year end from January 31 to December 31, beginning with the fiscal year ended December 31, 2019. References to "year ended December 31, 2019" relate to the period from February 1, 2019 to December 31, 2019. References to "year ended December 31, 2020" relate to the period from January 1, 2020 to December 31, 2020. As a result, year ended December 31, 2019 is an eleven-month transition period, whereas year ended December 31, 2020 is, and our future fiscal years will be, twelve-month periods. Comparability of year ended December 31, 2019 to other fiscal years is therefore limited.

PROSPECTUS SUMMARY

The following summary highlights information contained elsewhere in this prospectus and does not contain all of the information you should consider before investing in the ADSs. You should carefully read the entire prospectus, and the registration statement of which this prospectus is a part, including "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our consolidated financial statements and the related notes, in each case included in this prospectus, before making an investment decision.

Overview

We are a clinical-stage biopharmaceutical company engaged in the discovery and development of novel immunotherapeutics and vaccines for the treatment and prevention of infectious diseases and cancer. We use our proprietary platform to develop product candidates that stimulate powerful, targeted immune responses against pathogens and tumor cells. We design our product candidates to stimulate immune responses that are robust, highly specific, and are differentiated by the magnitude of the T cell populations induced, which exhibit critical functionality and durability. We are focused on applying our platform capabilities and the expertise of our team to address significant unmet medical needs in two settings—the therapeutic setting, for the treatment of chronic infectious diseases and cancer, and the prophylactic setting, for the prevention of infectious diseases, based on our platform's ability to respond rapidly to epidemic and pandemic threats.

We have a broad pipeline of both clinical and preclinical stage therapeutic and prophylactic programs. Our current therapeutic programs include VTP-300 for the treatment of chronic hepatitis B infection, or CHB, VTP-200 for the treatment of human papilloma virus infection, or HPV, VTP-850 for the treatment of prostate cancer and VTP-600 for the treatment of non-small cell lung cancer, or NSCLC. Our current prophylactic programs include VTP-400 for the prevention of herpes zoster, or shingles, and VTP-500 for the prevention of Middle East respiratory syndrome, or MERS. In addition, we co-invented a COVID-19 vaccine candidate with the University of Oxford, which we assigned to Oxford University Innovation, or OUI, to facilitate the license of those rights by OUI to AstraZeneca UK Limited, or AstraZeneca. This vaccine is now known as COVID-19 Vaccine AstraZeneca, which we refer to as AZD1222. AstraZeneca has exclusive worldwide rights to develop and commercialize AZD1222.

Scientists have successfully harnessed the immune system to prevent and treat diseases using a wide range of approaches over hundreds of years. In the prophylactic setting, vaccines aim to create lasting protective immunity, while in the therapeutic setting, immunotherapeutics aim to enhance the body's immune response to pathogens and infected or cancerous cells to enable a cure. A key element of the immune system is specialized white blood cells, or lymphocytes. B cells and T cells are the two main types of lymphocytes. B cells are responsible for generating antibodies, while T cells assist in the clearance of acute and chronic infections, such as hepatitis B virus and HPV, and are involved in killing cells that become cancerous. Over the past three decades, hundreds of vaccine and immunotherapy trials have examined a wide variety of approaches that induce the production of cytotoxic, or CD8+, T cells against infected and cancerous cells. These trials have demonstrated that different vaccine and immunotherapy approaches induce different breadths and magnitudes of immune response. While there have been many successes, certain diseases requiring a robust CD8+ T cell response have remained resistant to existing approaches.

Infected or cancerous cells are recognized through pathogen-specific molecules, or antigens, which are foreign to the human body. Our platform is designed to stimulate the production of very high levels of T cells, in addition to antibodies, against such antigens. Our approach for the treatment or prevention of a disease with a known target antigen is to prime the immune system with an initial injection of a proprietary adenovirus vector encoded with the target antigen. In the therapeutic setting, this is typically followed by a boost with a second, different viral vector encoded with the same antigen. This is known as a heterologous prime-boost approach. We employ unique antigen design strategies to optimize immune presentation and maximize the desired type of antibody and/or T cell immunogenicity that we are seeking to induce. This heterologous prime-boost approach has been shown to provide the highest magnitude and durable immunogenic CD8+ T cell response induced in humans to date. Our platform is further differentiated by its flexibility, applicability across diseases in both the therapeutic and prophylactic setting, favorable tolerability profile and proven rapid production on a large scale.

The chart below provides key information about our programs.

Our Platform

Our proprietary platform comprises several components that, when combined, allow us to develop product candidates designed to induce high and durable levels of antigen-specific T cells and B cells, to prevent and treat infectious diseases and cancer. The key elements of our platform include our proprietary modified simian adenoviral vectors, known as ChAdOx1 and ChAdOx2, as well as the modified vaccinia Ankara, or MVA, boost vector, both with an inability to replicate in humans. We believe both ChAdOx1 and MVA have favorable tolerability profiles, based on extensive clinical testing performed by us and others. MVA has also been administered in commercial use and in multiple clinical trials to over 130,000 people without significant safety issues, including 120,000 of whom received it as a next-generation smallpox vaccine in Germany. The combination of a ChAdOx prime with MVA boost has consistently generated significantly higher magnitudes of CD8+ T cells as compared to other technologies and approaches. We have also developed proprietary enhancements for both our ChAdOx and MVA vectors to increase T cell induction and response, and we employ unique antigen design strategies to optimize *in vivo* immune presentation and maximize the desired type of immunogenicity while maintaining an optimal tolerability profile. In addition, our understanding and expertise in manufacturing optimization has allowed us to manipulate adenovirus genomes to enable rapid generation of recombinant adenoviral vectors at Good Manufacturing Practice, or GMP, standards at exceptional speed and significant scale.

Our Therapeutic Product Candidates

We have several therapeutic programs in our pipeline focusing on infectious diseases and oncology. We designed VTP-300 to enable a functional cure for patients with CHB, a life-threatening disease that affects an estimated 257 million people worldwide. VTP-300 is a novel immunotherapy candidate that we intend to administer in combination with a low-dose anti-PD-1 antibody in order to overcome the immune suppression and T cell exhaustion that results from CHB. We are currently conducting a Phase 1 safety and immunogenicity clinical trial in healthy volunteers and CHB patients. Safety and immunogenicity data from both healthy volunteers and CHB patients is expected to read out in the third quarter of 2021. We are also conducting a Phase 1/2a clinical trial in CHB patients, for which we expect to receive interim data in the fourth quarter of 2021. We are developing VTP-200 as a potential curative treatment for persistent high-risk HPV infection and associated pre-cancerous lesions. An estimated 291 million women worldwide are carriers of HPV DNA, which can progress to pre-cancerous cervical lesions if untreated. We initiated our Phase 1/2a clinical trial of VTP-200 in March 2021 in Europe and the UK with interim efficacy results expected in the first quarter of 2022.

We are developing our prostate cancer immunotherapy candidate, VTP-850, for castration resistant and metastatic prostate cancer. Prostate cancer is the fifth leading cause of cancer-related death in men

worldwide. VTP-850 builds on the positive data from a Phase 1/2a clinical trial of VTP-800, our first-generation product candidate which encodes 5T4, an antigen expressed by most prostate cancers. VTP-800 has been administered to patients with prostate cancer in two clinical trials sponsored by the University of Oxford. We are developing VTP-850 with the goal of inducing a broader immune response by targeting 5T4 plus additional important antigens expressed by prostate cancer cells. We plan to start a Phase 1/2 clinical trial of VTP-850 in the first quarter of 2022. In addition, we are developing VTP-600, our immunotherapy candidate designed to encode the tumor-associated antigens MAGE-A3 and NY-ESO-1 initially for the treatment of NSCLC in combination with standard of care treatment, chemotherapy and pembroluzimab. Lung cancer is the most common cancer diagnosis and cause of cancer death worldwide, with 85% of cases classified as NSCLC. About 25% to 30% of NSCLC patients have squamous histology and the remainder have non-squamous histology. MAGE-A3 is expressed in 48% of squamous NSCLC and 24% of non-squamous NSCLC. NY-ESO-1 has been shown to have an expression rate of 27% across all NSCLC types. We plan to initiate a first-in-human Phase 1/2a trial in the second quarter of 2021, in collaboration with and sponsored by Cancer Research UK.

Our Prophylactic Product Candidates

VTP-400 is our vaccine candidate in development to prevent shingles in adults aged 50 years and older. There are an estimated 140 million cases globally of shingles each year, which can result in significant post-infection pain, known as post-herpetic neuralgia, or even death. We plan to initiate a Phase 1 clinical trial of VTP-400 for shingles prevention in the UK in the first half of 2022. Our regional partner in China and Southeast Asia, CanSino, plans to initiate a Phase 1 clinical trial of VTP-400 for shingles prevention in China in the first half of 2022. We plan to seek non-dilutive funding to initiate a parallel Phase 1 clinical trial to be conducted in the UK.

We believe our platform also positions us to develop vaccines very rapidly against epidemic and pandemic threats, as demonstrated by the ongoing clinical trials of AZD1222 for the prevention of COVID-19, which entered the clinic within three months from initial antigen design. As of April 26, 2021, more than 145 million confirmed cases of COVID-19 have been reported worldwide. As of April 26, 2021, AstraZeneca has announced that AZD1222 has been granted a conditional marketing authorization or emergency use authorization in more than 70 countries, including the United Kingdom, India and Brazil, and the Emergency Use Listing granted by the WHO in February 2021 will expand access to AZD1222 in up to 142 countries through the WHO's COVAX initiative.

In March and April 2021, several countries announced that they were either temporarily suspending the use of a particular batch of AZD1222 or the use of AZD1222 altogether following reports of thromboembolic events in people at varying times following vaccination. On April 7, 2021, the European Medicine Agency, or EMA, and the UK's Medicines and Healthcare products Regulatory Agency, or MHRA, issued updates confirming that the overall benefit-risk profile of AZD1222 remains positive, but requesting that unusual blood clots with low blood platelets be listed as very rare side effects of AZD1222. Several countries have announced their intentions to resume use of AZD1222, although some countries have limited its use in certain age groups. The EMA, MHRA, and WHO, along with individual EU Member States, will continue to assess available safety data as AZD1222 continues to be administered, and these recommendations may change.

In addition, on March 22, 2021, AstraZeneca announced high-level results from an interim analysis of the Phase 3 trial of AZD1222 in the United States using a cut-off date of February 17, 2021, which indicated 76% efficacy at preventing symptomatic COVID-19. However, published studies have indicated that AZD1222 has a lower efficacy against certain variants of COVID-19, including the B.1.351 variant of COVID-19, which was first observed predominantly in South Africa, and the B117 variant, which was first observed in the United Kingdom in late 2020, but have since spread to other geographies. As a result, the use of the AZD1222 vaccine has been stopped in South Africa.

We are developing VTP-500 as a vaccine candidate to prevent infection and subsequent disease caused by the MERS coronavirus. Although human-to-human transmission appears to be rare, MERS coronavirus has the potential to cause epidemics, infecting hundreds to thousands of people and causing significant

morbidity and mortality in 34% of the infected individuals. Clinical efficacy trials to prevent MERS are challenging to execute due to the sporadic nature of infection, however we have demonstrated positive Phase 1 safety and immunogenicity data. A second Phase 1 clinical trial is ongoing in Saudi Arabia with topline data expected in the second quarter of 2021.

Our Strategy

We aim to discover, develop and commercialize novel immunotherapeutics and vaccines. We pursue this by using our proprietary platform and deep understanding of vaccinology, immunology and oncology. Key elements of our strategy include working to:

- **Capitalize on our proprietary platform to develop novel immunotherapeutic and vaccine product candidates that address major unmet medical needs in infectious diseases and cancer.** We plan to apply the experience we and our collaborators have gained in developing our most advanced programs to drive the efficient development of our earlier stage product candidates.
- **Advance our infectious disease pipeline programs, including our lead HBV and HPV programs, through clinical development and regulatory approval.** Our platform stimulates powerful T cell and antibody-based immune responses that we use to target challenging infectious disease pathogens, in both the therapeutic and prophylactic settings.
- **Progress our lead oncology therapeutic programs in prostate cancer and lung cancer through clinical development and toward potential regulatory approval in combination with current standards of care**. Our platform is capable of stimulating robust CD8+ T cell-driven immune responses to target tumor cells. On the basis of the clinical data we generate with these product candidates in our initial indications, we may seek to expand development into additional indications and treatment settings.
- **Deploy our platform in order to respond rapidly to major new emerging diseases.** Using our platform, we have the capability to develop powerful targeted vaccine candidates rapidly against epidemic and pandemic threats. It has been demonstrated that these vaccine candidates can be advanced through preclinical studies and clinical development rapidly and we believe we will be capable of production at sufficient scale, costs and supply chain logistical requirements to meet high global demand.
- **Invest in our platform in order to enable next-generation product candidates.** We plan to continue investing in our platform in order to develop next-generation technologies, including novel viral vectors, which we believe will keep us at the cutting edge of the immunotherapy and vaccine fields. We also intend to evaluate novel technologies that have the potential to augment the immune response profile of our current product candidates.
- **Expand on the value of our product candidates through partnerships.** We currently intend to maintain full ownership of our HBV, HPV and prostate cancer programs through generation of proof-of-concept data. Once we have established proof-of-concept, we may evaluate potential collaborations or partnerships that could, for example, enhance the value of these programs for our shareholders through the expansion of the development plans and the ultimate commercial reach for these programs. Where appropriate in the future, however, we will retain control through to approval and launch.
- **Leverage the expertise of our scientific founders, key advisors and employees to remain at the forefront of immunotherapy and vaccinology.** We will use the collective expertise of this group, combined with the capabilities of our platform, to develop novel technology platforms and product candidates in order to maintain a leading role in the treatment and prevention of infectious diseases and cancer.

Our History and Team

We were founded in May 2016 as a spin-out from a leading institution in the United Kingdom, the Jenner Institute at the University of Oxford, with the aim of developing and commercializing innovative immunotherapeutics and vaccines to treat and prevent major infectious diseases and cancer. Our scientific

founders, Professor Adrian Hill and Professor Sarah Gilbert, are leaders in the fields of infectious diseases, immunology, vaccine development and viral vectors.

We have assembled a management team with extensive expertise in building and operating biopharmaceutical organizations that have discovered, developed and delivered innovative medicines to patients. Our management team has broad experience and successful track records in biopharmaceutical research, clinical development, regulatory affairs, manufacturing and commercialization, as well as in business, operations, and finance. Our board of directors has extensive expertise in the fields of science, business and finance. To date, we have raised $216 million from leading investors, including Future Planet Capital, Gilead Sciences, GV, Korean Investment Partners, Liontrust Asset Management, M&G Investment Management, Oxford Sciences Innovation, Sequoia Capital China and Tencent.

Recent Developments

Series B Financing

In March 2021, we issued 8,947,713 Series B preferred shares, or the Series B Shares, at a subscription price of $14.00 per share for a total of $125.2 million. At the time of completion of the Series B financing, our previously issued convertible loan notes, or the 2020 Notes, converted into Series B Shares for cash consideration of approximately $43 million.

Corporate Information

Vaccitech (UK) Limited (formerly Vaccitech Limited) was incorporated under the laws of England and Wales in January 2016 as a private limited company. As a result of our corporate reorganization described below, Vaccitech plc is the issuer of the securities described in this prospectus. Vaccitech plc is the ultimate parent company of five subsidiaries: Vaccitech (UK) Limited (formerly Vaccitech Limited), Vaccitech Australia Pty Limited, Vaccitech Oncology Limited, Vaccitech USA, Inc. and Vaccitech Italia S.R.L. Our principal executive office is located at The Schrödinger Building, Heatley Road, The Oxford Science Park, Oxford OX4 4GE and our telephone number is +44 (0) 1865 818 808. Our website address is www.vaccitech.co.uk. We have included our website address in this prospectus solely as an inactive textual reference. The information contained on or accessible through our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase the ADSs.

Corporate Reorganization

Pursuant to the terms of a corporate reorganization effected prior to the completion of this offering, all shareholders of Vaccitech (UK) Limited (formerly Vaccitech Limited) exchanged each of the shares held by them for one of the same class of newly issued shares of Vaccitech Rx Limited and, as a result, Vaccitech (UK) Limited (formerly Vaccitech Limited) became a wholly owned subsidiary of Vaccitech Rx Limited. Subsequently, we re-registered Vaccitech Rx Limited as a public limited company and renamed it as Vaccitech plc. Please see “Corporate Reorganization” for more information.

Risks Associated With Our Business

Our ability to implement our business strategy is subject to numerous risks that you should be aware of before making an investment decision. These risks are described more fully in the section titled “Risk Factors” in this prospectus. These risks include, among others:

- we are a clinical-stage biopharmaceutical company with no approved products and a limited operating history. We have incurred significant losses since inception. We expect to incur losses for at least the next several years and may never achieve or maintain profitability;
- any payments we receive in connection with certain milestones or net sales under the AstraZeneca License Agreement may differ materially from those described in this prospectus, and there can be no assurance that we will receive any such payments at all;
- we have not generated any material revenue from our product candidates;

- even if we consummate this offering, we will need substantial additional funding. If we are unable to raise capital when needed, we would be compelled to delay, reduce or eliminate our product development programs or commercialization efforts;
- if we are unable to advance our current or future product candidates into and through clinical trials, obtain marketing approval and ultimately commercialize any product candidates we develop, or experience significant delays in doing so, our business will be materially harmed;
- clinical development involves a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials may not be predictive of future clinical trial results. We may encounter substantial delays in clinical trials, or may not be able to conduct or complete clinical trials on the expected timelines, if at all. If our preclinical and clinical studies are not sufficient to support marketing authorization of any of our product candidates, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development of such product candidate;
- our product candidates are based on a novel approach to the treatment of cancer, which makes it difficult to predict the time and cost of product candidate development;
- the market opportunities for certain of our oncology product candidates may be relatively small as it may be limited to those patients who are ineligible for or have failed prior treatments and our estimates of the prevalence of our target patient populations may be inaccurate;
- we face substantial competition in an environment of rapid technological change, which may result in others discovering, developing, obtaining marketing authorization approval or commercializing products before or more successfully than we do, which may adversely affect our financial condition and our ability to successfully market or commercialize our product candidates;
- the outbreak of the novel coronavirus disease, COVID-19, has adversely impacted our business and we expect will continue to adversely impact some aspects of our business, including our preclinical studies and clinical trials;
- we rely, and expect to continue to rely, on third parties to conduct certain of our preclinical studies and clinical trials. If these third parties do not properly and successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain marketing authorizations for, or commercialize, our product candidates and our business could be substantially harmed;
- we may form or seek additional collaborations or strategic alliances or enter into additional licensing arrangements in the future, and we may not realize the benefits of such collaborations, alliances or licensing arrangements;
- the marketing authorization application processes of the FDA, the EMA, MHRA and other comparable foreign regulatory authorities are lengthy, time-consuming and inherently unpredictable, and if we are ultimately unable to obtain marketing authorizations for our product candidates, or the marketing authorization is for a narrower indication than we seek, our business will be substantially harmed;
- even if we receive marketing authorization for our product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates;
- if we are unable to obtain and maintain patent protection for any products we develop and for our technology, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize any product candidates we may develop and our technology may be adversely affected;

- our rights to develop and commercialize our technology and product candidates are subject, in part, to the terms and conditions of licenses granted to us by others and if we fail to comply with our current or future obligations in any agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business;
- we are highly dependent on our key personnel, and if we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy;
- we will need to grow the size of our organization and we may experience difficulties in managing this growth;
- we identified material weaknesses in connection with our internal control over financial reporting. Although we are taking steps to remediate these material weaknesses, we may not be successful in doing so in a timely manner, or at all, and we may identify other material weaknesses;
- if we were classified as a passive foreign investment company, it would result in adverse U.S. federal income tax consequences to U.S. Holders (as defined below);
- a variety of risks associated with operating our business internationally could materially adversely affect our business; and
- our business and results of operations may be negatively impacted by the UK's withdrawal from the EU.

Implications of Being an Emerging Growth Company

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, as amended, or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- the ability to present only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- reduced disclosure about our executive compensation arrangements;
- not being required to hold advisory votes on executive compensation or to obtain shareholder approval of any golden parachute arrangements not previously approved;
- exemption from the auditor attestation requirement in the assessment of our internal controls over financial reporting; and
- an exemption from compliance with the requirements of the PCAOB regarding the communication of critical audit matters in the auditor's report on the financial statements.

We may take advantage of these "emerging growth company" exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more, (ii) the last day of our fiscal year following the fifth anniversary of the date of the closing of this offering, (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock.

The JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. We have elected to avail ourselves of this exemption and, therefore, we will not be subject to the same timing of adoption of new or revised accounting standards as other public companies that are not emerging growth companies.

We are also a "smaller reporting company," meaning that the market value of our shares held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700 million and our annual revenue was less than $100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our shares held by non-affiliates is less than $250 million or (ii) our annual revenue was less than $100 million during the most recently completed fiscal year and the market value of our shares held by non-affiliates is less than $700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

THE OFFERING

Issuer	Vaccitech plc
ADSs offered by us	6,500,000 ADSs, each representing one ordinary share.
Ordinary shares (including in the form of ADSs) to be outstanding immediately after this offering	34,064,345 ordinary shares (or 35,039,345 ordinary shares if the underwriters exercise in full their option to purchase up to 975,000 additional ADSs).
Underwriters' option to purchase additional ADSs	The underwriters have an option for a period of 30 days from the date of this prospectus to purchase up to 975,000 additional ADSs at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions.
American Depositary Shares	Each ADS represents one ordinary share, nominal value £0.000025 per share. You will have the rights of an ADS holder as provided in the deposit agreement among us, the depositary and owners and holders of ADSs from time to time. To better understand the terms of the ADSs, see "Description of American Depositary Shares." We also encourage you to read the deposit agreement, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part.
Depositary	The Bank of New York Mellon
Directed Share Program	At our request, Morgan Stanley & Co. LLC, or the DSP Underwriter, has reserved up to 325,000 ADSs, or 5% of the ADSs offered by this prospectus, for sale at the initial public offering price through a directed share program to certain of our directors, officers, employees and business associates and other parties related to us. If purchased by our directors and officers, these ADSs will be subject to a 180-day lock-up restriction. The number of ADSs available for sale to the general public will be reduced to the extent that such persons purchase such reserved ADSs. Any reserved ADSs not so purchased will be offered by the DSP Underwriter to the general public on the same basis as the other ADSs offered by this prospectus. The DSP Underwriter will administer our directed share program. See the sections titled "Related Party Transactions" and "Underwriting — Directed Share Program."
Use of proceeds	We estimate that the net proceeds to us from this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately $99.9 million, or approximately $115.4 million if the underwriters exercise their option to purchase additional ADSs in full, based on the initial public offering price of $17.00 per ADS. We intend to use the net proceeds from this offering, together with our existing cash, to (i) advance the development of VTP-300, VTP-200 and VTP-850, (ii) to support co-funded programs, including the development of VTP-600, VTP-400 and VTP-500, and (iii) to fund early stage research and

	development, continued development of our next-generation platform technologies, including for use in rapid deployment against new and emerging pandemic and epidemic threats, and other general corporate purposes. See "Use of Proceeds" for a more complete description of the intended use of proceeds from this offering.
Risk factors	See "Risk Factors" and the other information included in this prospectus for a discussion of factors you should carefully consider before deciding to invest in the ADSs.
Nasdaq Global Market trading symbol for the ADSs	"VACC"

The number of ordinary shares (including the ordinary shares represented by ADSs) to be outstanding after this offering is based on 27,564,345 of our ordinary shares outstanding as of December 31, 2020, after giving effect to the issuance of 12,785,802 Series B Shares in March 2021, which included the conversion of the 2020 Notes into Series B Shares, and excludes:

- 2,072,463 ordinary shares issuable upon the exercise of options for ordinary shares outstanding as of December 31, 2020, with a weighted-average exercise price of $0.0004 per share;
- 748,707 ordinary shares reserved for issuance under our EMI Option Scheme, or the Scheme, as of December 31, 2020, which shares will no longer be reserved following this offering;
- 3,675,680 ordinary shares that will be made available for future issuance under our 2021 Share Option and Incentive Plan upon the effectiveness of the registration statement of which this prospectus forms a part; and
- 367,568 shares reserved for future issuance under our 2021 Employee Share Purchase Plan upon the effectiveness of the registration statement of which this prospectus forms a part.

Unless otherwise indicated, all information contained in this prospectus also reflects and assumes:

- the consummation of our corporate reorganization and, subsequent to our corporate reorganization, a 309-for-one forward split of our common and preferred shares, which will become effective immediately prior to the closing of this offering;
- the filing and effectiveness of our amended and restated articles of association immediately prior to the closing of this offering;
- no issuance or exercise of outstanding options after December 31, 2020;
- no exercise by the underwriters of their option to purchase up to 975,000 additional ADSs in this offering; and
- no purchase of ADSs through our directed share program described under "Underwriting — Directed Share Program."

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables set forth our summary consolidated financial data. We derived the summary consolidated statement of operations data for the fiscal years ended December 31, 2019 and December 31, 2020 and the summary consolidated balance sheet data as of December 31, 2020 from our audited consolidated financial statements included elsewhere in this prospectus. We changed our fiscal year end from January 31 to December 31, beginning with the fiscal year ended December 31, 2019. References to "year ended December 31, 2019" relate to the period from February 1, 2019 to December 31, 2019. References to "year ended December 31, 2020" relate to the period from January 1, 2020 to December 31, 2020. As a result, year ended December 31, 2019 is an eleven-month transition period, whereas year ended December 31, 2020 is, and our future fiscal years will be, twelve-month periods. Comparability of year ended December 31, 2019 to other fiscal years is therefore limited. When you read this summary consolidated financial data, it is important that you read it together with the historical consolidated financial statements and related notes to those statements, as well as the sections of this prospectus titled "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." Our historical results are not necessarily indicative of the results to be expected in any future period. Our reporting currency is the U.S. dollar.

	Year Ended December 31,	
	2019	2020
	(in thousands, except share and per share data)	
Consolidated Statement of Operations Data		
License revenue	$ 20	$ 2,552
Service revenue	203	405
Sale of viral seeds	115	—
Research grants and contracts	6,507	1,863
Total revenue	6,845	4,820
Operating expenses		
Research and development	29,842	14,386
General and administrative	2,668	10,481
Total operating expenses	32,510	24,867
Loss from operations	(25,665)	(20,047)
Other income (expense):		
Change in fair value of derivatives	—	2,039
Unrealized foreign exchange gain on convertible loan notes	—	448
Interest expense	(133)	(3,600)
Interest income	40	—
Gain from disposal of property and equipment	4	—
Research and development incentives	2,976	3,279
Other income	80	42
Total other income	2,967	2,208
Tax expense	—	(95)
Net loss	(22,698)	(17,934)
Net loss attributable to noncontrolling interest	1,968	228
Net loss attributable to Vaccitech shareholders	$(20,730)	$ (17,706)
Weighted-average ordinary shares outstanding, basic and diluted	23,469	25,581
Net loss per share attributable to ordinary shareholders, basic and diluted	$(883.27)	$ (692.16)
Pro forma weighted-average ordinary shares outstanding, basic and diluted (unaudited)[(1)]		14,722,614
Pro forma net loss per share, basic and diluted (unaudited)[(1)]		$ (1.20)

(1) See Note 4 to our consolidated pro forma financial statements appearing at the end of this prospectus for further details on the calculation of pro forma basic and diluted pro forma net loss per share attributable to ordinary shareholders, further adjusted for the 309-for-one forward split of our ordinary and preferred shares, which will become effective immediately prior to the closing of this offering.

	December 31, 2020		
	ACTUAL	PRO FORMA[1]	PRO FORMA AS ADJUSTED[2]
		(in thousands) (unaudited)	
Consolidated Balance Sheet Data			
Cash and cash equivalents	$ 43,266	$166,612	$266,577
Working capital[3]	40,260	163,606	263,571
Total assets	50,666	174,012	273,977
Long-term debt[4]	46,172	1,472	1,472
Total liabilities	53,813	9,113	9,113
Series A Shares[5]	33,765	—	—
Total shareholders' (deficit) equity	(36,912)	164,899	264,864

(1) The unaudited pro forma balance gives effect to (i) the issuance of 12,785,802 Series B Shares in March 2021, including the conversion of our 2020 Notes into Series B Shares and (ii) our corporate reorganization.

(2) The unaudited pro forma as adjusted balance sheet gives further effect to the sale of 6,500,000 ADSs in this offering at the initial public offering price of $17.00 per ADS, and the application of the net proceeds of this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, as set forth under "Use of Proceeds."

(3) Working capital is defined as current assets less current liabilities.

(4) Long-term debt is comprised of convertible loan notes (including derivative liabilities) and lease liability.

(5) We refer to our Series A redeemable convertible preferred shares as "Series A Shares."

RISK FACTORS

Investing in our ADSs involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus, including our financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our ADSs. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations and growth prospects. In such an event, the market price of our ADSs could decline and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations.

Risks Related to Our Financial Position and Capital Needs

We are a clinical-stage biopharmaceutical company with no approved products and a limited operating history. We have incurred significant losses since inception. We expect to incur losses for at least the next several years and may never achieve or maintain profitability.

We are a clinical-stage biopharmaceutical company with no approved products and a limited operating history. 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 efficacy or an acceptable safety profile, obtain marketing authorization and become commercially viable. We have no products approved for commercial sale and have not generated any revenue from product sales. To date, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, undertaking preclinical studies and clinical trials of our product candidates, securing related intellectual property rights and conducting discovery, research and development activities for our programs. As a result, we are not profitable and have incurred losses in each period since our inception in 2016. For the years ended December 31, 2019 and 2020, we reported net losses of $22.7 million and $17.9 million respectively. As of December 31, 2020, we had an accumulated deficit of $55.6 million. We expect to continue to incur significant losses for the foreseeable future. We anticipate that our expenses will increase substantially if, and as, we:

- seek marketing authorizations for product candidates that successfully complete clinical trials, if any;
- conduct preclinical studies and clinical trials for our current and future product candidates based on our proprietary biologic platform, including the Chimpanzee Adenovirus Oxford, or ChAdOx, and Modified vaccinia Ankara, or MVA, vectors, and our other technologies;
- expand our operational, financial and management systems and increase personnel, including personnel to support our clinical development, manufacturing and commercialization efforts and our operations as a public company;
- establish our manufacturing capabilities through third parties or by ourselves and scale-up manufacturing to provide adequate supply for clinical trials and commercialization;
- expand, maintain, protect and enforce our intellectual property portfolio;
- establish a sales, marketing, medical affairs and distribution infrastructure to commercialize any products for which we may obtain marketing approval and intend to commercialize on our own or jointly;
- acquire or in-license other product candidates and technologies; and
- incur additional legal, accounting and other expenses in operating our business, including the additional costs associated with operating as a public company.

Even if we succeed in commercializing one or more of our product candidates, we will continue to incur substantial research and development costs and other expenditures to develop and market additional product candidates and we may never generate revenue that is significant or large enough to achieve profitability. We may also encounter unforeseen expenses, difficulties, complications, delays and other

unknown factors that may adversely affect our business. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our shareholders' equity and working capital.

If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Accordingly, our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our company also could cause you to lose all or part of your investment.

Any payments we may receive in connection with certain milestones or net sales under the AstraZeneca License Agreement may differ materially from those described in this prospectus, and there can be no assurance that we will receive any such payments at all.

While we expect to receive a share of certain milestones and net sales of certain vaccines under the research collaboration and exclusive worldwide license agreement, or the AstraZeneca License Agreement, between Oxford University Innovation Limited, or OUI, and AstraZeneca UK Limited, or AstraZeneca, there can be no assurance as to the timing or amount of any such milestones or net sales.

In particular, we are not party to the AstraZeneca License Agreement, and we do not have any direct claim against AstraZeneca to receive a share of any milestones or net sales, or any other payments under the AstraZeneca License Agreement. Instead, we are party to the amendment, assignment and revenue share agreement, or the OUI License Agreement Amendment, with OUI, to the 2016 OUI License Agreement (as defined in this prospectus), pursuant to which OUI agreed to pay us approximately 24% of payments, including royalties and milestones, received by OUI in connection with the commercialization of any ChAdOx1 vector-based or ChAdOx2 vector-based vaccine in the field of SARS-CoV2 covered by or disclosed in the assigned patent application, as described under "Business—Our Collaboration and License Agreements." As a result, we will only receive a share of any milestones or royalties paid on net sales of any such vaccine under the AstraZeneca License Agreement if, and to the extent that, OUI receives a share of any such milestones or royalties pursuant to that agreement.

Moreover, our understanding is that, under the AstraZeneca License Agreement, OUI agreed to forego its share of any royalties from the commercialization of AZD1222 until after the pandemic period, which will end on July 1, 2021 (or such later date when AstraZeneca, in good faith, determines that the COVID-19 pandemic is over). As a result, we do not expect to receive any share of net sales of the vaccine until after the pandemic is over, as determined in good faith by AstraZeneca, and in any event no earlier than July 1, 2021.

In addition, the announcement of adverse events observed in individuals who receive AZD1222 and any negative impact on the perceptions of AZD1222's safety may reduce sales of the vaccine and therefore the potential payments that we would receive from royalties paid on net sales of AZD1222. For example, in March 2021, several countries announced that they were either temporarily suspending the use of a particular batch of AZD1222 or the use of AZD1222 altogether following reports of thromboembolic events in people at varying times following vaccination. While the European Medicines Agency and the UK's Medicines and Healthcare products Regulatory Agency issued updates in April 2021 confirming that the overall benefit-risk profile of AZD1222 remains positive, the authorities requested that unusual blood clots with low platelets be listed as very rare side effects of AZD1222 in the vaccine's labeling. There can be no assurance that the vaccine is not associated with an increase in the overall risk of thromboembolic events. Further, if AZD1222 is found to be less effective against certain variants of COVID-19, then that may also reduce sales of the vaccine. For example, studies have indicated that AZD1222 has a lower efficacy against certain variants of COVID-19, including the B.1.351 variant of COVID-19, which was first observed predominantly in South Africa, and the B117 variant, which was first observed in the United Kingdom. As a result, use of AZD1222 has been stopped in South Africa. Any association of AZD1222 with adverse events, or the perception of such association, or any findings that AZD1222 is less effective against certain variants of COVID-19, may reduce sales of AZD1222 and therefore the potential payments that we may receive from net sales of the vaccine, and may otherwise adversely impact the development of, and our ability to commercialize, any of our product candidates.

Our understanding of the terms of the AstraZeneca License Agreement is based solely on an extract of the agreement provided by the parties to that agreement. We are not a party to the AstraZeneca License Agreement and do not have access to a copy of that agreement to verify such extract. In addition, no party to the AstraZeneca License Agreement has confirmed that there are no material terms in that agreement that are not included in the description of that agreement included in this prospectus under "Business—Our Collaboration and License Agreements—Impact of OUI's Agreement with AstraZeneca" or that could adversely impact the economic and other terms of the AstraZeneca License Agreement included in that description. Moreover, there can be no assurance that the AstraZeneca License Agreement is an enforceable agreement, that the parties thereto will comply with their obligations under the agreement (including any obligations of AstraZeneca to make milestone or royalty payments to OUI), that the agreement will not be terminated pursuant to its terms or otherwise, or that the terms of the agreement (including royalty rates and other economic terms) will not be modified by the parties in the future. Accordingly, these and other factors could cause amounts received by OUI pursuant to the AstraZeneca License Agreement, and accordingly any share of the revenue under that agreement that we may receive, to differ from those that are described in this prospectus under "Business—Our Collaboration and License Agreements—OUI License Agreement Amendment" and "—Impact of OUI's Agreement with AstraZeneca." Any such differences could be material.

We have not generated any material revenue from our product candidates.

Our ability to become profitable depends upon our ability to generate revenue. We do not expect to generate significant revenue from our current or future product candidates unless or until we successfully complete clinical development and obtain marketing authorization for, and then successfully commercialize, at least one of our product candidates.

Certain of our product candidates are in the preclinical stages of development and will require additional preclinical studies, and all of our product candidates will require additional clinical development, regulatory review and approval, substantial investment, access to sufficient commercial manufacturing capacity and significant marketing efforts before we can generate any revenue from product sales. We have not yet administered certain of our product candidates to humans and, as such, we face significant translational risk as our product candidates advance into and through the clinical stage, as promising results in preclinical studies may not be replicated in subsequent clinical trials, and testing on animals may not accurately predict human experience. Our ability to generate revenue depends on a number of factors, including, but not limited to:

- timely completion of our preclinical studies and clinical trials, which may be significantly slower or cost more than we currently anticipate and will depend substantially upon the performance of third-party contractors;
- delays out of our control, such as those currently experienced with the unforeseen pandemic effect on clinical trial progress and participant willingness to enroll;
- our ability to complete investigational new drug application, or IND, enabling trials and successfully submit INDs or comparable applications, for our product candidates, including VTP-600 and VTP-850;
- whether we are required by the U.S. Food and Drug Administration, or the FDA, the European Medicines Agency, or the EMA, or the United Kingdom Medicines and Healthcare products Regulatory Agency, or the MHRA, or similar foreign regulatory authorities, to conduct additional clinical trials or other studies beyond those planned to support the approval and commercialization of our product candidates or any future product candidates;
- our ability to demonstrate to the satisfaction of the FDA and similar foreign regulatory authorities the safety, potency, purity, efficacy and acceptable risk to benefit profile of our product candidates or any future product candidates and such regulatory authorities' acceptance of our development strategy;
- the prevalence, duration and severity of potential side effects or other safety issues experienced with our product candidates or future product candidates, if any;

- the timely receipt of necessary marketing approvals from the FDA and similar foreign regulatory authorities;
- the willingness of physicians, operators of clinics and patients to utilize or adopt any of our product candidates or future product candidates over alternative or more conventional approaches, including antivirals, immune modulators, siRNA, CRISPR editing, capsid inhibitors, novel entry inhibitors, or other small molecules, RNA, DNA, nanoparticle, VLP, peptide, protein, whole-killed or other vaccine technologies;
- the actual and perceived availability, cost, risk profile and side effects and efficacy of our product candidates, if approved, relative to existing and future alternative immunotherapies, therapeutic and prophylactic vaccines and competitive product candidates and technologies;
- our ability and the ability of third parties with whom we contract to manufacture adequate clinical and commercial supplies of our product candidates or any future product candidates, remain in good standing with regulatory authorities and develop, validate and maintain commercially viable manufacturing processes that are compliant with current good manufacturing practices, or cGMP;
- our ability to successfully develop a commercial strategy and thereafter commercialize our product candidates or any future product candidates in the United States and internationally, if approved for marketing, reimbursement, sale and distribution in such countries and territories, whether alone or in collaboration with others;
- patient demand for our product candidates and any future product candidates, if approved;
- our ability to establish, maintain, protect and enforce intellectual property rights in and to our product candidates or any future product candidates;
- the ability of our licensees and collaborators to develop and commercialize our products effectively;
- the risk that some or all of the patients that receive AZD1222 develop neutralizing antibodies against ChAdOx, which could limit the immunogenicity from subsequent dosing with one of our product candidates;
- the possibility that immunogenicity may not translate into clinical benefit; and
- the increased costs and complexities associated with manufacturing both the prime and boost elements, ChAdOx and MVA, of our immunotherapeutics.

Many of the factors listed above are beyond our control and could cause us to experience significant delays or prevent us from obtaining marketing authorizations for, or commercializing, our product candidates. Even if we are able to commercialize our product candidates, we may not achieve profitability soon after generating product sales, if ever. If we are unable to generate sufficient revenue through the sale of our product candidates or any future product candidates, we may be unable to continue operations without continued funding.

Even if we consummate this offering, we will need substantial additional funding. If we are unable to raise capital when needed, we would be compelled to delay, reduce or eliminate our product development programs or commercialization efforts.

Since our inception, we have invested a significant portion of our efforts and financial resources in research and development activities for our platform and our product candidates developed using our platform. Preclinical studies, clinical trials and additional research and development activities will require substantial funds to complete. We expect our expenses to increase in parallel with our ongoing activities, particularly as we continue our preclinical and clinical development activities to identify new product candidates and conduct clinical trials of, and seek marketing approval for, our product candidates. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution. Furthermore, upon the closing of this offering, we expect to incur significant additional costs associated with operating as a public

company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. However, we have estimated our current additional funding needs based on assumptions that may prove to be wrong. Additionally, changing circumstances may cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more money than currently expected because of circumstances beyond our control. We cannot be certain that additional funding will be available on acceptable terms, or at all. Until such time, if ever, as we can generate substantial product revenue, we expect to finance our operations through a combination of public or private equity offerings, debt financings, governmental funding, collaborations, strategic partnerships and alliances or marketing, distribution or licensing arrangements with third parties. If we are unable to raise capital or generate revenue when needed or on attractive terms, we would be forced to delay, reduce or eliminate our discovery and preclinical development programs or any future commercialization efforts.

We had cash and cash equivalents of $43.3 million as of December 31, 2020. We estimate that our net proceeds from this offering will be $99.9 million, based on the initial public offering price of $17.00 per share, after deducting underwriting discounts and commissions and offering expenses payable by us. We believe that, based upon our current operating plan, our existing capital resources, including proceeds from the issuance of Series B Shares in March 2021, together with the net proceeds from this offering will be sufficient to fund our anticipated operations into the first half of 2024. Our future capital requirements will depend on many factors, including:

- the scope, progress, results and costs of preclinical development and clinical trials for our product candidates;
- the extent to which we enter into additional collaboration arrangements with regard to product candidate development or acquire or in-license products or technologies;
- the costs, timing and outcome of regulatory review of our product candidates;
- the success of the COVID-19 vaccine program for which we licensed certain of our licensed intellectual property rights to OUI/AstraZeneca;
- the costs of future commercialization activities, including product sales, marketing, manufacturing and distribution, for any of our product candidates for which we receive marketing approval;
- revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval; and
- the costs of preparing, filing and prosecuting patent applications, obtaining, maintaining, enforcing and protecting our intellectual property rights and defending intellectual property-related claims including litigation costs and any damages awarded in such litigation.

Identifying potential product candidates, manufacturing them and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

If we engage in acquisitions or future strategic partnerships, this may increase our capital requirements, dilute our shareholders, cause us to incur debt or assume contingent liabilities, and subject us to other risks.

We may evaluate various acquisitions and strategic partnerships in the future, including licensing or acquiring complementary product candidates, intellectual property rights, technologies or businesses. Any acquisition or strategic partnership may entail numerous risks, including:

- increased operating expenses and cash requirements;
- the assumption of indebtedness or contingent liabilities;
- the issuance of our equity securities which would result in dilution to our shareholders;

- assimilation of operations, intellectual property, products and product candidates of an acquired company, including difficulties associated with integrating new personnel;
- the diversion of our management's attention from our existing product programs and initiatives in pursuing such an acquisition or strategic partnership;
- retention of key employees, the loss of key personnel, and uncertainties in our ability to maintain key business relationships;
- risks and uncertainties associated with the other party to such a transaction, including the prospects of that party and their existing products or product candidates to achieve marketing authorizations; and
- our inability to generate revenue from acquired intellectual property, technology and/or products sufficient to meet our objectives or even to offset the associated transaction and maintenance costs.

In addition, if we undertake such a transaction, we may assume or incur debt obligations, incur large one-time expenses and acquire intangible assets that could result in significant future amortization expense.

Our limited operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

We are a clinical-stage biopharmaceutical company with no approved products and a limited operating history. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital, filing patent applications, identifying potential product candidates, undertaking preclinical studies, in-licensing product candidates for development, and establishing arrangements with third parties for the manufacture of initial quantities of our product candidates and component materials, as well as sponsoring and conducting clinical trials up to Phase 2b. We have not yet demonstrated our ability to successfully complete clinical trials beyond Phase 2b, obtain marketing approvals, manufacture a commercial-scale product or arrange for a third party to do so on our behalf, or conduct sales, marketing and distribution activities necessary for successful product commercialization. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, as a young business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will need to transition at some point from a company with a research and development focus to a company capable of supporting additional commercial activities. We may not be successful in such a transition.

Raising additional capital may cause dilution to our shareholders, including purchasers of ordinary shares (represented by ADSs) in this offering, restrict our operations or require us to relinquish rights to our technologies or product candidates.

We expect our expenses to increase in connection with our planned operations. Unless and until we can generate a substantial amount of revenue from our product candidates, we expect to finance our future cash needs through public or private equity offerings, debt financings, collaborations, licensing arrangements or other sources, or any combination of the foregoing. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans.

To the extent that we raise additional capital through the sale of ordinary shares, convertible securities or other equity securities, your ownership interest may be diluted, and the terms of these securities could include liquidation or other preferences and anti-dilution protections that could adversely affect your rights as a common shareholder. In addition, debt financing, if available, may result in fixed payment obligations and may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures, creating liens, redeeming shares or declaring dividends, that could adversely impact our ability to conduct our business. In addition, securing financing

could require a substantial amount of time and attention from our management and may divert a disproportionate amount of their attention away from day-to-day activities, which may adversely affect our management's ability to oversee the development of our product candidates.

If we raise additional funds through collaborations, strategic alliances, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds when needed, we would be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Risks Related to Our Business and Industry

Risks Related to Clinical Development

If we are unable to advance our current or future product candidates into and through clinical trials, obtain marketing approval and ultimately commercialize any product candidates we develop, or experience significant delays in doing so, our business will be materially harmed.

All of our product candidates are in early stages of development, including our lead product candidates, VTP-300, VTP-200, VTP-850 and VTP-600, and as such will require extensive preclinical and clinical testing, as applicable. Product candidates may not meet targeted clinical or safety endpoints during clinical trials such as the MVA-based influenza prophylactic, VTP-100, which did not meet defined primary clinical endpoints in two concurrent Phase 2b trials and we subsequently discontinued further development of this program. Our ability to generate product revenues, which we do not expect to occur for several years, if ever, will depend heavily on the successful development and eventual commercialization or out-license of the product candidates we develop, which may never occur. Before we are able to generate any revenues from product sales, our current product candidates, and any future product candidates we develop, will require additional preclinical and clinical development, management of clinical, preclinical and manufacturing activities, marketing approval in the United States and other markets, demonstrating effectiveness to pricing and reimbursement authorities, obtaining sufficient manufacturing supply for both clinical development and commercial production, building of a commercial organization, and substantial investment and significant marketing efforts. The success of our current and future product candidates will depend on several factors, including the following:

- successful completion, with sufficient efficacy and safety profiles, of preclinical studies and clinical trials;
- sufficiency of our financial and other resources to complete the necessary preclinical studies and clinical trials;
- acceptance of INDs or equivalent clinical trial authorizations in other regions for our planned clinical trials or future clinical trials;
- successful enrollment and completion of our ongoing and future clinical trials, including any delays in enrollment or completed due to the COVID-19 pandemic;
- sufficient data from our clinical program that support an acceptable risk-benefit profile of our product candidates in the intended populations;
- receipt and maintenance of marketing authorizations from applicable regulatory authorities;
- scale-up of our manufacturing processes and formulation of our product candidates for later stages of development and commercialization;
- establishing our own manufacturing capabilities or agreements with third-party manufacturers for clinical supply for our clinical trials and commercial manufacturing, if our product candidate is approved;
- ability to develop product candidate formulations that provide sufficient genetic and thermal stability for long term storage and shipment to meet market requirements;

- entry into collaborations, where needed, to further the development of our product candidates;
- obtaining and maintaining patent and trade secret protection or regulatory exclusivity for our product candidates;
- successfully launching commercial sales of our product candidates, if and when approved;
- acceptance of the product candidate's benefits and uses, if and when approved, by patients, the medical community and third-party payors;
- the prevalence and severity of adverse events experienced with our product candidates;
- maintaining a continued acceptable benefit/risk profile of the product candidates following authorization;
- effectively competing with other therapies, including new therapies that may be developed and approved;
- obtaining and maintaining healthcare coverage and adequate reimbursement from third-party payors;
- qualifying for, maintaining, enforcing and defending intellectual property rights and claims; and
- the risk that foreign regulatory authorities may not authorize our clinical trial protocols and other clinical trial documentation, including manufacturing documentation, even when previously authorized by the FDA, EMA or MHRA, which could lead to a delay in starting such clinical trials. For example, we intend to conduct our HBV002 clinical trial in South Korea and have experienced delays due to additional regulatory review of our clinical protocol. We have limited experience obtaining such approvals in foreign jurisdictions and therefore may need more time to navigate the regulatory process as a result.

We do not have complete control over many of these factors, including certain aspects of clinical development and the regulatory submission process, potential threats to our intellectual property rights and the manufacturing, marketing, distribution and sales efforts of any future collaborator. If we are not successful with respect to one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize the product candidates we develop, which would materially harm our business. We have no control over third-party use of ChAdOx and MVA technologies outside of our exclusively licensed field under license from OUI, and such third-party use could have a negative impact on our ability to develop current and future product candidates, which would materially harm our business.

Clinical development involves a lengthy and expensive process with an uncertain outcome, and results of earlier preclinical studies and clinical trials may not be predictive of future clinical trial results. We may encounter substantial delays in clinical trials, or may not be able to conduct or complete clinical trials on the expected timelines, if at all. If our preclinical studies and clinical trials are not sufficient to support marketing authorization of any of our product candidates, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development of such product candidate.

We may experience delays in obtaining the FDA's authorization to initiate clinical trials under future INDs, completing ongoing preclinical studies of our other product candidates, and initiating our planned preclinical studies and clinical trials. Additionally, we cannot be certain that preclinical studies or clinical trials for our product candidates will begin on time, not require redesign, enroll an adequate number of participants on time, or be completed on schedule, if at all. We may experience numerous adverse or unforeseen events during, or as a result of, preclinical studies and clinical trials that could delay or prevent our ability to receive marketing authorization or commercialize our product candidates, including:

- we may receive feedback from regulatory authorities that requires us to modify the design of our clinical trials;
- new treatments may become standard of care during the process of completing a clinical trial, which may impact the initial clinical trial design or future patient care pathways;

- significant changes in relevant regulatory requirements may cause a delay in the start of a clinical trial, due to additional requirements needing to be met;
- clinical trials of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon our research efforts for our other product candidates;
- clinical trials of our product candidates may not produce differentiated or clinically significant results across infectious diseases and cancers;
- the number of participants required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or participants may drop out of our clinical trials at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements, fail to maintain adequate quality controls or be unable to provide us with sufficient or timely product supply to conduct and complete preclinical studies or clinical trials of our product candidates in a timely manner, or at all;
- we or our investigators might have to suspend or terminate clinical trials of our product candidates for various reasons, including non-compliance with regulatory requirements, a finding that our product candidates have undesirable side effects or other unexpected characteristics or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials of our product candidates may be greater than we anticipate, for example, if we experience delays or challenges in identifying participants with the eligibility criteria required for our clinical trials, we may have to reimburse sites for the cost of testing of additional participants in order to encourage enrollment of additional participants;
- the quality of our product candidates or other materials necessary to conduct preclinical studies or clinical trials of our product candidates may be insufficient or inadequate, and any transfer of manufacturing activities may require unforeseen manufacturing or formulation changes;
- regulators may revise the requirements for approving our product candidates, or such requirements may not be as we anticipate; and
- future collaborators may conduct clinical trials in ways they view as advantageous to them but that are suboptimal for us.

In addition, the ChAdOx vectors are currently evaluated in clinical trials outside of our licensed fields conducted by the University of Oxford and other third parties to which OUI has granted licenses, including trials conducted by AstraZeneca for AZD1222. We have no control over these other clinical trials and any adverse results in these clinical trials could impact public perception and regulatory approval of our product candidates. Even after any of our product candidates obtain regulatory marketing authorization, the announcement of adverse events observed in individuals who receive these products may impact public perception and may result in increased regulatory scrutiny across our platform. For example, in March 2021, several countries announced plans to either temporarily suspend the use of a particular batch of AZD1222 or the use of AZD1222 altogether following reports of thromboembolic events in people following vaccination. While the European Medicines Agency, or the EMA, subsequently issued an update confirming the overall risk-benefit profile of AZD1222 remains positive, the agency requested that unusual blood clots with low platelets be listed as very rare side effects of AZD1222 in the vaccine's labeling. The EMA, the UK's Medicines and Healthcare products Regulatory Agency, and the World Health Organization, along with individual EU Member States, continue to assess available safety data as AZD1222 continues to be administered, and these recommendations may change. Several countries have announced their intentions to resume use of AZD1222, although some countries have limited its use in certain age groups. These types of announcements may affect public perception of the safety of AZD1222, and this perception may extend to product candidates we are developing. In addition, published studies have indicated that AZD1222 has a lower efficacy against certain variants of COVID-19, including the B.1.351 variant of COVID-19, which was first observed predominantly in South Africa, and the B117 variant, which was first observed in the United Kingdom in late 2020, but have since spread to other

geographies. As a result, the use of the AZD1222 vaccine has been stopped in South Africa. Perception about the efficacy of AZD1222 may also impact perception of our product candidates. Additionally, these announcements may lead to additional inquiries or scrutiny from regulators on whether similar events have been observed with our other candidates.

If we are required to conduct additional clinical trials or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical trials of our product candidates or other testing, if the results of these trials or tests are not positive or are only moderately positive or if there are safety concerns, our business and results of operations may be adversely affected and we may incur significant additional costs.

We could also encounter delays if a clinical trial is suspended or terminated by us, by the Institutional Review Boards, or IRBs, or ethics committees of the institutions in which such clinical trials are being conducted, or by the FDA or other regulatory authorities, or suspended or terminated based on recommendations by the Data Safety Monitoring Board or equivalent for such clinical trial. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical trial 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 the product candidates, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. In addition, any disclosure of negative data of clinical trials being conducted by our collaborators could have an adverse impact on our business.

Moreover, principal investigators for our future clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA or comparable foreign regulatory authorities. The FDA or comparable foreign regulatory authority may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of the clinical trial. The FDA or comparable foreign regulatory authority may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA or comparable foreign regulatory authority, as the case may be, and may ultimately lead to the denial of marketing approval of one or more of our product candidates.

If we experience delays in the completion of any preclinical study or clinical trial of our product candidates, or our preclinical studies or clinical trials are terminated, the commercial prospects of our product candidates may be harmed, and our ability to generate revenues from any of these product candidates will be delayed or not realized at all. In addition, any delays in completing our preclinical studies or clinical trials may increase our costs, slow down our product candidate development and authorization procedure and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may significantly harm our business, financial condition and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of marketing authorization for our product candidates. If one or more of our product candidates generally prove to be ineffective, unsafe or commercially unviable, our entire pipeline may have little, if any, value, which would have a material and adverse effect on our business, financial condition, results of operations and prospects.

Interim, "topline," and preliminary data from our clinical trials that we announce or publish from time to time may change as more participant data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose preliminary or topline data from our preclinical studies and clinical trials, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the more complete data related to the particular study or trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the topline or preliminary results that we report may differ from future results of the same studies or clinical trials, or different conclusions or considerations may

qualify such results, once additional data have been received and fully evaluated. Topline data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, topline data should be viewed with caution until the final data are available. From time to time, we may also disclose interim data from our clinical trials. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as participant enrollment continues and more participant data become available or as participants from our clinical trials continue other treatments for their disease. Adverse differences between preliminary or interim data and final data could significantly harm our business prospects. Further, disclosure of interim data by us or by our competitors could result in volatility in the price of our ADSs after this offering.

In addition, the ChAdOx vectors are currently evaluated in clinical trials conducted by Oxford and other third parties to which the University of Oxford has granted licenses, including trials conducted by AstraZeneca for AZD1222. We have no control over these other clinical trials and any adverse results in these clinical trials could impact public perception and regulatory approval of our product candidates. The information these third parties choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what these third parties determine is material or otherwise appropriate information to include in their disclosure.

Further, others, including regulatory authorities, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is material or otherwise appropriate information to include in our disclosure.

If the interim, topline, or preliminary data that we report differ from more complete results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain marketing authorization for, and commercialize, our product candidates may be harmed, which could harm our business, operating results, prospects or financial condition.

Our product candidates are based on a novel approach to the treatment of cancer, which makes it difficult to predict the time and cost of product candidate development.

We have concentrated our research and development efforts on our proprietary platform to develop product candidates that stimulate powerful, targeted immune responses against pathogens and tumor cells, which is a novel approach. Our future success depends on the successful development of this platform. There can be no assurance that any development problems we experience in the future will not cause significant delays or unanticipated costs, or that such development problems can be solved. Should we encounter development problems, including unfavorable preclinical or clinical trial results, the FDA or foreign regulatory authorities may refuse to approve our product candidates, or may require additional information, tests, or trials, which could significantly delay product development and significantly increase our development costs. Moreover, even if we are able to provide the requested information or trials to the FDA, there would be no guarantee that the FDA would accept them or approve our product candidates. We may also experience delays in developing a sustainable, reproducible and scalable manufacturing process, or developing other testing and manufacturing methods, which may prevent us from completing our clinical trials or commercializing our product candidates on a timely or profitable basis, if at all.

In addition, the clinical trial requirements of the FDA and comparable foreign regulatory authorities and the criteria these regulators use to determine the safety and efficacy of a product candidate vary substantially according to the type, complexity, novelty and intended use and market of the potential products. The FDA and comparable foreign regulatory authorities have limited experience with the approval of novel immunotherapies. Any novel immunotherapies that are approved may be subject to extensive post-approval regulatory requirements, including requirements pertaining to manufacturing, distribution and promotion. We may need to devote significant time and resources to compliance with these requirements.

Difficulty in enrolling participants could delay or prevent clinical trials of our product candidates and prevent us from realizing the full commercial potential of any products we may develop.

Identifying and qualifying participants to participate in clinical trials of our product candidates is critical to our success. The timing of completion of our clinical trials depends in part on the speed at which we can recruit participants to participate in testing our product candidates, and we may experience delays in our clinical trials if we encounter difficulties in enrollment. We may not be able to initiate or continue clinical trials for our product candidates if we are unable to locate and enroll a sufficient number of eligible participants to participate in these trials as required by the FDA, the EMA or other foreign regulatory authorities. For example, randomized clinical controlled trials for Middle East respiratory syndrome, or MERS, are difficult due to the sporadic and low incidence of cases. Our ability to enroll participants may be significantly delayed by the evolving COVID-19 pandemic and we do not know the extent and scope of such delays at this point. The initiation of our Phase 1/2a clinical trial for VTP-200 and our Phase 1 clinical trial for VTP-500, which are being conducted at the University of Oxford sites, have been delayed and paused, respectively due to COVID-19. We cannot anticipate the next pandemic or how that may or may not impact future clinical trial enrollment. In addition, some of our competitors have ongoing clinical trials for product candidates that treat the same indications as our product candidates, and participants who would otherwise be eligible for our clinical trials may instead enroll in clinical trials of our competitors' product candidates.

The enrollment of patients and participants further depends on many factors, including:

- the phase of clinical testing;
- the proximity of participants to clinical trial sites;
- the increased inconvenience to patients by participating in a clinical trial, such as increased doctor visits, missed work, travel costs and time;
- the design of the clinical trial, including the number of site visits, whether the clinical trial includes a placebo arm and invasive assessments required;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- our ability to obtain and maintain participant consents;
- reporting of the preliminary results of any of our clinical trials;
- the risk that some or all of the patients that receive AZD1222 develop neutralizing antibodies against ChAdOx, which could limit the immunogenicity from subsequent dosing with one of our product candidates;
- the risk that participants enrolled in clinical trials will drop out of the clinical trials before clinical trial completion; and
- factors we may not be able to control, such as current or potential pandemics that may limit participants, principal investigators or staff or clinical site availability (*e.g.*, the COVID-19 pandemic).

Since the number of qualified clinical investigators is limited, we expect 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 participants who are available for our clinical trials at such clinical trial sites. Moreover, because certain of our product candidates represent a departure from more commonly used methods for cancer treatment and because certain of our product candidates have not been tested in humans before, potential participants and their doctors may be inclined to use conventional therapies, such as chemotherapy, rather than enroll participants in any future clinical trial.

If we experience delays in the completion or termination of any clinical trial of our product candidates, the commercial prospects of our product candidates will be harmed, and our ability to generate product revenue from any of these product candidates could be delayed or prevented.

Our product candidates may cause serious adverse events, serious side effects or have other properties that could halt their clinical development, prevent their marketing authorization, require expansion of the trial size, limit their commercial potential or result in significant negative consequences.

Serious side effects caused by our product candidates could cause us or regulatory authorities, including IRBs and ethics committees, to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of marketing authorization by the FDA, the EMA or other comparable foreign regulatory authorities. Further, clinical trials by their nature utilize a sample of the potential patient population. Because of our dose escalation design for our clinical trials, undesirable side effects in initial cohorts could also result in the need to expand the size of our clinical trials, increasing the expected costs and timeline of our clinical trials. Additionally, because certain of our product candidates, including AZD1222, will be administered to substantial numbers of participants on a more rapid basis than is standard in clinical trials, undesirable side effects could result in a negative impact across a larger participant population. Results of our trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. If we do observe serious side effects in our clinical trials, our ongoing clinical trials may be halted or put on clinical hold prior to completion if there is an unacceptable safety risk for participants.

If unacceptable toxicities arise in the development of our product candidates, we could suspend or terminate our trials or the FDA, the EMA or other comparable foreign regulatory authorities, or local regulatory authorities such as IRBs or ethics committees, could order us to cease clinical trials. Competent national health authorities, such as the FDA, could also deny approval of our product candidates for any or all targeted indications. Even if the side effects presented do not preclude the product from obtaining or maintaining marketing authorization, treatment-related side effects could also affect participant recruitment or the ability of enrolled participants to complete the trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff.

We intend to develop certain of our product candidates in combination with other therapies, which exposes us to additional risks.

We intend to develop certain of our product candidates in combination with one or more other approved therapies, such as anti-PD-1 antibodies and other checkpoint inhibitors to treat certain cancers and chronic infections. Even if any product candidate we develop were to receive marketing authorization or be commercialized for use in combination with other existing therapies, we would continue to be subject to the risks that the FDA, the EMA or comparable foreign regulatory authorities outside of the United States could revoke approval of the therapy used in combination with our product or that safety, efficacy, manufacturing or supply issues could arise with any of those existing therapies. If the therapies we use in combination with our product candidates are replaced as the standard of care for the indications we choose for any of our product candidates, the FDA, the EMA or comparable foreign regulatory authorities may require us to conduct additional clinical trials. The occurrence of any of these risks could result in our own products, if approved, being removed from the market or being less successful commercially.

We also may choose to evaluate our current product candidates and any other future product candidates in combination with one or more therapies that have not yet been approved for marketing by the FDA, the EMA or comparable foreign regulatory authorities. We will not be able to market and sell our current product candidates or any product candidate we develop in combination with any unapproved therapies for a combination indication if that unapproved therapy does not ultimately obtain marketing approval either alone or in combination with our product. In addition, unapproved therapies face the same risks described with respect to our product candidates currently in development and clinical trials, including the potential for serious adverse effects, delay in their clinical trials and lack of FDA approval.

If the FDA, the EMA or comparable foreign regulatory authorities do not approve these other products or revoke their approval of, or if safety, efficacy, quality, manufacturing or supply issues arise with, the products we choose to evaluate in combination with our product candidate we develop, we may be unable to obtain approval of or market such combination therapy.

Risks Related to Our Approach

The market opportunities for certain of our oncology product candidates may be relatively small as it may be limited to those patients who are ineligible for or have failed prior treatments and our estimates of the prevalence of our target patient populations may be inaccurate.

Cancer therapies are sometimes characterized by line of therapy (first line, second line, third line, fourth line, etc.), and the regulatory authorities, including the FDA, often approve new therapies initially only for a particular line or lines of use. When cancer is detected early enough, first line therapy is sometimes adequate to cure the cancer or prolong life without a cure. Whenever first line therapy, usually chemotherapy, antibody drugs, tumor-targeted small molecules, hormone therapy, radiation therapy, surgery, or a combination of these, proves unsuccessful, second line therapy may be administered. Second line therapies often consist of more chemotherapy, radiation, antibody drugs, tumor-targeted small molecules, or a combination of these. Third line therapies can include chemotherapy, antibody drugs and small molecule tumor-targeted therapies, more invasive forms of surgery and new technologies. We expect to seek approval of VTP-600 as a first line therapy but we expect to seek approval of our other oncology product candidates initially as second or third line therapy, for use in patients with relapsed or refractory metastatic cancer. Subsequently, for those product candidates that prove to be sufficiently safe and beneficial as third line or second line therapies, if any, we would expect to seek approval as earlier line therapies, but there is no guarantee that our product candidates, even if approved as a second or third line of therapy, would be approved for an earlier line of therapy, and, prior to any such approvals, we may have to conduct additional clinical trials.

Our projections of both the number of people who have the infectious diseases and cancers we are targeting, as well as the subset of people with these infectious diseases and cancers in a position to receive a particular line of therapy and who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including scientific literature, commissioned reports, surveys of clinics, patient foundations or market research, and may prove to be incorrect. Further, new therapies may change the estimated incidence or prevalence of these cancers and chronic infections. The number of patients may turn out to be lower than expected. Additionally, the potentially addressable patient population for our product candidates may be limited or may not be amenable to treatment with our product candidates. Even if we obtain significant market share for our product candidates within our addressable patient population, because the potential target populations are small, we may never achieve profitability without obtaining marketing authorization for additional indications, including use as first or second line therapy.

Negative developments in the field of infectious disease and immuno-oncology could damage public perception of any of our product candidates and negatively affect our business.

The commercial success of our product candidates will depend in part on public acceptance of the use of immunotherapies and vector-based viral vaccines. Adverse events in clinical trials of VTP-300 and VTP-200, or in clinical trials of others developing similar products and the resulting publicity, as well as any other negative developments in the field of infectious disease and immuno-oncology that may occur in the future, including in connection with competitor therapies, could result in a decrease in demand for any product candidates that we may develop. These events could also result in the suspension, discontinuation, or clinical hold of or modification to our clinical trials. If public perception may be influenced by claims that the use of cancer immunotherapies is unsafe, whether related to our therapies or those of our competitors, our product candidates may not be accepted by the general public or the medical community and potential clinical trial participants may be discouraged from enrolling in our clinical trials. In addition, responses by national or state governments to negative public perception may result in new legislation or regulations that could limit our ability to develop or commercialize any product candidates, obtain or maintain marketing authorization or otherwise achieve profitability. More restrictive statutory regimes, government regulations or negative public opinion would have an adverse effect on our business, financial condition, prospects and results of operations and may delay or impair the development and commercialization of our product candidates or demand for any products we may develop. As a result, we may not be able to continue or may be delayed in conducting our development programs.

Our present product candidates consist of modified viruses. Adverse developments in clinical trials of other immunotherapy products based on viruses, such as oncolytic viruses, may result in a disproportionately

negative effect for our platform as compared to other products in the field of infectious disease and immuno-oncology that are not based on viruses. Future negative developments in the biopharmaceutical industry could also result in greater governmental regulation, stricter labeling requirements and potential regulatory delays in the testing or approvals of our products. Any increased scrutiny could delay or increase the costs of obtaining marketing approval for our product candidates.

We may not be successful in our efforts to identify and successfully commercialize additional product candidates.

Part of our strategy involves researching and developing novel product candidates. We have developed a pipeline of product candidates and intend to pursue clinical development of additional product candidates. The process by which we identify product candidates may fail to yield product candidates for clinical development for a number of reasons, including those discussed in these risk factors and also:

- we may not be able to assemble sufficient resources to acquire or discover additional product candidates;
- competitors may develop alternatives that render our potential product candidates obsolete or less attractive;
- potential product candidates we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- potential product candidates may, on further study, be shown to have harmful side effects, toxicities or other characteristics that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance;
- potential product candidates may not be effective in treating their targeted diseases or symptoms;
- the market for a potential product candidate may change so that the continued development of that product candidate is no longer reasonable;
- a potential product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; or
- the regulatory pathway for a potential product candidate is highly complex and difficult to navigate successfully or economically.

Developing, obtaining marketing authorization for and commercializing additional product candidates will require substantial additional funding beyond the net proceeds of this offering and is prone to the risks of failure inherent in medical product development. We cannot provide you any assurance that we will be able to successfully advance any of these additional product candidates through the development process.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

We may choose to focus our efforts on and allocate resources to a potential product candidate that ultimately proves to be unsuccessful, or to license or purchase a marketed product that does not meet our financial expectations. As a result, we may fail to capitalize on viable commercial products or profitable market opportunities, be required to forego or delay pursuit of opportunities with other product candidates or other diseases that may later prove to have greater commercial potential, or relinquish valuable rights to such product candidates through collaboration, licensing or other royalty arrangements in cases in which it would have been advantageous for us to retain sole development and commercialization rights. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable products. If we are unable to evaluate the commercial potential or target market for a particular product candidate, identify and successfully commercialize additional suitable product candidates, this would adversely impact our business strategy and our financial position.

Risks Related to Sales, Marketing and Competition

We face substantial competition in an environment of rapid technological change, which may result in others discovering, developing, obtaining marketing authorization approval or commercializing products before or more successfully than we do, which may adversely affect our financial condition and our ability to successfully market or commercialize our product candidates.

The biotechnology and pharmaceutical industries utilize rapidly advancing technologies and are characterized by intense competition. While we believe that our scientific knowledge, platform technology and development expertise provide us with competitive advantages, we face potential competition from many different sources, including major pharmaceuticals, specialty pharmaceuticals and biotechnology companies, academic institutions and government agencies, as well as public and private research institutes that conduct research, development, manufacturing and commercialization. Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, marketing authorizations and product marketing than we do. In addition, many of these competitors are active in seeking patent protection and licensing arrangements in anticipation of collecting royalties for use of technology that they have developed. Our competitors may compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and participant registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. As a result, our competitors may discover, develop, license or commercialize products before or more successfully than we do.

Product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future. Specifically, we expect that our product candidates will compete against alternative or more conventional approaches, including antivirals, immune modulators, siRNA, CRISPR editing, capsid inhibitors, novel entry inhibitors, or other small molecules, RNA, DNA, nanoparticle, VLP, peptide, protein, whole-killed or other vaccine technologies.

If our product candidates are approved for the indications for which we are currently conducting or planning clinical trials, they will likely compete with the competitor products mentioned above and with other products that are currently in development. Key product features that would affect our ability to effectively compete with other therapeutics include the efficacy, safety, formulation, stability and convenience of our products. Our competitors may obtain patent protection or other intellectual property rights that limit our ability to develop or commercialize our product candidates. The availability of reimbursement from government and other third-party payors will also significantly affect the pricing and competitiveness of our products. Our competitors may also obtain marketing authorizations from the FDA or other regulatory authorities for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. For additional information regarding our competition, see “Business—Competition.”

Risks Related to the Development of Our Product Candidates

The outbreak of the novel coronavirus disease, COVID-19, has adversely impacted our business and we expect will continue to adversely impact some aspects of our business, including our preclinical studies and clinical trials.

In December 2019, a novel strain of the coronavirus disease, COVID-19, was identified in Wuhan, China. This virus has since spread globally and in March 2020, the World Health Organization declared COVID-19 a pandemic. The pandemic and government measures taken in response have also had a significant impact, both direct and indirect, on businesses and commerce, as worker shortages have occurred; supply chains have been disrupted; facilities and production have been suspended; and demand for certain goods and services, such as medical services and supplies, has spiked, while demand for other goods and services, such as travel, has fallen. In response to the spread of COVID-19, we have mandated that our non-laboratory based employees, such as clinical, manufacturing, finance, administrative, quality, regulatory and program managers continue their work outside of our offices and limited the number of staff in any given research and development laboratory at any time. The initiation of our Phase 1/2a clinical trial for VTP-200 and our Phase 1 clinical trial for VTP-500, which are being conducted at the University of Oxford sites, have been

delayed and paused, respectively, due to COVID-19. In addition, we have experienced and we expect to continue to experience disruptions as a result of the COVID-19 pandemic that could severely impact our business, preclinical studies and clinical trials, including:

- continued delays or difficulties in enrolling and retaining participants in our clinical trials;
- continued delays or difficulties in clinical site initiation, including difficulties in recruiting clinical site investigators and clinical site staff;
- delays in receiving authorizations from regulatory authorities to initiate our planned clinical trials;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- interruption of key clinical trial activities, such as clinical trial site data monitoring, due to limitations on travel imposed or recommended by federal or state governments, employers and others or interruption of clinical trial participant visits and trial procedures (such as endoscopies that are deemed non-essential), which may impact the integrity of participant data and clinical trial endpoints;
- risk that participants enrolled in our clinical trials will contract COVID-19 while the clinical trial is ongoing, which could impact the results of the clinical trial, including by increasing the number of observed adverse events;
- interruption or delays in the operations of the FDA or other regulatory authorities, which may impact review and approval timelines;
- interruption of, or delays in receiving, supplies of our product candidates from our contract manufacturing organizations due to staffing shortages, production slowdowns or stoppages, disruptions in delivery systems and the diversion of resources to prioritize manufacturing products that are related to treating or preventing COVID-19;
- increased price and longer lead time for our raw material requirements in response to the large-scale production of AZD1222;
- increased price and longer lead time for quality control and manufacturing slots due to delays in production of reagents and lack of capacity at specialized testing laboratories;
- interruptions in preclinical studies due to restricted or limited operations at our laboratory facility and those of our sub-contractors;
- delays in necessary interactions with local regulators, ethics committees and other important agencies and contractors due to limitations in employee resources or forced furlough of government employees;
- changes in local regulations as part of a response to the COVID-19 pandemic, which may require us to change the ways in which our clinical trials are conducted, which may result in unexpected costs, or to discontinue such clinical trials altogether;
- limitations on employee resources that would otherwise be focused on the conduct of our preclinical studies and clinical trials, including because of sickness of employees or their families or the desire of employees to avoid contact with large groups of people; and
- interruption or delays to our sourced discovery and clinical activities.

The global COVID-19 pandemic continues to rapidly evolve. The extent to which COVID-19 impacts our business, results of operations and financial condition will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the ultimate geographic spread of the disease, duration of the outbreak, travel restrictions, new information that may emerge concerning the severity of COVID-19 or the effectiveness of actions taken in the United States and other countries to contain COVID-19 or treat its impact, among others. We cannot presently predict the scope and severity of any potential business shutdowns or disruptions, but if we or any of the third parties with whom we engage,

including the suppliers, clinical trial sites, service providers, regulators and other third parties with whom we conduct business, were to experience prolonged business shutdowns or other business disruptions, our ability to conduct our business in the manner and on the timelines presently planned could be materially and negatively impacted.

Our preclinical studies and clinical trials may fail to demonstrate adequately the safety, potency, purity and efficacy of any of our product candidates, which would prevent or delay development, marketing authorization and commercialization. Furthermore, success in preclinical studies or clinical trials may not be indicative of results in future clinical trials for the same or other product candidates.

Before obtaining marketing authorization for the commercial sale of our product candidates, we must demonstrate the safety, purity and potency of our investigational biologics for use in each target indication through lengthy, complex and expensive preclinical studies and clinical trials. Preclinical and 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 preclinical study and clinical trial processes, and, because our product candidates are in an early stage of development, there is a high risk of failure and we may never succeed in developing marketable products.

The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. Although product candidates may demonstrate promising results in preclinical studies and early clinical trials, they may not prove to be effective in subsequent clinical trials. For example, testing on animals occurs under different conditions than testing in humans and therefore, the results of animal studies may not accurately predict human experience. There is typically an extremely high rate of attrition from the failure of product candidates proceeding through preclinical studies and clinical trials. Product candidates in later stages of clinical trials may fail to show the desired risk-benefit profile despite having progressed through preclinical studies and initial clinical trials. Likewise, early, smaller-scale clinical trials may not be predictive of eventual safety or effectiveness in large-scale pivotal clinical trials. VTP-100 demonstrated safety and immunogenicity during small Phase 1 clinical trials but did not demonstrate sufficient efficacy during adequately powered Phase 2b clinical trials to warrant continued development of this product candidate. A number of companies in the biopharmaceutical industry have suffered significant setbacks in later phase clinical trials due to lack of potency or efficacy, insufficient durability of potency or efficacy or unacceptable safety issues, notwithstanding promising results in earlier trials. The vast majority of product candidates that commence preclinical studies and early phase clinical trials are never approved as products.

Any preclinical studies or clinical trials that we may conduct may not demonstrate the safety, potency, purity and efficacy necessary to obtain regulatory authorization to market our product candidates. If the results of our ongoing or future preclinical studies and clinical trials are inconclusive with respect to the safety, potency, purity and efficacy of our product candidates, if we do not meet the clinical endpoints with statistical and clinically meaningful significance, or if there are safety concerns associated with our product candidates, we may be prevented or delayed in obtaining marketing authorization for certain of our product candidates. In some instances, there can be significant variability in safety, potency, purity or efficacy results between different preclinical studies and clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the clinical trial protocols and the rate of dropout among clinical trial participants. While we have not yet initiated clinical trials for certain of our product candidates, VTP-400, VTP-850 and VTP-600, and are in early stages of clinical trials for certain of our product candidates, VTP-300, VTP-500 and VTP-200, as is the case with all novel immunotherapeutics and viral-vector based vaccines, it is likely that there may be side effects associated with their use. Results of our trials could reveal a high and unacceptable severity and prevalence of these side effects. In such an event, our trials could be suspended or terminated and the FDA or comparable foreign regulatory authorities could order us to cease further development of or deny authorization of certain of our product candidates for any or all targeted indications. Treatment-related side effects could also affect participant recruitment or the ability of enrolled participants to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly.

Additionally, some of the clinical trials we conduct may be open-label in trial design and may be conducted at a limited number of clinical sites on a limited number of patients. An “open-label” clinical trial is one

where both the patient and investigator know whether the patient is receiving the investigational product candidate or either an existing approved drug or placebo. Most typically, open-label clinical trials test only the investigational product candidate and sometimes may do so at different dose levels. Open-label clinical trials are subject to various limitations that may exaggerate any therapeutic effect, as participants in open-label clinical trials are aware when they are receiving treatment. Open-label clinical trials may be subject to a "patient bias" where participants perceive their symptoms to have improved merely due to their awareness of receiving an experimental treatment. Moreover, patients selected for early clinical trials often include the most severe sufferers and their symptoms may have improved notwithstanding the new treatment. In addition, open-label clinical trials may be subject to an "investigator bias" where those assessing and reviewing the physiological outcomes of the clinical trials are aware of which patients have received treatment and may interpret the information of the treated group more favorably given this knowledge.

Even if we obtain marketing authorization for our product candidates, the products may not gain market acceptance among physicians, patients, hospitals, cancer treatment centers and others in the medical community.

The use of novel immunotherapeutics and viral-vector based product candidates to target the treatment and prevention of infectious diseases and cancer is a recent development and may not become broadly accepted by physicians, patients, hospitals, cancer treatment centers and others in the medical community. Various factors will influence whether our product candidates are accepted in the market, including:

- the clinical indications for which our product candidates are licensed;
- physicians, hospitals, cancer treatment centers and patients considering our product candidates as a safe and effective treatment;
- the potential and perceived advantages of our product candidates over alternative treatments, including the adoption of our treatment as the standard of care;
- our ability to demonstrate the advantages of our product candidates over other vaccines and cancer or chronic infectious disease medicines;
- the prevalence and severity of any side effects;
- the prevalence and severity of any side effects for other immunotherapeutics and public perception of other immunotherapeutics;
- the prevalence and severity of any side effects for other viral-vector based vaccines and public perception of other viral-vector based vaccines;
- product labeling or product insert requirements of the FDA or other regulatory authorities;
- limitations or warnings contained in the approved labeling;
- the timing of market introduction of our product candidates as well as competitive products;
- the cost of treatment in relation to alternative treatments;
- the availability of adequate coverage, reimbursement and pricing by third-party payors and government authorities;
- the willingness of patients to pay out-of-pocket in the absence of coverage by third-party payors and government authorities;
- relative convenience and ease of administration, including as compared to alternative treatments and competitive therapies; and
- the effectiveness of our sales and marketing efforts.

If our product candidates are licensed 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.

In addition, although our product candidates differ in certain ways from other immunotherapeutic and viral-vector based vaccine approaches, serious adverse events or deaths in other clinical trials involving immunotherapeutics and viral-vector based vaccines, even if not ultimately attributable to our product or product candidates, could result in increased government regulation, unfavorable public perception and publicity, potential regulatory delays in the testing or licensing of our product candidates, stricter labeling requirements for those product candidates that are licensed, and a decrease in demand for any such product candidates.

Even if our products achieve market acceptance, we may not be able to maintain that market acceptance over time if new products or technologies are introduced that are more favorably received than our products, are more cost effective or render our products obsolete.

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 product candidates, if approved, we may not be able to generate product revenue.

We currently have no sales, marketing or distribution capabilities and have no experience in marketing products. 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. There are risks involved with both establishing our own sales and marketing capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force is expensive and time-consuming and could delay any product launch.

If we are unable or decide not to establish internal sales, marketing and distribution capabilities, we will pursue arrangements with third-party sales, marketing, and distribution collaborators regarding the sales and marketing of our products, if approved. However, there can be no assurance that we will be able to establish or maintain such arrangements on favorable terms or if at all, or if we are able to do so, that these third-party arrangements will provide effective sales forces or marketing and distribution capabilities. 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 product sales may be lower than if we had commercialized our product candidates ourselves. We also face competition in our search for third parties to assist us with the sales and marketing efforts of our product candidates.

There can be no assurance that we will be able to develop in-house sales and distribution capabilities or establish or maintain relationships with third-party collaborators to commercialize any product in the United States or overseas.

Insurance policies are expensive and protect us only from some business risks, which leaves us exposed to significant uninsured liabilities.

We do not carry insurance for all categories of risk that our business may encounter. Some of the policies we currently maintain include general liability, employment practices liability, property, umbrella, and directors' and officers' insurance.

Insurance coverage is becoming increasingly expensive and in the future we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. We do not carry specific biological or hazardous waste insurance coverage, and our property, casualty and general liability insurance policies specifically exclude coverage for damages and fines arising from biological or hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we could be held liable for damages or be penalized with fines in an amount exceeding our resources, and our clinical trials or marketing authorizations could be suspended.

We also expect that operating as a public company will make it more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. As a result, it may be more difficult for us to attract and retain qualified people to serve on our board of directors, our board

committees or as executive officers. We do not know, however, if we will be able to maintain existing insurance with adequate levels of coverage. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our cash position and results of operations.

Risks Related to Our Reliance on Third Parties

We rely, and expect to continue to rely, on third parties to conduct certain of our preclinical studies and clinical trials. If these third parties do not properly and successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain marketing authorizations for, or commercialize, our product candidates and our business could be substantially harmed.

We utilize and depend, and expect to continue to utilize and depend, upon independent investigators and collaborators, such as medical institutions, contract research organizations, or CROs, contract manufacturing organizations, or CMOs, and strategic partners to conduct and support certain of our preclinical studies and clinical trials under agreements with us. For example, we are dependent on our regional partner, CanSino Biologics, to conduct a Phase 1 clinical trial of VTP-400 for herpes zoster prevention in China.

We expect to have to continue to negotiate budgets and contracts with CROs, trial sites and CMOs and we may not be able to do so on favorable terms, which may result in delays to our development timelines and increased costs. We will rely heavily on these third parties over the course of our preclinical studies and clinical trials, and we control only certain aspects of their activities. As a result, we will have less direct control over the conduct, timing and completion of these preclinical studies and clinical trials and the management of data developed through preclinical studies and clinical trials than would be the case if we were relying entirely upon our own staff. Nevertheless, we are responsible for ensuring that each of our preclinical studies and clinical trials is conducted in accordance with applicable protocol, legal and regulatory requirements 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 GCP, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for product candidates in clinical development. Regulatory authorities enforce GCP through periodic inspections of trial sponsors, principal investigators and trial sites. If we, or any of these third parties fail to comply with applicable GCP regulations, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing authorization applications, or MAA. We cannot assure you that, upon inspection, such regulatory authorities will determine that any of our clinical trials comply with the GCP regulations. In addition, our clinical trials must be conducted with pharmaceutical product produced under cGMP regulations and will require a large number of test participants. Our failure or any failure by these third parties to comply with these regulations or to recruit a sufficient number of participants may require us to repeat clinical trials, which would delay the marketing authorization process. Moreover, our business may be implicated if any of these third parties performing services or otherwise acting on our behalf 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, we cannot control whether or not they devote sufficient time and resources to our ongoing clinical and preclinical product candidates. 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 product 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 marketing authorization for, or successfully commercialize, our product candidates. As a result, our financial results and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenue could be delayed.

Switching or adding third parties to conduct our preclinical studies and 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 occur, which can materially impact our ability to meet our desired clinical development timelines.

We may form or seek additional collaborations or strategic alliances or enter into additional licensing arrangements in the future, and we may not realize the benefits of such collaborations, alliances or licensing arrangements.

We may form or seek additional strategic alliances, create joint ventures or collaborations, or enter into additional licensing arrangements with third parties that we believe will complement or augment our development and commercialization efforts with respect to our product candidates and any future product candidates that we may develop. Any of these relationships may require us to incur non-recurring and other charges, increase our near and long-term expenditures, issue securities that dilute our existing shareholders or disrupt our management and business.

In addition, we face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. Moreover, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for our product candidates because they may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view our product candidates as having the requisite potential to demonstrate safety, potency, purity and efficacy and obtain marketing approval.

Further, collaborations involving our product candidates are subject to numerous risks, which may include the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply to a collaboration;
- collaborators may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization of our product candidates based on clinical trial results, changes in their strategic focus due to the acquisition of competitive products, availability of funding or other external factors, such as a business combination that diverts resources or creates competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial, stop a clinical trial, abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- despite agreements, collaborators may develop our product candidates to standards that only meet their local regulatory requirements and therefore clinical data cannot be applied in support regulatory submissions in other jurisdictions;
- collaborators in certain countries may require joint ventures to manufactures and commercialize products in their territory, which may increase costs, increase dilution to shareholders, and offer lack of clarity on revenue and intellectual property sharing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates;
- a collaborator with marketing and distribution rights to one or more products may not commit sufficient resources to their marketing and distribution;
- collaborators may not properly maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;
- disputes may arise between us and a collaborator that cause the delay or termination of the research, development or commercialization of our product candidates, or that result in costly litigation or arbitration that diverts management attention and resources;
- collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates; and

- collaborators may own or co-own intellectual property covering our products that results from our collaborating with them, and in such cases, we would not have the exclusive right to commercialize such intellectual property.

As a result, if we enter into additional collaboration agreements and strategic partnerships or license our product candidates, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture, which could delay our timelines or otherwise adversely affect our business. We also cannot be certain that, following a strategic transaction or license, we will achieve the revenue or specific net income that justifies such transaction. Any delays in entering into new collaborations or strategic partnership agreements related to our product candidates could delay the development and commercialization of our product candidates in certain geographies for certain indications, which would harm our business prospects, financial condition and results of operations.

We currently rely and expect to rely in the future on the use of manufacturing suites in third-party facilities or third parties to manufacture our product candidates, if approved. Our business could be harmed if we are unable to use third-party manufacturing suites or if the third party manufacturers fail to provide us with sufficient quantities of our product candidates or fail to do so at acceptable quality levels or prices.

We do not currently own any facility that may be used as our clinical-scale manufacturing and processing facility and must currently rely on outside vendors to manufacture our product candidates. We will need to negotiate and maintain contractual arrangements with these outside vendors for the supply of our product candidates and we may not be able to do so on favorable terms. We have not yet manufactured our product candidates on a commercial scale and may not be able to do so for any of our product candidates.

Manufacturing of biological drug products is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of biologic products often encounter difficulties in production, particularly in scaling up, validating the production process and assuring high reliability of the manufacturing process, including the absence of contamination. These problems include logistics and shipping, difficulties with production costs and yields, quality control, including lot consistency, stability of the product, product testing, operator error and availability of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. Furthermore, if contaminants are discovered in our supply of our product candidates or in the manufacturing facilities, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. We cannot assure you that any stability failures or other issues relating to the manufacture of our product candidates will not occur in the future.

Our anticipated reliance on a limited number of third-party manufacturers exposes us to a number of risks, including the following:

- the production process for our product candidates is complex and requires specific know-how that only a limited number of CMOs can provide, as a result, we compete with other companies in the field for the scarce capacities of these organizations and may not be able to secure sufficient manufacturing capacity when needed;
- we may be unable to identify manufacturers on acceptable terms, or at all because the number of potential manufacturers is limited and the FDA or other regulatory authorities may inspect any manufacturers for current cGMP compliance as part of our marketing application;
- a new manufacturer would have to be educated in, or develop substantially equivalent processes for, the production of our product candidates;
- our third-party manufacturers might be unable to timely manufacture our product candidates or produce the quantity and quality required to meet our clinical and commercial needs, if any;
- contract manufacturers may not be able to execute our manufacturing procedures and other logistical support requirements appropriately;
- our future contract manufacturers may not perform as agreed, may not devote sufficient resources to our product candidates 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 products, if any;

- manufacturers are subject to ongoing periodic unannounced inspection by the FDA and corresponding state agencies to ensure strict compliance with cGMP and other government regulations and corresponding foreign standards and we have no control over third-party manufacturers' compliance with these 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 product candidates;
- our third-party manufacturers could breach or terminate their agreements with us;
- our third-party manufacturers may prioritize another customer's needs in front of ours, especially in the event of a global pandemic;
- raw materials and components used in the manufacturing process, particularly those for which we have no other source or supplier, may not be available or may not be suitable or acceptable for use due to material or component defects, may be in short supply, and may significantly increase in price;
- our contract manufacturers and critical suppliers may be subject to inclement weather, pandemics, as well as natural or man-made disasters; and
- our contract manufacturers may have unacceptable or inconsistent product quality success rates and yields, and we have no direct control over our contract manufacturers' ability to maintain adequate quality control, quality assurance and qualified personnel.

Additionally, if any CMO with whom we contract fails to perform its obligations, we may be forced to manufacture the materials ourselves, for which we may not have the capabilities or resources, or enter into an agreement with a different CMO, which we may not be able to do on reasonable terms, if at all. While we have relationships with multiple CMOs, the technical skills required to manufacture our products or product candidates may be unique or proprietary to the original CMO and we may have difficulty, or there may be contractual restrictions prohibiting us from, transferring such skills to a back-up or alternate supplier, or we may be unable to transfer such skills at all. In addition, if we are required to change CMOs for any reason, we will be required to verify that the new CMO maintains facilities and procedures that comply with quality standards and with all applicable regulations. We will also need to verify, such as through a manufacturing comparability trial, that any new manufacturing process will produce our product candidate according to the specifications previously submitted to the FDA or another regulatory authority. The delays associated with the verification of a new CMO could negatively affect our ability to develop product candidates or commercialize our products in a timely manner or within budget. Furthermore, a CMO may possess technology related to the manufacture of our product candidate that such CMO owns independently. This would increase our reliance on such CMO or require us to obtain a license from such CMO in order to have another CMO manufacture our product candidates. In addition, changes in manufacturers often involve changes in manufacturing procedures and processes, which could require that we conduct bridging or comparability studies between our prior clinical supply used in our clinical trials and that of any new manufacturer. We may be unsuccessful in demonstrating the comparability of clinical supplies which could require the conduct of additional clinical trials. Additionally, three vaccines for COVID-19 were granted Emergency Use Authorization by the FDA in late 2020 and early 2021, and more are likely to be authorized in the coming months. The resultant demand for vaccines and potential for manufacturing facilities and materials to be commandeered under the Defense Production Act of 1950, or equivalent foreign legislation, may make it more difficult to obtain materials or manufacturing slots for the products needed for our clinical trials, which could lead to delays in these trials.

Each of these risks could delay or prevent the completion of our clinical trials or the approval of any of our product candidates by the FDA, EMA or other appropriate regulatory authorities and result in higher costs or adversely impact commercialization of our product candidates. In addition, we will rely on third parties to perform certain specification tests on our product candidates prior to delivery to patients. If these tests are not appropriately done and test data are not reliable, patients could be put at risk of serious harm and the FDA, or other regulatory authorities could place significant restrictions on our company until deficiencies are remedied.

Our manufacturing process needs to comply with FDA and comparable foreign regulatory authority 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 marketing authorizations.

In order to commercially produce our products either at our own facility or at a third party's facility, we will need to comply with the FDA's cGMP regulations and guidelines and similar requirements from comparable foreign regulatory authorities. We may encounter difficulties in achieving quality control and quality assurance and may experience shortages in qualified personnel. We are subject to inspections by the FDA and comparable foreign regulatory authorities 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 biologic products 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 product candidates, including leading to significant delays in the availability of our biological products 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 product candidates. Significant non-compliance could also result in the imposition of sanctions, including warning or untitled letters, fines, injunctions, civil penalties, failure of regulatory authorities to grant marketing approvals for our product candidates, 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.

If our third-party manufacturers use hazardous and biological materials in a manner that causes injury or violates applicable law, we may be liable for damages.

Our research and development activities involve the controlled use of potentially hazardous substances, including biological materials, by our third-party manufacturers. Our manufacturers are subject to national, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of medical and hazardous materials. Although we believe that our manufacturers' procedures for using, handling, storing and disposing of these materials comply with legally prescribed standards, we cannot completely eliminate the risk of contamination or injury resulting from medical or hazardous materials. As a result of any such contamination or injury, we may incur liability or local, city, state or national authorities may curtail the use of these materials and interrupt our business operations. In the event of an accident, we could be held liable for damages or penalized with fines, and the liability could exceed our resources. Compliance with applicable environmental laws and regulations is expensive, and current or future environmental regulations may impair our research, development and production efforts, which could harm our business, prospects, financial condition or results of operations.

Risks Related to Government Regulation

The marketing authorization processes of the FDA, the EMA, MHRA and other comparable foreign regulatory authorities are lengthy, time-consuming and inherently unpredictable, and if we are ultimately unable to obtain marketing authorizations for our product candidates, or the marketing authorization is for a narrower indication than we seek, our business will be substantially harmed.

The time required to obtain approval from the FDA, the EMA, MHRA and other comparable foreign regulatory authorities is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not yet obtained a marketing authorization for any product candidate and it is possible that none of our current or future product candidates will ever obtain marketing authorizations.

Our current and future product candidates could fail to receive marketing authorizations for many reasons, including the following:

- the availability of financial resources to commence and complete planned clinical trials;

- the FDA, the EMA, MHRA or other comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- the data collected from clinical trials of our product candidates may not be sufficient to support the submission of a Biologics Licensing Application, or BLA, to the FDA, or an MAA to the EMA or other comparable submission to regulatory authorities in other regions, to obtain authorization in the United States, the European Union or elsewhere;
- we may be unable to demonstrate to the satisfaction of the FDA, the EMA, MHRA or regulatory authorities in other regions that a product candidate has an overall suitable benefit/risk profile for its proposed indication;
- the FDA, the EMA, MHRA or other comparable foreign regulatory authorities may find deficiencies with or fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies;
- the approval policies or regulations of the FDA, the EMA, MHRA or other comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval; and
- the risk that foreign regulatory authorities may not authorize our clinical trial protocols and other clinical trial documentation, including manufacturing documentation, even when previously authorized by the FDA, EMA or MHRA, which could lead to a delay in starting such clinical trials. For example, we intend to conduct our HBV002 clinical trial in South Korea and have experienced delays due to additional regulatory review of our clinical protocol. We have limited experience obtaining such approvals in foreign jurisdictions and therefore may need more time to navigate the regulatory process as a result.

The unpredictability of clinical trial results may result in our failing to obtain marketing authorizations for any product candidate we develop, which would significantly harm our business, results of operations and prospects. The lengthy approval process in many regions may cause delays in market access, particularly if regulatory authorities have a large number of objections to the initial applications for marketing authorization which need to be addressed.

We have conducted, and intend to conduct, clinical trials of certain of our product candidates outside the United States. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of these data are subject to certain conditions imposed by the FDA, including compliance with all applicable U.S. laws and regulations. For example, the clinical trial must be well designed and conducted and performed by qualified investigators in accordance with GCP, including review and approval by an independent ethics committee and informed consent from participants. The trial population must also adequately represent the U.S. population, and the data must be applicable to the U.S. population and U.S. medical practice in ways that the FDA deems clinically meaningful. In general, the participant population for any clinical trials conducted outside of the United States must be representative of the population for whom we intend to label the product in the United States. There can be no assurance the FDA will accept data from trials conducted outside of the United States.

The FDA, the EMA and other comparable foreign regulatory authorities have substantial discretion in the approval process, and determining when or whether marketing authorization will be obtained for any product candidate that we develop. Even if we believe the data collected from future clinical trials of our product candidates are promising, such data may not be sufficient to support approval by the FDA, the EMA, MHRA or any other comparable foreign regulatory authorities.

Even if we were to obtain marketing authorization, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, may not approve the price we intend to charge for our products, may grant approval conditional on the performance of costly post-marketing clinical trials, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

We may seek Orphan Drug Designation for drug candidates we develop, and we may be unsuccessful or may be unable to maintain the benefits associated with Orphan Drug Designation, including the potential for market exclusivity. In addition, even if we obtain orphan drug exclusivity for any of our product candidates, such exclusivity may not protect us from competition.

As part of our business strategy, we may seek Orphan Drug Designation for any drug candidates we develop, and we may be unsuccessful in obtaining such designation. Regulatory authorities in some jurisdictions, including the United States and the EU, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a drug as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the United States, Orphan Drug Designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers.

Similarly, in the EU, the European Commission grants designation after receiving the opinion of the Committee for Orphan Medicinal Products on a designation application. Orphan Drug Designation is intended to promote the development of drugs that are intended for the diagnosis, prevention or treatment of life-threatening or chronically debilitating conditions affecting not more than five in 10,000 persons in Europe and for which no satisfactory method of diagnosis, prevention, or treatment has been authorized (or the product would be a significant benefit to those affected). Additionally, designation is granted for drugs intended for the diagnosis, prevention, or treatment of a life-threatening, seriously debilitating or serious and chronic condition and when, without incentives, it is unlikely that sales of the drug in Europe would be sufficient to justify the necessary investment in developing the drug. In Europe, Orphan Drug Designation entitles a party to a number of incentives, such as protocol assistance and scientific advice specifically for designated orphan medicines, and potential fee reductions depending on the status of the sponsor.

Generally, if a drug with an Orphan Drug Designation subsequently receives the first marketing approval for the indication for which it has such designation, the drug is entitled to a period of marketing exclusivity, which precludes the EMA or the FDA from approving another marketing application for the same drug and indication for that time period, except in limited circumstances. The applicable period is seven years in the United States and ten years in the EU. The EU 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 such that market exclusivity is no longer justified.

Even if we obtain orphan drug exclusivity for a drug candidate, that exclusivity may not effectively protect the drug candidate from competition because different therapies can be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve the same 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. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. Moreover, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition. Orphan Drug Designation neither shortens the development time or regulatory review time of a drug candidate nor gives the drug candidate any advantage in the regulatory review or approval process. While we may seek Orphan Drug Designation for applicable indications for our current and any future drug candidates, we may never receive such designations. Even if we do receive such designations, there is no guarantee that we will enjoy the benefits of those designations.

A Breakthrough Therapy designation by the FDA, even if granted for any of our product candidates, may not lead to a faster development or regulatory review or approval process and it does not increase the likelihood that our product candidates will receive marketing approval.

We may seek Breakthrough Therapy designation for certain of our current and future product candidates. A breakthrough therapy is defined as a drug or biologic that is intended, alone or in combination with one or more other drugs or biologics, to treat a serious or life-threatening disease or condition and preliminary

clinical evidence indicates that the drug or biologic may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For product candidates that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Drugs and biologics designated as breakthrough therapies by the FDA may also be eligible for other expedited approval programs, including accelerated approval.

Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our product candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of a Breakthrough Therapy designation for a product candidate may not result in a faster development process, review or approval compared to candidate products considered for approval under non-expedited FDA review procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our product candidates qualify as breakthrough therapies, the FDA may later decide that the product no longer meets the conditions for qualification. Thus, even though we intend to seek Breakthrough Therapy designation for certain of our current and future product candidates for the treatment and prevention of infectious diseases and cancer, there can be no assurance that we will receive breakthrough therapy designation.

A Fast Track designation by the FDA, even if granted for certain of our current or future product candidates, may not lead to a faster development or regulatory review or approval process, and does not increase the likelihood that our product candidates will receive marketing approval.

If a drug or biologic is intended for the treatment of a serious or life-threatening condition and the product demonstrates the potential to address unmet medical needs for this condition, the product sponsor may apply for FDA Fast Track designation for a particular indication. We may seek Fast Track designation for certain of our current or future product candidates, but there is no assurance that the FDA will grant this status to any of our proposed product candidates. Marketing applications filed by sponsors of products in Fast Track development may qualify for priority review under the policies and procedures offered by the FDA, but the Fast Track designation does not assure any such qualification or ultimate marketing approval by the FDA. The FDA has broad discretion whether or not to grant Fast Track designation, so even if we believe a particular product candidate is eligible for this designation, there can be no assurance that the FDA would decide to grant it. Even if we do receive Fast Track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures, and receiving a Fast Track designation does not provide assurance of ultimate FDA approval. In addition, the FDA may withdraw Fast Track designation if it believes that the designation is no longer supported by data from our clinical development program. In addition, the FDA may withdraw any Fast Track designation at any time.

Accelerated approval by the FDA, even if granted for certain of our current or future product candidates, may not lead to a faster development or regulatory review or approval process and it does not increase the likelihood that our product candidates will receive marketing approval.

We may seek approval of certain of our current or future product candidates using the FDA's accelerated approval pathway. A product may be eligible for accelerated approval if it treats a serious or life-threatening condition, generally provides a meaningful advantage over available therapies, and demonstrates an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit. As a condition of approval, the FDA may require that a sponsor of a product receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. These confirmatory trials must be completed with due diligence. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product. Even if we do receive accelerated approval, we may not experience a faster development or regulatory review or approval process, and receiving accelerated approval does not provide assurance of ultimate full FDA approval.

If approved, our investigational products regulated as biologics may face competition from biosimilars approved through an abbreviated regulatory pathway.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA, includes a subtitle called the Biologics Price

Competition and Innovation Act of 2009, or BPCIA, which created an abbreviated approval pathway for biologic products that are biosimilar to or interchangeable with an FDA-licensed reference biologic product. Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a BLA for the competing product containing the sponsor's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity, and potency of the other company's product. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation, and meaning are subject to uncertainty.

We believe that any of our product candidates approved as a biologic product under a BLA should qualify for the 12-year period of exclusivity. However, there is a risk that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider our investigational medicines to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. Moreover, the extent to which a biosimilar, once licensed, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biologic products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

If competitors are able to obtain marketing approval for biosimilars referencing our products, our products may become subject to competition from such biosimilars, with the attendant competitive pressure and consequences.

Even if we obtain FDA, EMA or MHRA approval for our current or future product candidates that we may identify and pursue in the United States, Europe or the United Kingdom, we may never obtain approval to commercialize any such product candidates outside of those jurisdictions, which would limit our ability to realize their full market potential.

Obtaining and maintaining marketing authorization for our product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain marketing authorizations in any other jurisdiction, while a failure or delay in obtaining marketing authorization in one jurisdiction may have a negative effect on the approval process in others. In order to market any products outside of the United States, we must establish and comply with numerous and varying regulatory requirements of other countries regarding safety and effectiveness. Approval processes vary among countries and can involve additional product testing and validation and additional or different administrative review periods from those in the United States, including additional preclinical studies 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 product candidate 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 products is also subject to approval.

Seeking foreign marketing authorization could result in difficulties and costs and require additional preclinical studies or clinical trials which could be costly and time-consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our current or future product candidates in those countries. The foreign marketing authorization process may include all of the risks associated with obtaining FDA, EMA or MHRA approval. We do not have any product candidates approved for sale in any jurisdiction, including international markets, and we do not have experience in obtaining marketing authorizations in international markets for our current or future product candidates. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if marketing authorization in international markets is delayed, our target market will be reduced and our ability to realize the full market potential of our current or future product candidates will be harmed.

Future changes to tax laws could materially adversely affect our financial condition and results of operations, and reduce net returns to our shareholders.

We conduct business globally and file income tax returns in multiple jurisdictions. The tax treatment of the company or any of the group companies could be materially adversely affected by several factors, including: changing tax laws, regulations and treaties, or the interpretation thereof; tax policy initiatives and reforms under consideration (such as those related to the Organization for Economic Co-Operation and Development's Base Erosion and Profit Shifting Project, the European Commission's state aid investigations and other initiatives); the practices of tax authorities in jurisdictions in which we operate; the resolution of issues arising from tax audits or examinations and any related interest or penalties. Such changes may include (but are not limited to) the taxation of operating income, investment income, dividends received or (in the specific context of withholding tax) dividends paid.

We are unable to predict what tax reform may be proposed or enacted in the future or what effect such changes would have on our business, but such changes, to the extent they are brought into tax legislation, regulations, policies or practices in jurisdictions in which we operate, could affect our financial position, future results of operations, cash flows in a particular period and overall or effective tax rates in the future in countries where we have operations, reduce post-tax returns to our shareholders and increase the complexity, burden and cost of tax compliance.

Tax authorities may disagree with our positions and conclusions regarding certain tax positions, or may apply existing rules in an unforeseen manner, resulting in unanticipated costs, taxes or non-realization of expected benefits.

We operate in a number of countries throughout the world. Consequently, we are subject to tax laws, treaties, and regulations in the countries in which we operate, and these laws and treaties are subject to interpretation. We have taken, and will continue to take, tax positions based on our interpretation of such tax laws. A tax authority may disagree with tax positions that we have taken, which could result in increased tax liabilities. For example, Her Majesty's Revenue & Customs, or HMRC, the IRS or another tax authority could challenge our allocation of income by tax jurisdiction and the amounts paid between our affiliated companies pursuant to our intercompany arrangements and transfer pricing policies, including amounts paid with respect to our intellectual property development. There can be no assurance that a taxing authority will not have a different interpretation of applicable law and assess us with additional taxes. Similarly, a tax authority could assert that we are subject to tax in a jurisdiction where we believe we have not established a taxable connection, often referred to as a "permanent establishment" under international tax treaties, and such an assertion, if successful, could increase our expected tax liability in one or more jurisdictions. A tax authority may take the position that material tax liabilities, interest and penalties are payable by us, for example where there has been a technical violation of contradictory laws and regulations that are relatively new and have not been subject to extensive review or interpretation, in which case we expect that we might contest such assessment. Contesting such an assessment may be lengthy and costly and if we were unsuccessful in disputing the assessment, the implications could increase our anticipated effective tax rate, where applicable, or result in other liabilities. If we are assessed with additional taxes, this may result in a material adverse effect on our results of operations and/or financial condition.

We may be unable to use net operating loss and tax credit carryforwards and certain built-in losses or tax credits to reduce future tax payments or to benefit from favorable UK tax legislation.

As a UK incorporated and tax resident entity, we are subject to UK corporate taxation. Due to the nature of our business, we have generated losses since inception and therefore have not paid any UK corporation tax. As of December 31, 2020, we had cumulative carryforward tax losses of approximately $23.2 million. Subject to any relevant criteria and restrictions (including those that limit the percentage of profits that can be reduced by carried forward losses and those that can restrict the use of carried forward losses where there is a change of ownership of more than half of our ordinary shares and a major change in the nature, conduct or scale of the trade), we expect these to be eligible for carry forward and utilization against future operating profits. The use of loss carryforwards in relation to UK profits incurred on or after April 1, 2017 is generally limited each year to £5.0 million plus an incremental 50% of UK taxable profits. In addition, if we were to have a major change in the nature of the conduct of our trade, loss carryforwards may be restricted or extinguished.

As a company that carries out extensive research and development activities, we seek to benefit from the UK research and development tax relief programs, being the Small and Medium-sized Enterprises R&D tax relief program, or SME Program, and, to the extent that our projects are grant funded or relate to work subcontracted to us by third parties, the Research and Development Expenditure Credit program. Under the SME Program, where available, we may be able to surrender some of our trading losses that arise from our qualifying research and development activities for cash or carry forward such losses for potential offset against future profits (subject to relevant restrictions). The majority of our research, clinical trials management and manufacturing development activities are eligible for inclusion within these tax credit cash rebate claims. Our eligibility to claim payable research and development tax credits may be limited or eliminated because we may no longer qualify as a small or medium-sized company. In addition, proposed changes to the SME Program are scheduled to begin from April 2021 and will cap the available claim under the SME Program to a multiple of payroll taxes (broadly, to a maximum payable credit equal to £20,000 plus three times the total PAYE and NICs liability of the company). This cap may limit the value we can claim.

We may benefit in the future from the UK's "patent box" regime, which allows certain profits attributable to revenue from patented products (and other qualifying income) to be taxed at an effective rate of 10% by giving an additional tax deduction. When taken in combination with the enhanced relief available on our research and development expenditures, we expect a long-term rate of corporation tax lower than the statutory to apply to us. If, however, there are unexpected adverse changes to the UK research and development tax credit regime or the "patent box" regime, or for any reason we are unable to qualify for such advantageous tax legislation, or we are unable to use net operating loss and tax credit carryforwards and certain built-in losses to reduce future tax payments then our business, results of operations and financial condition may be adversely affected. This may impact our ongoing requirement for investment and the timeframes within which additional investment is required.

Risks Related to Ongoing Regulatory Obligations

Even if we receive marketing authorization for our product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.

Any marketing authorizations that we receive for our product candidates will require surveillance to monitor the safety and efficacy of the product candidate. The FDA may also require a risk evaluation and mitigation strategy, or REMS, and the EMA may also require additional rapid microbiological method approvals or educational materials in order to approve our product candidates, 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 product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion, import, export and recordkeeping for our product candidates will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMPs, good laboratory practice regulations and GCPs, for any clinical trials that we conduct post-approval. Later discovery of previously unknown problems with our product candidates, 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 the marketing or manufacturing of our product candidates, withdrawal of the product from the market or voluntary or mandatory product recalls;
- manufacturing delays and supply disruptions where regulatory inspections identify observations of noncompliance requiring remediation;
- revisions to the labeling, including limitation on approved uses or the addition of additional warnings, contraindications or other safety information, including boxed warnings;
- imposition of a REMS, which may include distribution or use restrictions;

- requirements to conduct additional post-market clinical trials to assess the safety of the product;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us or suspension or revocation of approvals;
- product seizure or detention, or refusal to permit the import or export of our product candidates; and
- injunctions or the imposition of civil, criminal, or administrative penalties.

The FDA's and other regulatory authorities' policies may change and additional government regulations may be enacted that could prevent, limit or delay marketing authorization of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we 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.

The FDA and other regulatory authorities actively enforce the laws and regulations prohibiting the promotion of off-label uses.

If any of our product candidates are approved and we are found to have improperly promoted off-label uses of those products, we may become subject to significant liability. The FDA and other regulatory authorities strictly regulate the promotional claims that may be made about prescription products, if approved. In particular, while the FDA permits the dissemination of truthful and non-misleading information about an approved product, a manufacturer may not promote a product for uses that are not approved by the FDA or such other regulatory authorities as reflected in the product's approved labeling. If we are found to have promoted such off-label uses, we may become subject to significant liability. The federal government has levied large civil and criminal fines against companies for alleged improper promotion of off-label use and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees, corporate integrity agreements or permanent injunctions under which specified promotional conduct must be changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

The insurance coverage and reimbursement status of newly approved products is uncertain. The success of our product candidates, if approved, will depend significantly on our ability to obtain and maintain adequate coverage and reimbursement of, or the willingness of patients to pay for, our product candidates. Failure to obtain or maintain adequate coverage and reimbursement for our product candidates could limit our ability to market those products and decrease our ability to generate product revenue.

In the United States and in other countries, 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. We believe our success depends on obtaining and maintaining coverage and adequate reimbursement for our product candidates, and the extent to which patients will be willing to pay out-of-pocket for such products. The availability of coverage and adequacy of reimbursement for our products by third-party payors, including government health care programs (*e.g.*, Medicare, Medicaid, TRICARE), managed care providers, private health insurers, health maintenance organizations, and other organizations is essential for most patients to be able to afford medical services and novel pharmaceutical products such as our product candidates. The principal decisions about reimbursement for new medicines in the United States are typically made by the Centers for Medicare & Medicaid Services, or CMS, an agency within the U.S. Department of Health and Human Services, or HHS. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own coverage and reimbursement policies. It is difficult to predict what CMS will decide with respect to reimbursement for fundamentally novel products such as ours.

Moreover, decisions regarding the extent of coverage and amount of reimbursement to be provided are made on a payor-by-payor basis. One payor's determination to provide coverage for a drug or biological product does not assure that other payors will also provide coverage for the same product. Eligibility for reimbursement does not imply that any drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale, and distribution. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services.

Patients who are treated in-office for a medical condition generally rely on third-party payors to reimburse all or part of the costs associated with the procedure, including costs associated with products used during the procedure, and may be unwilling to undergo such procedures in the absence of such coverage and adequate reimbursement. Physicians may be unlikely to offer procedures for such treatment if they are not covered or inadequately covered by insurance and may be unlikely to purchase and use our product candidates, if approved, for our stated indications unless coverage is provided and reimbursement is adequate. In addition, for products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may be particularly difficult because of the higher prices often associated with such drugs.

Reimbursement by a third-party payor may depend upon a number of factors, including the third-party payor's determination that a product is safe, effective and medically necessary; appropriate for the specific patient; cost-effective; supported by peer-reviewed medical journals; included in clinical practice guidelines; and neither cosmetic, experimental, nor investigational. Further, increasing efforts by third-party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products and, as a result, they may not cover or provide adequate payment for our product candidates. In order to secure coverage and reimbursement for any product that might be approved for sale, we may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain FDA or comparable marketing authorizations. Additionally, we may also need to provide discounts to purchasers, private health plans or government healthcare programs. Our product candidates may nonetheless not be considered medically necessary or cost-effective. If third-party payors do not consider a product to be cost-effective compared to other available therapies, they may not cover the product after approval as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow a company to sell its products at a profit. We expect to experience pricing pressures in connection with the sale of any of our product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products.

Foreign governments also have their own healthcare reimbursement systems, which vary significantly by country and region, and we cannot be sure that coverage and adequate reimbursement will be made available with respect to our product candidates under any foreign reimbursement system. To that end, reimbursement agencies in Europe may be more conservative than CMS. For example, a number of cancer drugs have been approved for reimbursement in the United States and have not been approved for reimbursement in certain European countries.

There can be no assurance that any of our product candidates, if approved for sale in the United States or in other countries, will be considered medically reasonable and necessary, that it will be considered cost-effective by third-party payors, that coverage or an adequate level of reimbursement will be available or that reimbursement policies and practices in the United States and in foreign countries where our products are sold will not adversely affect our ability to sell our product candidates profitably, even if they are approved for sale.

Healthcare legislative or regulatory reform measures may have a material adverse effect on our business and results of operations.

The United States and many foreign jurisdictions have enacted or proposed legislative and regulatory changes affecting the healthcare system that could prevent or delay marketing approval of our product

candidates or any future product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell a product for which we obtain marketing approval. Changes in applicable laws, rules, and regulations or the interpretation of existing laws, rules, and regulations could impact our business in the future by requiring, for example: (i) changes to our manufacturing arrangements; (ii) additions or modifications to product labeling; (iii) the recall or discontinuation of our products; or (iv) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business.

Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. For example, in March 2010, the ACA was passed, which substantially changed the way healthcare is financed by both the government and private insurers, and significantly impacts the United States pharmaceutical industry. The ACA, among other things: (i) established an annual, nondeductible fee on any entity that manufactures or imports certain specified branded prescription drugs and biologic agents apportioned among these entities according to their market share in some government healthcare programs; (ii) expanded the entities eligible for discounts under the 340B drug pricing program; (iii) increased the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program to 23.1% and 13% of the average manufacturer price, or AMP, for most branded and generic drugs, respectively, and capped the total rebate amount for innovator drugs at 100% of the AMP; (iv) expanded the eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new eligibility categories for individuals with income at or below 133% (as calculated, it constitutes 138%) of the federal poverty level, thereby potentially increasing manufacturers' Medicaid rebate liability; (v) addressed a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for certain drugs and biologics that are inhaled, infused, instilled, implanted or injected; (vi) introduced a new Medicare Part D coverage gap discount program in which manufacturers must now agree to offer 70% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D (increased from 50%, effective January 1, 2019, pursuant to the Bipartisan Budget Act of 2018); (vii) created a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and (viii) established the Center for Medicare and Medicaid Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drugs.

There remain judicial and Congressional challenges to certain aspects of the ACA. While Congress has not passed comprehensive repeal legislation to date, several bills affecting the implementation of certain taxes under the ACA have been signed into law. The Tax Cuts and Jobs Act of 2017, or Tax Act, includes a provision that repealed, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." In addition, the 2020 federal spending package permanently eliminated, effective January 1, 2020, the ACA-mandated "Cadillac" tax on high-cost employer-sponsored health coverage and medical device tax and, effective January 1, 2021, also eliminates the health insurer tax. The Bipartisan Budget Act of 2018, or the BBA, among other things, amended the ACA, effective January 1, 2019, to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." In December 2018, CMS published a new final rule permitting further collections and payments to and from certain ACA qualified health plans and health insurance issuers under the ACA risk adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment. On April 27, 2020, the United States Supreme Court reversed a Federal Circuit decision that previously upheld Congress' denial of $12 billion in "risk corridor" funding. On December 14, 2018, a Texas United States District Court Judge ruled that the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the Tax Act. Additionally, on December 18, 2019, the United States Court of Appeals for the 5th Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well.

On March 2, 2020, the United States Supreme Court granted the petitions for writs of certiorari to review this case, and oral arguments occurred on November 10, 2020. It is unclear how such litigation and other efforts to repeal and replace the ACA will impact the ACA and our business, financial condition and results of operations.

Other legislative changes have been proposed and adopted since the ACA was enacted. These changes include aggregate reductions to Medicare payments to providers of 2% per fiscal year pursuant to the Budget Control Act of 2011, which began in 2013, and due to subsequent legislative amendments to the statute, including the BBA, will remain in effect through 2030, unless additional Congressional action is taken. The Coronavirus Aid, Relief and Economic Security Act, or the CARES Act, which was signed into law in March 2020 and is designed to provide financial support and resources to individuals and businesses affected by the COVID-19 pandemic, and subsequent legislation, suspended the 2% Medicare sequester from May 1, 2020 through March 31, 2021, and extended the sequester by one year, through 2030. Proposed legislation, if passed, would extend this suspension until the end of the pandemic. The American Taxpayer Relief Act of 2012, among other things, further 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. These laws and similar future legislative initiatives may result in additional reductions in Medicare and other healthcare funding, which could have an adverse effect on customers for our product candidates, if approved, and, accordingly, our financial operations.

Additionally, there has been heightened governmental scrutiny in the United States of pharmaceutical pricing practices in light of the rising cost of prescription drugs and biologics. Such scrutiny has resulted in several recent congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for products. On March 10, 2020, the Trump administration sent “principles” for drug pricing to Congress, calling for legislation that would, among other things, cap Medicare Part D beneficiary out-of-pocket pharmacy expenses, provide an option to cap Medicare Part D beneficiary monthly out-of-pocket expenses, and place limits on pharmaceutical price increases. Further, the Trump administration previously released a plan to lower drug prices and reduce out-of-pocket costs of drugs that contained proposals to increase drug manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products, and reduce the out-of-pocket costs of drug products paid by consumers. The HHS has solicited feedback on some of these measures and has implemented others under its existing authority.

In 2020, former President Trump announced several executive orders related to prescription drug pricing that seek to implement several of the administration's proposals. The FDA released a final rule on September 24, 2020, which went into effect on November 30, 2020, providing guidance for states to build and submit importation plans for drugs from Canada. Further, on November 20, 2020, CMS issued an Interim Final Rule implementing the Most Favored Nation, or MFN, Model under which Medicare Part B reimbursement rates will be calculated for certain drugs and biologicals based on the lowest price drug manufacturers receive in Organization for Economic Cooperation and Development countries with a similar gross domestic product per capita. The MFN Model regulations mandate participation by identified Part B providers and would have applied to all U.S. states and territories for a seven-year period beginning January 1, 2021, and ending December 31, 2027. However, in response to a lawsuit filed by several industry groups, on December 28, the U.S. District Court for the Northern District of California issued a nationwide preliminary injunction enjoining government defendants from implementing the MFN Rule pending completion of notice-and-comment procedures under the Administrative Procedure Act. On January 13, 2021, in a separate lawsuit brought by industry groups in the U.S. District of Maryland, the government defendants entered a joint motion to stay litigation on the condition that the government would not appeal the preliminary injunction granted in the U.S. District Court for the Northern District of California and that performance for any final regulation stemming from the MFN Interim Final Rule shall not commence earlier than 60 days after publication of that regulation in the Federal Register. Further, authorities in Canada have passed rules designed to safeguard the Canadian drug supply from shortages. If implemented, importation of drugs from Canada and the MFN Model may materially and adversely affect the price we receive for any of our product candidates. Additionally, on December 2, 2020, HHS published a regulation

removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The rule also creates a new safe harbor for price reductions reflected at the point-of-sale, as well as a safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers. Pursuant to an order entered by the U.S. District Court for the District of Columbia, the portion of the rule eliminating safe harbor protection for certain rebates related to the sale or purchase of a pharmaceutical product from a manufacturer to a plan sponsor under Medicare Part D has been delayed to January 1, 2023. Further, implementation of this change and new safe harbors for point-of-sale reductions in price for prescription pharmaceutical products and pharmacy benefit manager service fees are currently under review by the Biden administration and may be amended or repealed. While some of these and other measures may require additional authorization to become effective, and some of these measures may be reversed or withdrawn by a new presidential administration, Congress and President Joseph Biden have indicated that they will continue to seek new legislative and/or administrative measures to control drug costs.

At the state level, individual states are increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

We expect that these and other healthcare reform measures that may be adopted in the future may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for any approved product candidate. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our drugs, and could have a material adverse effect on our business, financial condition, and results of operations.

Our business activities will be subject to the Foreign Corrupt Practices Act, or FCPA, and similar anti-bribery and anti-corruption laws in other jurisdictions.

As we engage in and expand our business activities outside of the United States, including our clinical trial efforts, we will be subject to the FCPA and similar anti-bribery or anti-corruption laws, regulations or rules of other countries in which we operate. The FCPA generally prohibits offering, promising, giving, or authorizing others to give anything of value, either directly or indirectly, to a non-United States government official in order to influence official action, or otherwise obtain or retain business. The FCPA also requires public companies to make and keep books and records that accurately and fairly reflect the transactions of the corporation and to devise and maintain an adequate system of internal accounting controls. Our business is heavily regulated and therefore involves significant interaction with public officials, including officials of non-United States governments. Additionally, in many other countries, the healthcare providers who prescribe pharmaceuticals are employed by their government, and the purchasers of pharmaceuticals are government entities; therefore, our dealings with these prescribers and purchasers will be subject to regulation under the FCPA. Recently the Securities and Exchange Commission, or the SEC, and Department of Justice have increased their FCPA enforcement activities with respect to biotechnology and pharmaceutical companies. There is no certainty that all of our employees, agents, suppliers, manufacturers, contractors, or collaborators, or those of our affiliates, will comply with all applicable laws and regulations, particularly given the high level of complexity of these laws. Violations of these laws and regulations could result in fines, criminal sanctions against us, our officers, or our employees, the closing down of facilities, including those of our suppliers and manufacturers, requirements to obtain export licenses, cessation of business activities in sanctioned countries, implementation of compliance programs, and prohibitions on the conduct of our business. Any such violations could include prohibitions on our ability to offer our products in one or more countries as well as difficulties in manufacturing or continuing to develop our products, and could materially damage our reputation, our brand, our international expansion efforts, our ability to attract and retain employees, and our business, prospects, operating results, and financial condition.

Inadequate funding for the FDA, the SEC and other government agencies, including from government shutdowns, or other disruptions to these agencies' operations, could hinder their ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, and statutory, regulatory and policy changes. Average review times at the agency have fluctuated in recent years as a result. Disruptions at the FDA and other agencies may also slow the time necessary for new product candidates to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. In addition, government funding of the SEC and other government agencies on which our operations may rely, including those that fund research and development activities, is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new product candidates to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years the U.S. government has shut down several times and certain regulatory authorities, such as the FDA and the SEC, have had to furlough critical FDA, SEC and other government employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

Separately, in response to the COVID-19 pandemic, on March 10, 2020 the FDA announced its intention to postpone most inspections of foreign manufacturing facilities and products through while local, national and international conditions warrant. On March 18, 2020, the FDA announced its intention to temporarily postpone routine surveillance inspections of domestic manufacturing facilities and provided guidance regarding the conduct of clinical trials which the FDA continues to update. As of June 23, 2020, the FDA noted it was continuing to ensure timely reviews of applications for medical products during the COVID-19 pandemic in line with its user fee performance goals and conducting mission critical domestic and foreign inspections to ensure compliance of manufacturing facilities with FDA quality standards. As of July 2020, utilizing a rating system to assist in determining when and where it is safest to conduct such inspections based on data about the virus' trajectory in a given state and locality and the rules and guidelines that are put in place by state and local governments, FDA is either continuing to, on a case-by-case basis, conduct only mission critical inspections, or, where possible to do so safely, resuming prioritized domestic inspections, which generally include pre-approval inspections. Foreign pre-approval inspections that are not deemed mission-critical remain postponed, while those deemed mission-critical will be considered for inspection on a case-by-case basis. FDA will use similar data to inform resumption of prioritized operations abroad as it becomes feasible and advisable to do so. Although the American Rescue Plan Act of 2021, which was enacted in March 2021, provided funding to support FDA inspections that have been delayed or canceled due to COVID-19, delays or setbacks in inspections may continue and are possible in the future. Should FDA determine that an inspection is necessary for approval and an inspection cannot be completed during the review cycle due to restrictions on travel, FDA has stated that it generally intends to issue a complete response letter. Further, if there is inadequate information to make a determination on the acceptability of a facility, FDA may defer action on the application until an inspection can be completed. In 2020, several companies announced receipt of complete response letters due to the FDA's inability to complete required inspections for their applications. Aditionally, regulatory authorities outside the U.S. may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic and may experience delays in their regulatory activities. If a prolonged government shutdown or other disruption occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Future shutdowns or other disruptions could also affect other government agencies such as the SEC, which may also impact our business by delaying review of our public filings, to the extent such review is necessary, and our ability to access the public markets.

Our business operations and current and future relationships with principal investigators, health care providers, including physicians, consultants, third-party payors and customers may be subject, directly or indirectly, to U.S. federal and state, as well as foreign, healthcare fraud and abuse laws, false claims laws, health information privacy and security laws, and other healthcare laws and regulations. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.

Healthcare providers, including physicians and third-party payors in the United States and elsewhere will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our current and future arrangements with healthcare professionals, principal investigators, consultants, customers and third-party payors subject us to various U.S. federal and state fraud and abuse laws and other healthcare laws, including, without limitation, the federal Anti-Kickback Statute, or AKS, the federal civil and criminal false claims laws, and the law commonly referred to as the Physician Payments Sunshine Act, or Sunshine Act, along with regulations promulgated under such laws. These laws impact, among other things, our clinical research activities, proposed sales, marketing and educational programs, and other arrangements and relationships with third-party payors, healthcare professionals, and other parties through which we market, sell and distribute our product candidates for which we obtain marketing approval. In addition, we may be subject to patient data privacy and security regulation by both the U.S. federal government and the states in which we conduct our business, along with foreign regulators (including European data protection authorities). The laws that will affect our operations include, but are not limited to, the following:

- the federal AKS, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, offering, receiving or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, lease, order or recommendation of, any good, facility, item or service, for which payment may be made, in whole or in part, under U.S. federal and state healthcare programs such as Medicare and Medicaid. A person does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. Violations may result in significant civil, criminal, and administrative fines and penalties for each violation, plus up to three times the remuneration involved, imprisonment, and exclusion from government healthcare programs. In addition, the government may assert that a claim that includes items or services resulting from a violation of the federal AKS constitutes a false or fraudulent claim for purposes of the civil False Claims Act, or FCA. The definition of "remuneration" under the federal AKS has been broadly interpreted to include anything of value. Further, courts have found that if "one purpose" of the remuneration is to induce or reward referrals, the federal AKS is violated. Although there are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, the exceptions and safe harbors are drawn narrowly. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. On December 2, 2020, the Office of Inspector General, or OIG, published further modifications to the federal Anti-Kickback Statute. Under the final rules, OIG added safe harbor protections under the Anti-Kickback Statute for certain coordinated care and value-based arrangements among clinicians, providers, and others. This rule (with exceptions) became effective January 19, 2021. Implementation of this change and new safe harbors for point-of-sale reductions in price for prescription pharmaceutical products and pharmacy benefit manager service fees are currently under review by the Biden administration and may be amended or repealed. We continue to evaluate what effect, if any, the rule will have on our business;

- the federal civil and criminal false claims laws, including, without limitation, the FCA, which prohibits individuals or entities from, among other things, knowingly presenting, or causing to be presented, false or fraudulent claims for payment to, or approval by, Medicare, Medicaid, or other federal healthcare programs, knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim or an obligation to pay or transmit money to the federal government, or knowingly concealing or knowingly and improperly avoiding or decreasing or concealing an obligation to pay money to the U.S. federal government. Manufacturers can be held liable under the FCA even when they do not submit claims directly to

government payors if they are deemed to "cause" the submission of false or fraudulent claims. The FCA also permits a private individual acting as a "whistleblower" to bring actions on behalf of the federal government alleging violations of the FCA and to share in any monetary recovery. When an entity is determined to have violated the FCA, the government may impose civil fines and penalties for each false claim, plus treble damages, and exclude the entity from participation in Medicare, Medicaid and other federal healthcare programs. Several pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies' marketing of products for unapproved, and thus non-reimbursable, uses;

- the U.S. federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (*i.e.*, public or private), and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false, fictitious, or fraudulent statements, in connection with the delivery of, or payment for, healthcare benefits, items or services. Similar to the federal AKS, a person can be found guilty of violating HIPAA without actual knowledge of the statute or specific intent to violate it;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which imposes certain requirements relating to the privacy, security and transmission of individually identifiable health information on health plans, healthcare clearinghouses and certain healthcare providers, known as "covered entities," and their respective HIPAA "business associates," which are independent contractors that perform certain services for or on behalf of covered entities involving the use or disclosure of individually identifiable health information. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce HIPAA and seek attorneys' fees and costs associated with pursuing federal civil actions;
- the Federal Food, Drug and Cosmetic Act, which prohibits, among other things, the adulteration or misbranding of drugs, biologics and medical devices;
- the federal Sunshine Act, and its implementing regulations, which requires certain manufacturers of drugs, medical devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children's Health Insurance Program to report annually to the CMS information related to certain payments and other transfers of value to physicians (defined to include doctors of medicine or osteopathy, dentists, optometrists, podiatrists, and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Effective January 1, 2022, these reporting obligations will extend to include transfers of value made during the previous year to certain non-physician providers such as physician assistants and nurse practitioners; and
- analogous state and foreign laws and regulations, including the following: state anti-kickback and false claims laws, which may be broader in scope than their federal equivalents; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the U.S. federal government, or that 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, marketing expenditures or drug pricing; state and local laws that require the registration of pharmaceutical sales representatives; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws. Even if precautions are taken, it is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant penalties, including without limitation, civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from participating in federal and state funded healthcare programs, such as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, contractual damages, diminished profits and future earnings, reputational harm and the curtailment or restructuring of our operations. If any of the physicians or other healthcare providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, that person may be subject to significant criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. Prohibitions or restrictions on sales or withdrawal of future marketed products could materially affect business in an adverse way.

The risk of our being found in violation of these laws is increased by the fact that many of them have not been fully interpreted by applicable regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. The shifting compliance environment and the need to build and maintain robust and expandable systems to comply with multiple jurisdictions with different compliance and/or reporting requirements increases the possibility that a healthcare company may run afoul of one or more of the requirements.

Our employees, independent contractors, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk that our employees, independent contractors, consultants, collaborators, CROs or CMOs, principal investigators, suppliers and vendors may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and negligent conduct that fails to: comply with the regulations of the FDA and other comparable foreign regulatory bodies, provide true, complete and accurate information to the FDA and other comparable foreign regulatory bodies, comply with manufacturing standards we have established, comply with healthcare fraud and abuse laws in the United States and similar foreign fraudulent misconduct laws or report financial information or data accurately or to disclose unauthorized activities to us. If we obtain FDA approval of any of our product candidates and begin commercializing those products in the United States, our potential exposure under such laws and regulations will increase significantly, and our costs associated with compliance with such laws and regulations are also likely to increase. In particular, the promotion, sales and marketing of healthcare items and services, as well as certain business arrangements in the healthcare industry, are subject to extensive laws designed to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, structuring and commission(s), certain customer incentive programs and other business arrangements generally. Misconduct by persons acting on our behalf could also involve the improper use of individually identifiable information, including, without limitation, information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation.

Effective upon the closing of this offering, we will adopt a code of business conduct and ethics, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent inappropriate conduct may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant civil, criminal and administrative penalties, including, without limitation, damages, fines, disgorgement, imprisonment, exclusion from participation in

government healthcare programs, such as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, and the curtailment or restructuring of our operations.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological and radioactive materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

Failure to comply with current or future national, supranational, federal or state laws and regulations, regulatory guidance and industry standards relating to data protection, privacy and information security, including restrictive European regulations, could lead to government enforcement actions (which could include civil or criminal penalties), private litigation, and/or adverse publicity and could negatively affect our operating results and business.

We and our collaborators and third-party providers are subject to national, supranational, federal or state laws and regulations, regulatory guidance and industry standards relating to data protection, privacy and information security. This includes the EU General Data Protection Regulation, or GDPR, as well as other national data protection legislation in force in relevant EU member states (including the Data Protection Act 2018 in the UK), which governs the collection, use, storage, disclosure, transfer, or other processing of personal data (including health data processed in the context of clinical trials) (i) regarding individuals in the EU, and/or (ii) carried out in the context of the activities of our establishment in any EU member state. Following the UK's withdrawal from the EU on January 31, 2020, pursuant to the transitional arrangements agreed between the UK and the EU, the GDPR continued to have effect in English law, in the same fashion as was the case prior to that withdrawal as if the UK remained an EU member state for such purposes. As of January 1, 2021, and the expiry of such transitional arrangements, data processing in the UK is governed by a UK version of the GDPR (combining the GDPR and the Data Protection Act 2018), exposing us to two parallel regimes, each of which potentially authorizes similar fines and other potentially divergent enforcement actions for certain violations.

The GDPR is wide-ranging in scope and imposes numerous additional requirements on companies that process personal data, including imposing special requirements in respect of the processing of health and other sensitive data, requiring that consent of individuals to whom the personal data relates is obtained in certain circumstances, requiring additional disclosures to individuals regarding data processing activities, requiring that safeguards are implemented to protect the security and confidentiality of personal data, creating mandatory data breach notification requirements in certain circumstances, and requiring that certain measures (including contractual requirements) are put in place when engaging third-party processors. The GDPR also provides individuals with various rights in respect of their personal data, including rights of access, erasure, portability, rectification, restriction and objection. The GDPR defines personal data to include pseudonoymised or coded data and requires different informed consent practices and more detailed notices for clinical trial participants and investigators than applies to clinical trials conducted in the United States. We are required to apply GDPR standards to any clinical trials that our EU established businesses carry out anywhere in the world.

The GDPR imposes strict rules on the transfer of personal data to countries outside the European Economic Area, or EEA, and Switzerland, including the United States. The United Kingdom and Switzerland have adopted similar restrictions. Pursuant to the Trade and Cooperation Agreement, which went into effect on January 1, 2021, the UK and the EU agreed to a specified period during which the UK will be treated like an EU member state in relation to transfers of personal data to the UK for four months from January 1, 2021. This period may be extended by two further months. Unless the European Commission makes an adequacy finding in respect of the UK before the expiration of such specified period, the UK will become an inadequate third country under the GDPR and transfers of data from the European Economic Area to the UK will require a transfer mechanism, such as the standard contractual clauses. We may be required to change our business practices, including how we store and transfer personal data, and put in place additional compliance mechanisms, and we may incur increased costs, as a result of this development.

The GDPR may increase our responsibility and liability in relation to personal data that we process where such processing is subject to the GDPR. While we have taken steps to comply with the GDPR, and implementing legislation in applicable EU member states, including by seeking to establish appropriate lawful bases for the various processing activities we carry out as a controller or joint controller, reviewing our security procedures and those of our vendors and collaborators, and entering into data processing agreements with relevant vendors and collaborators, we cannot be certain that our efforts to achieve and remain in compliance have been, and/or will continue to be, fully successful. Given the breadth and depth of changes in data protection obligations, preparing for and complying with the GDPR and similar laws' requirements are rigorous and time intensive and require significant resources and a review of our technologies, systems and practices, as well as those of any third-party collaborators, service providers, contractors or consultants that process or transfer personal data.

In the United States, numerous federal and state laws and regulations, including federal health information privacy laws, state data breach notification laws, state health information privacy laws and federal and state consumer protection laws (*e.g.*, Section 5 of the FTCA), that govern the collection, use, disclosure and protection of health-related and other personal information could apply to our operations or the operations of our collaborators and third-party providers. For example, California recently enacted the California Consumer Privacy Act, or the CCPA, which became effective on January 1, 2020. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. US states are constantly amending existing laws, requiring attention to frequently changing regulatory requirements. At this time, we do not collect personal data on residents of California but should we begin to do so, the CCPA will impose new and burdensome privacy compliance obligations on our business and will raise new risks for potential fines and class actions.

Many jurisdictions have adopted legislation that regulates how businesses operate online and enforces information security, including measures relating to privacy, data security and data breaches. Laws in the EEA, UK and Switzerland require businesses to notify regulators and data participants in the event of a data breach. Meanwhile, in the United States, all 50 states of the United States require businesses to provide notice to customers whose personal data has been disclosed as a result of a data breach. These laws are not consistent, and compliance in the event of a widespread data breach is costly.

In many jurisdictions, enforcement actions and consequences for non-compliance with protection, privacy and information security laws and regulations are rising. In the EU, data protection authorities may impose large penalties for violations of the data protection laws, including potential fines of up to €20 million or 4% of annual global revenue, whichever is greater. The authorities have shown a willingness to impose significant fines and issue orders preventing the processing of personal data on non-compliant businesses. Data participants also have a private right of action, as do consumer associations, to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of applicable data protection laws. In the United States, possible consequences for non-compliance include enforcement actions in response to rules and regulations promulgated under the authority of federal agencies and state attorneys general and legislatures and consumer protection agencies.

In addition, privacy advocates and industry groups have regularly proposed, and may propose in the future, self-regulatory standards that may legally or contractually apply to us. If we fail to follow these security standards, even if no customer information is compromised, we may incur significant fines or experience a significant increase in costs.

The risk of our being found in violation of these laws is increased by the fact that many of them have not been fully interpreted by applicable regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. The shifting compliance environment and the need to build and maintain robust and expandable systems to comply with multiple jurisdictions with different compliance and/or reporting requirements increases the possibility that a healthcare company may run afoul of one or more of the requirements.

Compliance with data protection laws and regulations could require us to take on more onerous obligations in our contracts, restrict our ability to collect, use and disclose data, or in some cases, impact our ability to operate in certain jurisdictions. It could also require us to change our business practices and put in place additional compliance mechanisms, may interrupt or delay our development, regulatory and commercialization activities and increase our cost of doing business. Failure by us or our collaborators and third-party providers to comply with data protection laws and regulations could result in government enforcement actions (which could include civil or criminal penalties and orders preventing us from processing personal data), private litigation and result in significant fines and penalties against us. Moreover, clinical trial participants about whom we or our potential collaborators obtain information, as well as the providers who share this information with us, may contractually limit our ability to use and disclose the information. Claims that we have violated individuals' privacy rights, failed to comply with data protection laws or breached our contractual obligations, even if we are not found liable, could be expensive and time-consuming to defend, could result in adverse publicity and could have a material adverse effect on our business, financial condition, results of operations and prospects.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain patent protection for any products we develop and for our technology, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize any product candidates we may develop and our technology may be adversely affected.

Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to our product candidates. We seek to protect our proprietary position by in-licensing intellectual property relating to our platform technology and filing patent applications relating to our technologies that are important to our business. If we or our licensors are unable to obtain or maintain patent protection with respect to our product candidates, our competitive position, business, financial conditions, results of operations, and prospects could be materially harmed. We do not own any issued patents with respect to our product candidates and rely primarily on in-licensed patents and patent applications. We can provide no assurance that any of our current or future patent applications will result in issued patents or that any issued patents will provide us with any competitive advantage. Failure to obtain issued patents could have a material adverse effect on our ability to develop and commercialize our product candidates.

Changes in either the patent laws or their interpretation in the United States and other countries may diminish our ability to protect our inventions, obtain, maintain, and enforce our intellectual property rights and, more generally, could affect the value of our intellectual property or narrow the scope of our patents. With respect to both our in-licensed and owned intellectual property, we cannot predict whether the patent applications that we and our licensors are currently pursuing or that we may pursue in the future will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient protection from competitors.

The patent prosecution process is expensive, time-consuming, and complex, and we and our licensors may not be able to file, prosecute, maintain, enforce, or license all necessary or desirable patent applications at a

reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output in time to obtain patent protection. Although we enter into non-disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, corporate collaborators, outside scientific collaborators, CROs, contract manufacturers, consultants, advisors, and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. In addition, publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in our owned or any licensed patents or pending patent applications, or that we were the first to file for patent protection of such inventions.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions, and has been the subject of much litigation in recent years. As a result, the issuance, scope, validity, enforceability, and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in patents being issued which protect our technology or product candidates or which effectively prevent others from commercializing competitive technologies and product candidates.

The issuance of a patent is not conclusive as to its inventorship, scope, validity, or enforceability, and our patents may be challenged in the courts or patent offices in the United States and abroad. We or our licensors may become subject to a third party pre-issuance submission of prior art to the United States Patent and Trademark Office, or the USPTO, or opposition, derivation, revocation, reexamination, post-grant and *inter partes* review, or interference proceedings and other similar proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. Moreover, we, or one of our licensors, may have to participate in interference proceedings declared by the USPTO to determine priority of invention or in post-grant challenge proceedings, such as oppositions in a foreign patent office, that challenge priority of invention or other features of patentability. Such challenges may result in loss of patent rights, loss of exclusivity, or in patent claims being narrowed, invalidated, or held unenforceable, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and product candidates. Such proceedings also may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us.

In addition, given the amount of time required for the development, testing, and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our intellectual property may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

Our rights to develop and commercialize our technology and product candidates are subject, in part, to the terms and conditions of licenses granted to us by others and if we fail to comply with our current or future obligations in any agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business.

We are heavily reliant upon licenses to certain patent rights and proprietary technology from third parties that are important or necessary to the development of our product candidates. These and other future agreements impose, and may continue to impose, numerous obligations, such as development, diligence, payment, commercialization, funding, milestone, royalty, sublicensing, insurance, patent prosecution and enforcement obligations on us and may require us to meet development timelines, or to exercise commercially reasonable efforts to develop and commercialize licensed products, in order to maintain the licenses. The terms of our material license agreements are described more fully under “Business—Our Collaboration and License Agreements.” In spite of our best efforts, our current and future licensors might conclude that we have materially breached our license agreements and might therefore terminate the license

agreements, thereby removing or limiting our ability to develop and commercialize products and technologies covered by these license agreements.

In addition, we may not have the right to control the preparation, filing, prosecution, maintenance, enforcement, and defense of patents and patent applications covering the technology that we license from third parties. For example, we do not control the preparation, filing, prosecution or maintenance of patents in-licensed from OUI. Therefore, we cannot be certain that these patents and patent applications will be prepared, filed, prosecuted, maintained, enforced, and defended in a manner consistent with the best interests of our business. If our licensors fail to prosecute, maintain, enforce, and defend such patents, or lose rights to those patents or patent applications, the rights we have licensed may be reduced or eliminated, and our right to develop and commercialize any of our products that are the subject of such licensed rights could be adversely affected.

Any termination of these licenses, or any failure of the underlying patents to provide the intended exclusivity, could result in the loss of significant rights and could harm our ability to commercialize our product candidates, and competitors or other third parties would have the freedom to seek marketing authorization for, and to market, products identical to ours and we may be required to cease our development and commercialization of certain of our product candidates. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

Disputes may arise between us and our current and future licensors regarding intellectual property subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which our technology and processes infringe, misappropriate or otherwise violate intellectual property rights of the licensor that are not subject to the licensing agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships and the amount of fees payable as a result of sublicensing arrangements;
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates, and what activities satisfy those diligence obligations;
- the priority of invention of any patented technology; and
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our current or future licensors and/or us and/or our partners.

In addition, the agreements under which we license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations and prospects. Moreover, if disputes over intellectual property that we license prevent or impair our ability to maintain our licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates, which could have a material adverse effect on our business, financial conditions, results of operations and prospects.

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

In addition to the protection afforded by patents, we seek to rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable, processes for which patents are difficult to enforce and other elements of our product discovery and development processes. Although we require all of our employees, consultants, advisors and any third parties who have access to our proprietary know-how, information, or technology to enter into confidentiality agreements, trade

secrets can be difficult to protect and we have limited control over the protection of trade secrets used by our collaborators and suppliers. We cannot be certain that we have or will obtain these agreements in all circumstances and we cannot guarantee that we have entered into such agreements with each party that may have or has had access to our trade secrets or proprietary information.

Moreover, any of these parties might breach the agreements and intentionally or inadvertently disclose our trade secret information and we may not be able to obtain adequate remedies for such breaches. In addition, competitors and other third parties may otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them from using that technology or information to compete with us and our competitive position would be materially and adversely harmed. Furthermore, the laws of some foreign countries do not protect proprietary rights and trade secrets to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent unauthorized material disclosure of our intellectual property to third parties, we will not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, financial condition, results of operations and prospects.

Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. If we choose to go to court to stop a third party from using any of our trade secrets, we may incur substantial costs. These lawsuits may consume our time and other resources even if we are successful and could have a material adverse effect on our business, financial conditions, results of operations and prospects.

The intellectual property landscape around immunotherapeutics and viral-vector based vaccines is crowded and dynamic, and third parties may initiate legal proceedings alleging that we are infringing, misappropriating or otherwise violating their intellectual property rights and such claims may be costly and time-consuming and may prevent or delay our product discovery and development efforts.

The intellectual property landscape around immunotherapeutics and viral-vector based vaccines is crowded and dynamic, and third parties may initiate legal proceedings alleging that we are infringing, misappropriating, or otherwise violating their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business. Our commercial success depends upon our ability to develop, manufacture, market and sell our current and future product candidates and use our proprietary technologies without infringing, misappropriating or otherwise violating the intellectual property rights of third parties. There is a substantial amount of litigation involving patents and other intellectual property rights in the biotechnology and pharmaceutical industries, as well as administrative proceedings for challenging patents, including derivation, interference, reexamination, *inter partes* review, and post-grant review proceedings before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. We or any of our licensors or strategic partners may be party to, exposed to, or threatened with, adversarial proceedings or litigation by third parties having patent or other intellectual property rights alleging that our current or future product candidates and/or proprietary technologies infringe, misappropriate or otherwise violate their intellectual property rights. We cannot assure you that our product candidates and other technologies that we have developed, are developing or may develop in the future do not or will not infringe, misappropriate or otherwise violate existing or future patents or other intellectual property rights owned by third parties. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, including our competitors, exist in the fields in which we are developing our product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others. Moreover, it is not always clear to industry participants, including us, which patents cover various types of viral vectors and vaccines or their methods of use or manufacture. Thus, because of the large number of patents issued and patent applications filed in our fields, there may be a risk that third parties may allege they have patent rights encompassing our product candidates, technologies or methods. For example, we are aware of third-party patents in the United States with claims which may be relevant to our VTP-300 product candidate. In the event that these

patents were asserted against us in an infringement action, we may have to argue that the manufacture, use, sale or importation of our VTP-300 product candidate in the United States does not infringe any valid claim of the asserted patents. There is no assurance that a court would find in our favor on questions of infringement or validity.

If a third party (including any third party that controls the above referenced patents) claims that we infringe, misappropriate or otherwise violate its intellectual property rights (including the above referenced patents), we may face a number of risks, including, but not limited to:

- infringement, misappropriation and other intellectual property claims which, regardless of merit, may be expensive and time-consuming to litigate and may divert our management's attention from our core business and may impact our reputation;
- substantial damages for infringement, misappropriation or other violations, which we may have to pay if a court decides that the product candidate or technology at issue infringes, misappropriates or violates the third party's rights, and, if the court finds that the infringement was willful, we could be ordered to pay treble damages and the patent owner's attorneys' fees;
- a court prohibiting us from developing, manufacturing, marketing or selling our product candidates, or from using our proprietary technologies, unless the third party licenses its product rights to us, which it is not required to do, on commercially reasonable terms, or at all;
- if a license is available from a third party, we may have to pay substantial royalties, upfront fees and other amounts, and/or grant cross-licenses to intellectual property rights for our products, or the license to us may be non-exclusive, which would permit third parties to use the same intellectual property to compete with us;
- redesigning our product candidates or processes so they do not infringe, misappropriate or violate third party intellectual property rights, which may not be possible or may require substantial monetary expenditures and time; and
- there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and, if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on our share price.

Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations or could otherwise have a material adverse effect on our business, results of operations, financial condition and prospects. The occurrence of any of the foregoing could have a material adverse effect on our business, financial condition, results of operations or prospects.

We may choose to challenge the patentability of claims in a third party's U.S. patent by requesting that the USPTO review the patent claims in an *ex-parte* reexamination, *inter partes* review or post-grant review proceedings. These proceedings are expensive and may consume our time or other resources. We may choose to challenge a third party's patent in patent opposition proceedings in the European Patent Office, or EPO, or other foreign patent office. The costs of these opposition proceedings could be substantial, and may consume our time or other resources. If we fail to obtain a favorable result at the USPTO, EPO or other patent office then we may be exposed to litigation by a third party alleging that the patent may be infringed by our product candidates or proprietary technologies.

Third parties may assert that we are employing their proprietary technology without authorization. Patents issued in the United States by law enjoy a presumption of validity that can be rebutted only with evidence that is "clear and convincing," a heightened standard of proof. There may be issued third-party patents of which we are currently unaware with claims to compositions of matter, methods of manufacture or methods for treatment related to our product candidates, their manufacture or use. Patent applications can take many years to issue. In addition, because some patent applications in the United States may be maintained in secrecy until the patents are issued, patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, and publications in the scientific literature often lag behind actual discoveries, we cannot be certain that others have not filed patent

applications covering our product candidates or technology. If any such patent applications issue as patents, and if such patents have priority over our patent applications or patents we may own or in-license, we may be required to obtain rights to such patents owned by third parties which may not be available on commercially reasonable terms, or at all, or may only be available on a non-exclusive basis. There may be currently pending patent applications which may later result in issued patents that our product candidates may infringe. It is also possible that patents owned by third parties of which we are aware, but which we do not believe are relevant to our product candidates or other technologies, could be found to be infringed by our product candidates or other technologies. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. Moreover, we may fail to identify relevant patents or incorrectly conclude that a patent is invalid, not enforceable, exhausted, or not infringed by our activities. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of our product candidates, molecules used in or formed during the manufacturing process, or any final product itself, the holders of any such patents may be able to block our ability to commercialize the product candidate unless we obtained a license under the applicable patents, or until such patents expire or they are finally determined to be held invalid or unenforceable. Similarly, if any third-party patent were held by a court of competent jurisdiction to cover aspects of our product candidates, process for their manufacture or methods of use, including combination therapies or participant selection methods, the holders of any such patent may be able to block our ability to develop and commercialize the product candidate unless we obtained a license or until such patent expires or is finally determined to be held invalid or unenforceable. In either case, such a license may not be available on commercially reasonable terms, or at all. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, or at all, our ability to commercialize our product candidates may be impaired or delayed, which could in turn significantly harm our business. Even if we obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In addition, if the breadth or strength of protection provided by our patent applications or any patents we in-license or may own in the future is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

Parties making claims against us may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our product candidates. Defense of these claims, regardless of their merit, could involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement, misappropriation or other violation against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. We cannot predict whether any such license would be available at all or whether it would be available on commercially reasonable terms. Furthermore, even in the absence of litigation, we may need or may choose to obtain licenses from third parties to advance our research or allow commercialization of our product candidates. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. We also could be forced, including by court order, to cease developing, manufacturing, and commercializing the infringing technology or product candidates. In that event, we would be unable to further develop and commercialize our product candidates, which could harm our business significantly.

We may not be successful in obtaining or maintaining necessary rights to product components and processes for our development pipeline through acquisitions and in-licenses.

We currently have rights to intellectual property, through licenses from third parties, to develop and commercialize our product candidates. Many pharmaceutical companies, biotechnology companies, and academic institutions are competing with us in the field of infectious disease and oncology and filing patent applications potentially relevant to our business. Because our current and future product candidates may require the use of proprietary rights held by third parties, the growth of our business will likely depend in part on our ability to acquire, in-license or use these proprietary rights.

Our product candidates may also require particular vector components or gene sequences encoding antigenic peptides to work effectively and efficiently and these rights may be held by others. Similarly,

efficient production, delivery or use of our product candidates may also require specific compositions or methods, and the rights to these may be owned by third parties. We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify as necessary or important to our business operations. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all, which would harm our business. We may need to cease use of the compositions or methods covered by such third-party intellectual property rights, and may need to seek to develop alternative approaches that do not infringe on such intellectual property rights which may entail additional costs and development delays, even if we were able to develop such alternatives, which may not be feasible. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. We may be required to expend significant time and resources to develop or license replacement technology. Moreover, the molecules that will be used with our product candidates may be covered by the intellectual property rights of others.

Additionally, we sometimes collaborate with academic institutions to accelerate our preclinical research or development under written agreements with these institutions. In certain cases, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to others, potentially blocking our ability to pursue our program and allowing third parties to compete with us. If we are unable to successfully obtain rights to required third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of such program and our business and financial condition could suffer.

The licensing and acquisition of third-party intellectual property rights is a competitive area, and companies, which may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment or at all. There can be no assurance that we will be able to successfully complete such negotiations and ultimately acquire the rights to the intellectual property surrounding the additional product candidates that we may seek to acquire. If we are unable to successfully obtain rights to required third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of such program and our business, results of operations, financial condition and prospects could suffer.

We may be involved in lawsuits to protect or enforce our intellectual property rights, including any patents we may own or in-license in the future, which could be expensive, time-consuming and unsuccessful.

Competitors may infringe any patents we in-license or may own in the future. In addition, any patents we may in-license or own also may become involved in inventorship, priority, validity or unenforceability disputes. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. In addition, in an infringement proceeding, a court may decide that one or more of any patents we may in-license or own in the future is not valid or is unenforceable or that the other party's use of our technology falls under the safe harbor to patent infringement under 35 U.S.C. §271(e)(1). There is also the risk that, even if the validity of these patents is upheld, the court may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question or that such third party's activities do not infringe our patents. An adverse result in any litigation or defense proceedings could put one or more of any patents we in-license or may own in the future at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement,

obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

Post-grant proceedings provoked by third parties or brought by the USPTO may be necessary to determine the validity or priority of inventions with respect to our patent applications or any patents we may in-license or own in the future. These proceedings are expensive and an unfavorable outcome could result in a loss of our current patent rights and could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. In addition to potential USPTO review proceedings, we may become a party to patent opposition proceedings in the EPO, or similar proceedings in other foreign patent offices, where our foreign patents are challenged. For example, one of our in-licensed European patents relating to our now discontinued MVA influenza product candidate has been revoked in a European opposition proceeding. This decision is currently on appeal, although there can be no assurance that any such appeal will be successful. The costs of opposition or similar proceedings could be substantial, and may result in a loss of scope of some claims or a loss of the entire patent. An unfavorable result at the USPTO, EPO or other patent office may result in the loss of our right to exclude others from practicing one or more of our inventions in the relevant country or jurisdiction, which could have a material adverse effect on our business.

Litigation or post-grant proceedings may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, misappropriation of our trade secrets or confidential information, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential 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 detect infringement of any patents we may in-license or own. Even if we detect infringement by a third party of any such patents, we may choose not to pursue litigation against or settlement with the third party. If we later sue such third party for patent infringement, the third party may have certain legal defenses available to it, which otherwise would not be available except for the delay between when the infringement was first detected and when the suit was brought. Such legal defenses may make it impossible for us to enforce any patents we may own or in-license against such third party.

Obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other government fees on any issued patents and patent applications are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process and following the issuance of a patent. While an inadvertent lapse can in some cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to

properly legalize and submit formal documents. In such an event, our competitors and other third parties might be able to enter the market with similar or identical products or platforms, which could have a material adverse effect on our business prospects and financial condition.

Any issued patents we in-license or may own now or in the future covering our product candidates could be narrowed or found invalid or unenforceable if challenged in court or before administrative bodies in the United States or abroad, including the USPTO.

If we or our licensors or strategic partners initiate legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate, 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. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of patentable subject matter, lack of written description, lack of novelty, obviousness, or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include reexamination, *inter partes* review, post-grant review, interference proceedings, derivation proceedings and equivalent proceedings in foreign jurisdictions (such as opposition proceedings). Such proceedings could result in revocation or amendment to our in-licensed patent applications or patents or any patent applications or patents we may own in the future in such a way that they no longer cover our product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate or render unenforceable, any rights we may have from our patent applications or any patents we in-license or may own in the future, allow third parties to commercialize our product candidates or other technologies and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights.

Such proceedings also may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us. If we are unsuccessful in any such proceeding or other priority or inventorship dispute, we may be required to obtain and maintain licenses from third parties, including parties involved in any such interference proceedings or other priority or inventorship disputes. Such licenses may not be available on commercially reasonable terms, or at all, or may be non-exclusive. If we are unable to obtain and maintain such licenses, we may need to cease the development, manufacture, and commercialization of one or more of the product candidates we may develop. The loss of exclusivity or the narrowing of our patent application claims could limit our ability to stop others from using or commercializing similar or identical technology and products. Any of the foregoing could have a material adverse effect on our business, results of operations, financial condition and prospects.

We may be subject to claims challenging the inventorship or ownership of any intellectual property, including any patents we may in-license or own in the future.

We may be subject to claims that former employees, collaborators or other third parties have an interest in any patents we in-license or may own in the future, trade secrets, or other intellectual property as an inventor or co-inventor. For example, we may have inventorship disputes arise from conflicting obligations of employees, consultants or others who are involved in developing our product candidates or other technologies. We generally enter into confidentiality and intellectual property assignment agreements with our employees, consultants, and contractors. These agreements generally provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, those agreements may not be honored and may not effectively assign intellectual property rights to us. Moreover, there may be some circumstances, where we are unable to negotiate for such ownership rights. Disputes regarding ownership or inventorship of intellectual property can also arise in other contexts, such as collaborations and sponsored research. If we are subject to a dispute challenging our rights in or to patents or other intellectual property, such a dispute could be expensive and time-consuming. Litigation may be

necessary to defend against these and other claims challenging inventorship of any patents we in-license or may own in the future, trade secrets or other intellectual property. If we were unsuccessful, in addition to paying monetary damages, we could lose valuable rights in intellectual property that we regard as our own, such as exclusive ownership of, or right to use, intellectual property that is important to our product candidates and other technologies. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information or alleged trade secrets of third parties or competitors or are in breach of non-competition or non-solicitation agreements with our competitors or other third parties.

We have received confidential and proprietary information from third parties. In addition, as is common in the biotechnology and pharmaceutical industries, we employ individuals who were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information or trade secrets of these third parties. In addition, we may in the future be subject to claims that we caused an employee to breach the terms of his or her non-competition or non-solicitation agreement. Litigation or arbitration may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation or other legal proceedings relating to intellectual property claims and possible aftermath could result in substantial cost and be a distraction to our management and employees. Any litigation or the threat thereof may adversely affect our ability to hire employees. A loss of key personnel or their work product could hamper or prevent our ability to commercialize product candidates, which could have an adverse effect on our business, results of operations and financial condition. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and, if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on our share price. This type of litigation or proceeding could substantially increase our operating losses and reduce our resources available for development activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other intellectual property related proceedings could adversely affect our ability to compete in the marketplace.

In addition, while it is our policy to require our employees and contractors who may be involved in the development of intellectual property to execute agreements that provide that all inventions conceived by the individual, and which are related to our current or planned business or research and development or made during normal working hours, on our premises or using our equipment or proprietary information, are our exclusive property, we may be unsuccessful in executing such an agreement with each party who, in fact, develops intellectual property that we regard as our own. The assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could have a material adverse effect on our business, financial condition, results of operations, and prospects.

If we do not obtain patent term extension and data exclusivity for any of our current or future product candidates we may develop, our business may be materially harmed.

Depending upon the timing, duration and specifics of any FDA marketing approval of any of our current or future product candidates we may develop, one or more U.S. patents we in-license or may own in the future may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent term extension of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of

14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. However, we may not be granted an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents, or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is shorter than what we request, our competitors or other third parties may obtain approval of competing products following expiration of any patents that issue from our patent applications, and our business, financial condition, results of operations, and prospects could be materially harmed.

Changes to patent law in the United States and in foreign jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other biotechnology and pharmaceutical 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. 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 patents that we might obtain in the future. For example, in the case *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, the U.S. Supreme Court held that certain claims to DNA molecules are not patentable. Any adverse changes in the patent laws of other jurisdictions could have a material adverse effect on our business and financial condition. Changes in the laws and regulations governing patents in other jurisdictions could similarly have an adverse effect on our ability to obtain and effectively enforce any rights we may have in our patent applications or any patents we may own or in-license in the future.

Recent or future patent reform legislation could also increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of any patents we in-license or may own in the future. The United States has enacted and implemented wide-ranging patent reform legislation. On September 16, 2011, the Leahy-Smith America Invents Act, or America Invents Act, was signed into law, which includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted, redefine prior art, may affect patent litigation, establish a new post-grant review system and switch the U.S. patent system from a “first-to-invent” system to a “first-to-file” system. Under a “first-to-file” system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on the invention regardless of whether another inventor had made the invention earlier. Since patent applications in the United States and most other countries are confidential for a period of time after filing or until issuance, we cannot be certain that we or our licensors were the first to either (i) file any patent application related to our product candidates or other technologies or (ii) invent any of the inventions claimed in our patent applications or any patents we may own or in-license. These changes also allow third party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO administered post-grant proceedings, including post-grant review, inter partes review, and derivation proceedings. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in United States federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. An adverse determination in any such proceeding could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. Accordingly, the America Invents Act and its implementation could

increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of any issued patents we in-license or may own in the future, all of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We may not be able to protect our intellectual property and proprietary rights throughout the world.

Filing, prosecuting, and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. In addition, our intellectual property license agreements may not always include worldwide rights. 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 or licenses 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 biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our intellectual property and proprietary rights generally. Proceedings to enforce our intellectual property and proprietary 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, could put 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 and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. As a result, in response to the COVID-19 pandemic, it is possible that certain countries may take steps to facilitate compulsory licenses that permit the distribution of a COVID-19 vaccine in those countries. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of the relevant patent rights. If we or any of our licensors is forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition, results of operations, and prospects may be adversely affected.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our marks of interest and our business may be adversely affected.

Our trademarks or trade names may be challenged, infringed, diluted, circumvented or declared generic or determined to be infringing on other marks. We intend to rely on both registration and common law protection for our trademarks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. During the trademark registration process, we may receive Office Actions from the USPTO objecting to the registration of our trademarks. Although we would be given an opportunity to respond to those objections, we may be unable to overcome such rejections. In addition, at the USPTO and at comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and/or to seek the cancellation of registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. If we are unable to obtain a registered trademark or establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected.

Numerous factors may limit any potential competitive advantage provided by the relevant patent rights.

The degree of future protection afforded by our intellectual property rights, whether owned or in-licensed, is uncertain because intellectual property rights have limitations, and may not adequately protect our business, provide a barrier to entry against our competitors or potential competitors, or permit us to maintain our competitive advantage. Moreover, if a third party has intellectual property rights that cover the practice of our technology, we may not be able to fully exercise or extract value from our intellectual property rights. The following examples are illustrative:

- patent applications that we own or in-license may not lead to issued patents;
- patents, that we in-license or may own in the future, may not provide us with any competitive advantages, may be narrowed in scope, or may be challenged and held invalid or unenforceable;
- others may be able to develop and/or practice technology, including compounds that are similar to the chemical compositions of our product candidates, that is similar to our technology or aspects of our technology but that is not covered by the claims of any patents we in-license or may own in the future;
- third parties may compete with us in jurisdictions where we do not pursue and obtain patent protection;
- we, or our licensors or collaborators, might not have been the first to make the inventions covered by a patent application that we own or in-license;
- we, or our licensors or collaborators, might not have been the first to file patent applications covering a particular invention;
- others may independently develop similar or alternative technologies without infringing, misappropriating or otherwise violating our intellectual property rights;
- our competitors or other third parties might conduct research and development activities in the United States and other countries that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in countries where we do not have patent rights, and may then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may not be able to obtain and/or maintain necessary licenses on reasonable terms, or at all;
- third parties may assert an ownership interest in our intellectual property and, if successful, such disputes may preclude us from exercising exclusive rights, or any rights at all, over that intellectual property;
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such trade secrets or know-how;
- we may not be able to maintain the confidentiality of our trade secrets or other proprietary information;
- we may not develop or in-license additional proprietary technologies that are patentable; and
- the patents of others may have an adverse effect on our business.

Should any of these events occur, they could significantly harm our business, financial condition, results of operations and prospects.

Risks Related to Employee Matters, Managing Our Growth and Other Risks

Risks Related to Our Employee Matters

We are highly dependent on our key personnel, and if we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

Our ability to compete in the highly competitive biotechnology and pharmaceutical industries depends upon our ability to attract and retain highly qualified managerial, scientific and medical personnel. We are highly dependent on our management, scientific and medical personnel, including Bill Enright, our Chief Executive Officer. The loss of the services of any of our executive officers, other key employees and other scientific and medical advisors, and an inability to find suitable replacements could result in delays in product development and harm our business.

We conduct our operations at our facilities in Oxford, UK. This region is headquarters to many other biopharmaceutical companies and many academic and research institutions. Competition for skilled personnel in our market is intense and may limit our ability to hire and retain highly qualified personnel on acceptable terms, or at all. Changes to UK, U.S. or similar foreign immigration and work authorization laws and regulations, including those that restrain the flow of scientific and professional talent, can be significantly affected by political forces and levels of economic activity. Our business may be materially adversely affected if legislative or administrative changes to the UK (including, but not limited to, those that result as a direct or indirect consequence of Brexit), U.S. or similar foreign immigration or visa laws and regulations impair our hiring processes and goals or projects involving personnel who are not U.S. citizens.

To encourage valuable employees to remain at our company, in addition to salary and cash incentives, we have provided stock options that vest over time. The value to employees of stock 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 our employees, these employment agreements with US employees provide for at-will employment, which means that any of our US employees could leave our employment at any time, by providing the required contractual notification of their intent to leave. The standard notice period for UK employed personnel is three calendar months. 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.

Risks Related to Our Business Operations and Growth

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

As of April 9, 2021, we had 48 full-time and part-time employees. As our development and commercialization plans and strategies develop, and as we transition into operating as a public company, we expect to need additional managerial, operational, sales, marketing, financial and other personnel, as well as additional facilities to expand our operations. Future growth would impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining and motivating additional and existing employees;
- managing our internal development efforts effectively, including the clinical and FDA review process for our product candidates, 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 product candidates 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.

There can be no assurance that the services of independent organizations, advisors and consultants will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality or accuracy of the services provided by consultants is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain marketing authorization for our product candidates or otherwise advance our business. There can be no assurance that we will be able to manage our existing consultants or find other competent outside contractors and consultants on economically reasonable terms, or at all.

If we are not able to effectively expand our organization by hiring new employees and expanding our groups of consultants and contractors, or we are not able to effectively build out new facilities to accommodate this expansion, we may not be able to successfully implement the tasks necessary to further develop and commercialize our product candidates and, accordingly, may not achieve our research, development and commercialization goals.

Our internal computer systems, or those used by our third-party CROs or other contractors or consultants, may fail or suffer security breaches, which could result in the disclosure of confidential or proprietary information, including personal data, damage to our reputation, and subject us to significant financial and legal exposure and cause a material disruption of the development programs of our product candidates.

We and our third-party CROs and other contractors and consultants rely extensively on information technology systems to conduct and manage our business. Despite the implementation of security measures, our internal computer systems and those of our current and future third-party providers are vulnerable to damage from computer viruses and unauthorized access. The risk of a security breach or disruption, particularly through cyberattacks or cyber intrusion, including by computer hackers, foreign governments, and cyber terrorists, has generally increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. Cyberattacks could include wrongful conduct by hostile foreign governments, industrial espionage, wire fraud and other forms of cyber fraud, the deployment of harmful malware, denial-of-service, social engineering fraud or other means to threaten data security, confidentiality, integrity and availability. If such an event were to occur, it could result in the theft or destruction of intellectual property, data or other misappropriation of assets, or otherwise compromise our confidential or proprietary information and result in a material disruption of our development programs and our business operations, such as the loss of clinical trial data from completed or future clinical trials. Such loss could result in delays in our marketing authorization efforts and significantly increase our costs to recover or reproduce the data.

Although we devote resources to protect our information systems, we realize that cyberattacks are a threat, and there can be no assurance that our efforts will prevent information security breaches that would result in business, legal, financial or reputational harm to us, or would have a material adverse effect on our business, financial condition, results of operations and prospects. Likewise, we rely on third parties for the manufacture of our product candidates and to conduct clinical trials, and similar events relating to their computer systems could also have a material adverse effect on our business. We rely on our third-party providers to implement effective security measures and identify and correct for any such failures, deficiencies or breaches.

Any breach in our or our third-party providers' information technology systems could lead to the unauthorized access, disclosure and use of non-public information, including information from our participant registry or other participant information, which is protected by HIPAA, and other laws. Any such access, disclosure, or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, damage to our reputation and the further development and commercialization of our product candidates could be delayed. If we or our third-party providers fail to maintain or protect our information technology systems and data integrity effectively or fail to anticipate, plan for or manage significant disruptions to our information technology systems, we or our third-party providers could have difficulty preventing, detecting and controlling such cyberattacks and any such attacks could result in losses described above as well as disputes with physicians, participants and our partners, regulatory sanctions or penalties, increases in operating expenses, expenses or lost revenues or other adverse consequences, any of which could have a material adverse effect on our business, results of

operations, financial condition, prospects and cash flows. If we are unable to prevent or mitigate the impact of such security or data privacy breaches, we could be exposed to litigation and governmental investigations, which could lead to a potential disruption to our business.

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

Our operations, and those of our CROs, CMOs and other contractors and consultants, could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics, pandemics and other natural or man-made disasters or business interruptions, for which we are predominantly self-insured. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. We rely on third-party manufacturers to produce our product candidates. Our ability to obtain clinical supplies of our product candidates could be disrupted if the operations of these suppliers are affected by a man-made or natural disaster or other business interruption.

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

We face an inherent risk of product liability as a result of the clinical testing of our product candidates and will face an even greater risk if we commercialize any product candidate for which we receive marketing authorization. For example, we may be sued if our product candidates cause or are perceived to cause injury or are found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. 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 product candidates. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our product candidates or products that we may develop;
- 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 participants;
- 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 any product candidate; and
- a decline in our share price.

Failure to obtain or retain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop, alone or with corporate collaborators. Although we have clinical trial insurance, our insurance policies also have various exclusions, and we may be subject to a product liability claim for which we have no coverage. In the future, we may be unable to maintain this insurance coverage, or we may not be able to obtain additional or replacement coverage at a reasonable cost, if at all. We may have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our

insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Even if our agreements with any future corporate collaborators entitle us to indemnification against losses, such indemnification may not be available or adequate should any claim arise.

Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. The most recent global financial crisis caused extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn, including due to the impact of the COVID-19 pandemic, could result in a variety of risks to our business, including a reduced ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy or international trade disputes could also strain our third-party suppliers, possibly resulting in supply disruption. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

Risks Related to Our International Operations

A variety of risks associated with operating our business internationally could materially adversely affect our business.

We plan to seek marketing authorization for our product candidates outside of the United States and, accordingly, we expect that we, and any potential collaborators in those jurisdictions, will be subject to additional risks related to operating in foreign countries, including:

- differing regulatory requirements in foreign countries;
- unexpected changes in tariffs, trade barriers, price and exchange controls, and other regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration, and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- difficulties staffing and managing foreign operations;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- potential liability under the FCPA Office of Foreign Assets Control Anti-Money Laundering Program as required by the Bank Secrecy Act and its implementing regulations, or comparable foreign laws, including the UK Bribery Act 2010, or Bribery Act;
- challenges enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geo-political actions, including war and terrorism.

These and other risks associated with our planned international operations may materially adversely affect our ability to attain or maintain profitable operations.

Our business is subject to economic, political, regulatory and other risks associated with international operations.

Our business is subject to risks associated with conducting business internationally. Accordingly, our future results could be harmed by a variety of factors, including the following:

- economic weakness, including inflation, political instability in particular in foreign economies and markets, and the potentially severe continued United States and global economic impact caused by the COVID-19 pandemic;
- differing regulatory requirements for drug approvals;
- differing jurisdictions potentially presenting different issues for securing, maintaining or obtaining freedom to operate in such jurisdictions;
- potentially reduced protection for intellectual property rights;
- difficulties in compliance with different, complex and changing laws, regulations and court systems of multiple jurisdictions and compliance with a wide variety of foreign laws, treaties and regulations;
- changes in regulations and customs, tariffs and trade barriers;
- changes in currency exchange rates of the euro, U.S. dollar, pound sterling and currency controls;
- changes in a specific country's or region's political or economic environment;
- trade protection measures, import or export licensing requirements or other restrictive actions by governments;
- differing reimbursement regimes and price controls in certain international markets;
- negative consequences from changes in tax laws;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- workforce uncertainty in countries where labor unrest is more common than in the United States and EU;
- difficulties associated with staffing and managing international operations, including differing labor relations;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geo-political actions, including war, terrorism, pandemics, or natural disasters including earthquakes, typhoons, floods and fires.

Claims of U.S. civil liabilities may not be enforceable against us.

We are incorporated under English law and have our registered office in England. Most of the members of our senior management and certain members of our board of directors are non-residents of the United States, and all or a substantial portion of our assets and the assets of such persons are held 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 U.S. federal securities laws.

The United States and the UK do not currently have a treaty providing for recognition and enforcement of judgments (other than arbitration awards) in civil and commercial matters. Consequently, a final judgment for payment given by a court in the United States, whether or not predicated solely upon U.S. securities laws, would not automatically be recognized or enforceable in the UK. In addition, uncertainty exists as to whether the courts of England and Wales would entertain original actions brought in the UK against us or our directors or senior management predicated upon securities laws of the U.S. or any state in the United States. Any final and conclusive monetary judgment for a definite sum obtained against us in U.S. courts

would be treated by the courts of England and Wales as a cause of action in itself and sued upon as a debt at common law so that no retrial of the issues would be necessary, provided that certain requirements are met. Whether these requirements are met in respect of a judgment based upon the civil liability provisions of the U.S. securities laws, including whether the award of monetary damages under such laws would constitute a penalty, is an issue for the court making such decision. If the courts of England and Wales give a judgment for the sum payable under a U.S. judgment, the English judgment will be enforceable by methods generally available for this purpose. These methods generally permit the courts of England and Wales discretion to prescribe the manner of enforcement.

As a result, U.S. investors may not be able to enforce against us or certain of our senior management, board of directors or certain experts named herein who are residents of the UK or countries other than the United States any judgments obtained in U.S. courts in civil and commercial matters, including judgments under the U.S. federal securities laws.

Fluctuations in the exchange rate between the U.S. dollar and the pound sterling may increase the risk of holding our ADSs and may materially affect our results of operations and financial condition.

We expect that our ADSs will trade on Nasdaq in U.S. dollars. Due to the international scope of our operations, our assets, earnings and cash flows are influenced by movements in exchange rates of several currencies, particularly the U.S. dollar, the pound sterling and the euro. Our reporting currency is denominated in U.S. dollars and our functional currency is the pound sterling (except that the functional currency of our U.S. subsidiaries is the U.S. dollar) and the majority of our operating expenses are paid in pound sterling. We also regularly acquire services, consumables and materials in U.S. dollars, pound sterling, AUS dollars and the euro. Further potential future revenue may be derived from abroad, particularly from the United States. As a result, our business and the price of our ADSs may be affected by fluctuations in foreign exchange rates between the pound sterling and these other currencies, which may also have a significant impact on our results of operations and cash flows from period to period. Currently, we do not have any exchange rate hedging arrangements in place. See Note 3 in the notes to our annual financial statements appearing elsewhere in this prospectus for a description of foreign exchange risks.

The possible abandonment of the euro by one or more members of the European Union, or the EU, could materially affect our business in the future. Despite measures taken by the EU to provide funding to certain EU member states in financial difficulties and by a number of European countries to stabilize their economies and reduce their debt burdens, it is possible that the euro could be abandoned in the future as a currency by countries that have adopted its use. This could lead to the re-introduction of individual currencies in one or more EU member states, or in more extreme circumstances, the dissolution of the EU. The effects on our business of a potential dissolution of the EU, the exit of one or more EU member states from the EU or the abandonment of the euro as a currency, are impossible to predict with certainty, and any such events could have a material adverse effect on our business, financial condition and results of operations.

In addition, as a result of fluctuations in the exchange rate between the U.S. dollar and the pound sterling, the U.S. dollar equivalent of the proceeds that a holder of ADSs would receive upon the sale in the UK of any ordinary shares withdrawn from the depositary and the U.S. dollar equivalent of any cash dividends paid in euros on our ordinary shares represented by ADSs could also decline.

Risks Related to This Offering and Ownership of Our ADSs

Risks Related to This Offering

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in the section titled “Use of Proceeds,” and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management might not apply our net proceeds in ways that ultimately increase or maintain the value of

your investment. We expect to use the net proceeds from this offering, together with our existing cash and cash equivalents, to advance the development of our clinical and preclinical product candidates and to fund working capital, including general operating expenses. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering to short term, investment grade, interest-bearing securities. These investments may not yield a favorable return to our shareholders and holders of our ADSs. If we do not invest or apply the net proceeds from this offering in ways that enhance shareholder value, we may fail to achieve expected financial results, which could cause the price of our ADSs to decline.

If you purchase our ADSs in this offering, you will incur immediate and substantial dilution in the book value of your shares.

The initial public offering price is substantially higher than the net tangible book value per share of our ADSs. Investors purchasing ADSs in this offering will pay a price per share that substantially exceeds the book value of our tangible assets after subtracting our liabilities. As a result, investors purchasing ADSs in this offering will incur immediate dilution of $9.22 per ADS, based on the initial public offering price of $17.00 per share. Further, investors purchasing ADSs in this offering will contribute approximately 33.5% of the total amount invested by shareholders (including holders of ordinary shares represented by ADSs) since our inception, but will own only approximately 19.1% of the total number of shares of our ADSs outstanding after this offering.

This dilution is due to our investors who purchased shares prior to this offering having paid substantially less when they purchased their shares than the price offered to the public in this offering, and the exercise of stock options granted to our employees. To the extent that outstanding stock options or warrants are exercised, there will be further dilution to new investors. As a result of the dilution to investors purchasing ADSs in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of our liquidation. For a further description of the dilution that you will experience immediately after this offering, see the section of this prospectus titled “Dilution.”

Risks Related to Ownership of Our ADSs

We do not know whether an active, liquid and orderly trading market will develop for our ADSs or what the market price of our ADSs will be and, as a result, it may be difficult for you to sell your ADSs at or above the initial public offering price.

Prior to this offering, there was no public trading market for our ADSs. Although we have been approved to list our ADSs on The Nasdaq Global Market, an active trading market for our shares may never develop or be sustained following this offering. You may not be able to sell your ADSs quickly or at the market price if trading our ADSs is not active. The initial public offering price for our ADSs was determined through negotiations with the underwriters, and the negotiated price may not be indicative of the market price of the ADSs after the offering. As a result of these and other factors, you may be unable to resell your shares of our ADSs at or above the initial public offering price. Further, an inactive market may also impair our ability to raise capital by selling our ADSs and may impair our ability to enter into strategic partnerships or acquire companies or products by using our ADSs as consideration.

Our principal shareholders and management own a significant percentage of our stock and will be able to exert significant influence over matters subject to shareholder approval.

Prior to this offering, our executive officers, directors, and 5% shareholders beneficially owned approximately 90.6% of our voting stock as of December 31, 2020, and, after giving effect to the Series B financing and assuming the sale by us of 6,500,000 ADSs in this offering, based on the initial public offering price of $17.00 per ADS, and not accounting for any shares purchased in this offering by certain of our existing shareholders (or their affiliates), including through our directed share program, we anticipate that same group will hold approximately 44.3% of our outstanding voting stock following this offering (assuming no exercise of the underwriters’ option to purchase additional shares). Therefore, even after this offering, these shareholders will have the ability to influence us through this ownership position. These shareholders may be able to determine all matters requiring shareholder approval. For example, these

shareholders may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our ADSs that you may feel are in your best interest as one of our shareholders.

The price of our ADSs may be volatile, and you could lose all or part of your investment.

The trading price of our ADSs following this offering is likely to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control, including limited trading volume. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this prospectus, these factors include:

- the results of our ongoing, planned or any future preclinical studies, clinical trials or clinical development programs and those of third parties, such as those of AstraZeneca's with respect to AZD1222;
- the commencement, enrollment, or results of clinical trials of our product candidates or any future clinical trials we may conduct, or changes in the development status of our product candidates;
- adverse results or delays in preclinical studies and clinical trials;
- our decision to initiate a clinical trial, not to initiate a clinical trial, or to terminate an existing clinical trial;
- any delay in our regulatory filings or any adverse regulatory decisions, including failure to receive marketing authorization for our product candidates;
- changes in laws or regulations applicable to our products, including but not limited to clinical trial requirements for approvals;
- adverse developments concerning our manufacturers or our manufacturing plans;
- our inability to obtain adequate product supply for any licensed product or inability to do so at acceptable prices;
- our inability to establish collaborations if needed;
- our failure to commercialize our product candidates;
- additions or departures of key scientific or management personnel;
- unanticipated serious safety concerns related to the use of our product candidates;
- introduction of new products or services offered by us or our competitors;
- announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;
- our ability to effectively manage our growth;
- the size and growth of our initial cancer target markets;
- our ability to successfully treat additional types of cancers or at different stages;
- actual or anticipated variations in quarterly operating results;
- our cash position;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- publication of research reports about us or our industry, or immunotherapy in particular, or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- changes in the market valuations of similar companies;

- overall performance of the equity markets;
- sales of our ADSs by us or our shareholders in the future;
- trading volume of our ADSs;
- changes in accounting practices;
- ineffectiveness of our internal controls;
- disputes or other developments relating to intellectual property or proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- significant lawsuits, including intellectual property or shareholder litigation;
- general political and economic conditions; and
- other events or factors, many of which are beyond our control.

In addition, the stock market in general, and the market for 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. If the market price of our ADSs after this offering does not exceed the initial public offering price, you may not realize any return on your investment in us and may lose some or all of your investment. In the past, securities class action litigation has often been instituted against companies following periods of volatility in the market price of a company's securities. This type of litigation, if instituted, could result in substantial costs and a diversion of management's attention and resources, which would harm our business, financial condition, results of operation and future prospects.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our ADSs will depend in part on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts do not currently, and may never, publish research on our company. If no securities or industry analysts commence coverage of our company, the trading price for our stock would likely be negatively impacted. In the event securities or industry analysts initiate coverage, if one or more of the analysts who cover us downgrades our stock or publishes inaccurate or unfavorable research about our business, our stock price may decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

We are an emerging growth company and a smaller reporting company, and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies and smaller reporting companies will make our ADSs less attractive to investors.

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act, or JOBS Act, enacted in April 2012. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, or Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements, and exemptions from the requirements of holding nonbinding advisory votes on executive compensation and shareholder approval of any golden parachute payments not previously approved. We could be an emerging growth company for up to five years following the year in which we complete this offering, although circumstances could cause us to lose that status earlier. We will remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the closing of this offering, (b) in which we have total annual gross revenue of at least $1.07 billion or (c) in which we are deemed to be a large accelerated filer, which requires the market value of our ADSs that are held by non-affiliates to exceed $700 million as of the prior June 30th, and (2) the date on which we have issued more than $1 billion in non-convertible debt during the prior three-year period.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to avail ourselves of this exemption and, therefore, we will not be subject to the same timing of adoption of new or revised accounting standards as other public companies that are not emerging growth companies.

Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company," which may allow us to continue to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements. 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 as a result, there may be a less active trading market for our ADSs and our stock price may be more volatile.

We will incur increased costs as a result of operating as an English public company listed in the U.S., and our board of directors will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As an English public company listed in the U.S., and particularly after we no longer qualify as an emerging growth company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of Nasdaq, and other applicable securities rules and regulations impose various requirements on foreign reporting public companies, including the establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our board of directors, management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified members of our board of directors.

However, these rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Pursuant to Section 404 of the Sarbanes-Oxley Act, or Section 404, we will be required to furnish a report by our board of directors on our internal control over financial reporting. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal controls over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe, that our internal controls over financial reporting are effective as required by Section 404. If we identify one or more material weaknesses, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

Sales of a substantial number of shares of our ADSs by our existing shareholders in the public market could cause our stock price to fall.

If our existing shareholders sell, or indicate an intention to sell, substantial amounts of our ADSs in the public market after the lockup and other legal restrictions on resale discussed in this prospectus lapse, the trading price of our ADSs could decline. Upon the closing of this offering, we will have outstanding a total

of 34,064,345 ordinary shares (or 35,039,345 ordinary shares if the underwriters exercise in full their option to purchase additional shares). Of these shares, only the shares represented by ADSs sold in this offering by us, plus any shares represented by ADSs sold upon exercise of the underwriters' option to purchase additional shares, will be freely tradable without restriction in the public market immediately following this offering. In connection with this offering, our officers, directors and substantially all of our shareholders have agreed to be subject to a contractual lock-up with the underwriters, which will expire 180 days after the date of this prospectus.

The lock-up agreements contain important exceptions that govern their applicability. Morgan Stanley & Co. LLC and Jefferies LLC, however, may, in their sole discretion, permit our officers, directors and other shareholders who are subject to these lock-up agreements to sell shares prior to the expiration of the lock-up agreements.

In addition, ordinary shares or ADSs that are either subject to outstanding options or reserved for future issuance under our 2021 Plan and our 2021 Employee Share Purchase Plan, each of which became effective upon the effectiveness of the registration statement of which this prospectus forms a part, will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules, the lock-up agreements and Rule 144 and Rule 701 under the Securities Act of 1933, as amended, or the Securities Act. If these additional ADSs are sold, or if it is perceived that they will be sold, in the public market, the trading price of our ADSs could decline.

After this offering, the holders of 16,560,237 ADSs will be entitled to rights with respect to the registration of their shares under the Securities Act, subject to the 180-day lock-up agreements described above. See "Description of Share Capital and Articles of Association—Registration Rights." Registration of these shares under the Securities Act would result in such shares becoming freely tradable without restriction under the Securities Act, except for shares held by affiliates, as defined in Rule 144 under the Securities Act. Any sales of securities by these shareholders could have a material adverse effect on the trading price of our ADSs.

We will be relying on the one-year phase-in period for Compensation Committee independence under the Nasdaq and SEC rules.

Under the Nasdaq listing standards, we are required to have a majority independent board and a fully independent Compensation Committee, subject to limited exceptions and phase-in periods. Upon the closing of this offering, two out of the three members on our Compensation Committee will be independent. We intend to appoint one additional independent director to our Compensation Committee to replace the non-independent director on that committee within one year following this offering pursuant to the applicable Nasdaq and SEC phase-in provisions for initial public offerings. During this phase-in period, our shareholders will not have the same protections afforded to shareholders of companies of which the majority of directors on the compensation committee of such companies are fully independent. If, within the phase-in period, we are not able to appoint an independent director to the Compensation Committee, or otherwise comply with the Nasdaq listing requirements, we may be subject to enforcement actions by Nasdaq.

General Risk Factors

Our operating results may fluctuate significantly, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations or our guidance.

Our quarterly and annual operating results may fluctuate significantly in the future, which makes it difficult for us to predict our future operating results. From time to time, we may enter into license or collaboration agreements with other companies that include development funding and significant upfront and milestone payments and/or royalties, which may become an important source of our revenue. Accordingly, our revenue may depend on development funding and the achievement of development and clinical milestones under current and any potential future license and collaboration agreements and, if approved, sales of our product candidates. These upfront and milestone payments may vary significantly from period to period and any variance could cause a significant fluctuation in our operating results from one period to the next.

Further, our operating results may fluctuate due to a variety of other factors, many of which are outside of our control and may be difficult to predict, including the following:

- the timing and cost of, and level of investment in, research and development activities relating to our current and any future product candidates, which will change from time to time;
- the timing and outcomes of clinical trials for our current and any other future product candidates;
- the cost of manufacturing our current and any future product candidates, which may vary depending on FDA guidelines and requirements, the quantity of production and the terms of our agreements with manufacturers;
- our ability to adequately support our future growth;
- potential unforeseen business disruptions that increase our costs or expenses;
- future accounting pronouncements or changes in our accounting policies; and
- the changing and volatile global economic environment.

The cumulative effect of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Investors should not rely on our past results as an indication of our future performance. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our ADSs could decline substantially. The price of our ADSs could decline even when we have met any previously publicly stated revenue and/or earnings guidance we may provide.

You may not receive distributions on our ordinary shares represented by the ADSs or any value for them if it is illegal or impractical to make them available to holders of ADSs.

The depositary for the ADSs has agreed to pay to you the cash dividends or other distributions it or the custodian receives on our ordinary shares or other deposited securities after deducting its fees and expenses. You will receive these distributions in proportion to the number of our ordinary shares your ADSs represent. However, in accordance with the limitations set forth in the deposit agreement, it may be unlawful or impractical to make a distribution available to holders of ADSs. We have no obligation to take any other action to permit distribution on the ADSs, ordinary shares, rights or anything else to holders of the ADSs. This means that you may not receive the distributions we make on our ordinary shares or any value from them if it is unlawful or impractical to make them available to you. These restrictions may have an adverse effect on the value of your ADSs.

We do not intend to pay dividends on our ADSs, so any returns will be limited to the value of our ordinary shares.

Under current English law, a company's accumulated realized profits must exceed its accumulated realized losses (on a non-consolidated basis) before dividends can be declared and paid. Therefore, we must have distributable profits before declaring and paying a dividend. In addition, as a public limited company incorporated in England & Wales, we will only be able to make a distribution if the amount of our net assets is not less than the aggregate of our called-up share capital and undistributable reserves and if, and to the extent that, the distribution does not reduce the amount of those assets to less than that aggregate.

We have not paid dividends in the past on our ordinary shares. We currently anticipate that we will retain future earnings for the development, operation, and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. In addition, we may enter into agreements that prohibit us from paying cash dividends without prior written consent from our contracting parties, or which other terms prohibiting or limiting the amount of dividends that may be declared or paid on our ADSs. Any return to shareholders and holders of our ADSs will therefore be limited to the appreciation of their stock, which may never occur. Investors seeking cash dividends should not purchase our ADSs in this offering.

Holders of our ADSs are not treated as holders of our ordinary shares.

By participating in this offering you will become a holder of ADSs with underlying ordinary shares in a company incorporated under English law. Holders of ADSs are not treated as holders of our ordinary shares, unless they withdraw the ordinary shares underlying their ADSs in accordance with the deposit agreement and applicable laws and regulations. The depositary is the holder of the ordinary shares underlying our ADSs. Holders of ADSs therefore do not have any rights as holders of our ordinary shares, other than the rights that they have pursuant to the deposit agreement.

Holders of our ADSs will not have the same voting rights as the holders of our ordinary shares, and may not receive voting materials or any other documents that would need to be provided to our shareholders pursuant to English corporate law, including the UK Companies Act 2006, or Companies Act 2006, in time to be able to exercise their right to vote.

Except as described elsewhere in this prospectus and the deposit agreement, holders of the ADSs will not be able to exercise voting rights attaching to the ordinary shares represented by the ADSs. The deposit agreement provides that, upon receipt of notice of any meeting of holders of our ordinary shares, the depositary will fix a record date for the determination of ADS holders who shall be entitled to give instructions for the exercise of voting rights. Upon our request, the depositary shall distribute to the holders as of the record date (i) the notice of the meeting or solicitation of consent or proxy sent by us and (ii) a statement as to the manner in which instructions may be given by the holders. We cannot guarantee that ADS holders will receive the voting materials in time to ensure that they can instruct the depositary to vote the ordinary shares underlying their ADSs.

Otherwise, ADS holders will not be able to exercise their right to vote, unless they withdraw the ordinary shares underlying the ADSs they hold to vote them in person or by proxy in accordance with applicable laws and regulations and our Articles. However, ADS holders may not know about the meeting far enough in advance to withdraw those ordinary shares. A shareholder is only entitled to participate in, and vote at, the meeting of shareholders, provided that it holds our ordinary shares as of the record date set for such meeting and otherwise complies with our Articles. In addition, the depositary's liability to ADS holders for failing to execute voting instructions or for the manner of executing voting instructions is limited by the deposit agreement. As a result, ADS holders may not be able to exercise their right to vote, and there may be nothing they can do if the ordinary shares underlying their ADSs are not voted as they requested or if their shares cannot be voted.

Holders of ADSs may not be able to participate in equity offerings we may conduct from time to time.

Certain shareholders and holders of ADSs, including those in the United States, may, even in the case where preferential subscription rights have not been cancelled or limited, not be entitled to exercise such rights, unless the offering is registered or the ordinary shares are qualified for sale under the relevant regulatory framework. As a result, there is the risk that investors may suffer dilution of their holdings should they not be permitted to participate in preference right equity or other offerings that we may conduct in the future.

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

ADSs are transferable on the books of the depositary. However, the depositary may close its books at any time or from time to time when it deems expedient in connection with the performance of its duties. The depositary may refuse to deliver, transfer or register transfers of ADSs generally when our books or the books of the depositary are closed, or at any time if we or the depositary think it is advisable to do so because of any requirement of law, government or governmental body, or under any provision of the deposit agreement, or for any other reason, subject to the right of ADS holders to cancel their ADSs and withdraw the underlying ordinary shares. Temporary delays in the cancellation of your ADSs and withdrawal of the underlying ordinary shares may arise because the depositary has closed its transfer books or we have closed our transfer books, the transfer of ordinary shares is blocked to permit voting at a shareholders meeting or we are paying a dividend on our ordinary shares. In addition, ADS holders may not be able to cancel their ADSs and withdraw the underlying ordinary shares when they owe money for

fees, taxes and similar charges and when it is necessary to prohibit withdrawals in order to comply with any laws or governmental regulations that apply to ADSs or to the withdrawal of ordinary shares or other deposited securities. See "Description of American Depositary Shares—Dividends and Other Distributions —How will you receive dividends and other distributions on the shares?"

ADS holders may not be entitled to a jury trial with respect to claims arising under the deposit agreement, which could result in less favorable outcomes to the plaintiff(s) in any such action.

The deposit agreement governing our ADSs representing our ordinary shares provides that, to the fullest extent permitted by law, holders and beneficial owners of ADSs irrevocably waive the right to a jury trial of any claim they may have against us or the depositary arising out of or relating to our ADSs or the deposit agreement.

If this jury trial waiver provision is not permitted by applicable law, an action could proceed under the terms of the deposit agreement with a jury trial. If we or the depositary opposed a jury trial demand based on the waiver, the court would determine whether the waiver was enforceable based on the facts and circumstances of that case in accordance with the applicable state and federal law. To our knowledge, the enforceability of a contractual pre-dispute jury trial waiver in connection with claims arising under the federal securities laws has not been finally adjudicated by the United States Supreme Court. However, we believe that a contractual pre-dispute jury trial waiver provision is generally enforceable, including under the laws of the State of New York, which govern the deposit agreement, by a federal or state court in the City of New York, which has non-exclusive jurisdiction over matters arising under the deposit agreement. In determining whether to enforce a contractual pre-dispute jury trial waiver provision, courts will generally consider whether a party knowingly, intelligently and voluntarily waived the right to a jury trial. We believe that this is the case with respect to the deposit agreement and our ADSs. It is advisable that you consult legal counsel regarding the jury waiver provision before entering into the deposit agreement.

If you or any other holders or beneficial owners of ADSs bring a claim against us or the depositary in connection with matters arising under the deposit agreement or our ADSs, including claims under federal securities laws, you or such other holder or beneficial owner may not be entitled to a jury trial with respect to such claims, which may have the effect of limiting and discouraging lawsuits against us and/or the depositary. If a lawsuit is brought against us and/or the depositary under the deposit agreement, it may be heard only by a judge or justice of the applicable trial court, which would be conducted according to different civil procedures and may result in different outcomes than a trial by jury would have had, including results that could be less favorable to the plaintiff(s) in any such action, depending on, among other things, the nature of the claims, the judge or justice hearing such claims, and the venue of the hearing.

No condition, stipulation or provision of the deposit agreement or ADSs serves as a waiver by any holder or beneficial owner of ADSs or by us or the depositary of compliance with U.S. federal securities laws and the rules and regulations promulgated thereunder.

As an English public limited company, certain capital structure decisions will require shareholder approval, which may limit our flexibility to manage our capital structure.

English law provides that a board of directors may only allot shares (or grant rights to subscribe for or to convert any security into shares) with the prior authorization of shareholders, such authorization stating the aggregate nominal amount of shares that it covers and being valid for a maximum period of five years, each as specified in the new articles of association, to be adopted with effect from the completion of this offering, or Articles, or relevant ordinary resolution passed by shareholders at a general meeting. Such authority from our shareholders to allot additional shares for a period of five years from April 21, 2021 was included in the ordinary resolution passed by our shareholders on April 21, 2021, which authorization will need to be renewed upon expiration (*i.e.*, at least every five years) but may be sought more frequently for additional five-year terms (or any shorter period).

English law also generally provides shareholders with preemptive rights when new shares are issued for cash. However, it is possible for the Articles, or for shareholders to pass a special resolution at a general meeting, being a resolution passed by at least 75% of the votes cast, to disapply preemptive rights. Such a disapplication of preemptive rights may be for a maximum period of up to five years from the date of

adoption of the Articles, if the disapplication is contained in the Articles, but not longer than the duration of the authority to allot shares to which this disapplication relates or from the date of the shareholder special resolution, if the disapplication is by shareholder special resolution. In either case, this disapplication would need to be renewed by our shareholders upon its expiration (*i.e.*, at least every five years). Such authority from our shareholders to disapply preemptive rights for a period of five years was included in the special resolution passed by our shareholders on April 21, 2021, which disapplication will need to be renewed upon expiration (*i.e.*, at least every five years) to remain effective, but may be sought more frequently for additional five-year terms (or any shorter period).

English law also generally prohibits a public company from repurchasing its own shares without the prior approval of shareholders by ordinary resolution, being a resolution passed by a simple majority of votes cast, and other formalities. Such approval may be for a maximum period of up to five years.

Shareholder protections found in provisions under the UK City Code on Takeovers and Mergers, or the Takeover Code, will not apply if our place of central management and control is considered to be outside of the UK (or the Channel Islands or the Isle of Man).

We believe that, as of the date of this prospectus, our place of central management and control is not in the United Kingdom (or the Channel Islands or the Isle of Man) for the purposes of the jurisdictional criteria of the Takeover Code. Accordingly, we believe that we are not currently subject to the Takeover Code and, as a result, our shareholders are not currently entitled to the benefit of certain takeover offer protections provided under the Takeover Code, including the rules regarding mandatory takeover bids.

In the event that this changes, or if the interpretation and application of the Takeover Code by the Panel on Takeovers and Mergers, or Takeover Panel, changes (including changes to the way in which the Takeover Panel assesses the application of the Takeover Code to English companies whose shares are listed outside of the United Kingdom), the Takeover Code may apply to us in the future.

The Takeover Code provides a framework within which takeovers of companies which are subject to the Takeover Code are regulated and conducted. The following is a brief summary of some of the most important rules of the Takeover Code:

- in connection with a potential offer, if following an approach by or on behalf of a potential bidder, the company is "the subject of rumor or speculation" or there is an "untoward movement" in the company's share price, there is a requirement for the potential bidder to make a public announcement about a potential offer for the company, or for the company to make a public announcement about its review of a potential offer;

- when any person acquires, whether by a series of transactions over a period of time or not, an interest in shares which (taken together with shares already held by that person and an interest in shares held or acquired by persons acting in concert with him or her) carry 30% or more of the voting rights of a company that is subject to the Takeover Code, that person is generally required to make a mandatory offer to all the holders of any class of equity share capital or other class of transferable securities carrying voting rights in that company to acquire the balance of their interests in the company;

- when any person who, together with persons acting in concert with him or her, is interested in shares representing not less than 30% but does not hold more than 50% of the voting rights of a company that is subject to the Takeover Code, and such person, or any person acting in concert with him or her, acquires an additional interest in shares which increases the percentage of shares carrying voting rights in which he or she is interested, then such person is generally required to make a mandatory offer to all the holders of any class of equity share capital or other class of transferable securities carrying voting rights of that company to acquire the balance of their interests in the company;

- a mandatory offer triggered in the circumstances described in the two paragraphs above must be in cash (or be accompanied by a cash alternative) and at not less than the highest price paid within the preceding 12 months to acquire any interest in shares in the company by the person required to make the offer or any person acting in concert with him or her;

- in relation to a voluntary offer (*i.e.*, any offer which is not a mandatory offer), when interests in shares representing 10% or more of the voting rights of a class have been acquired for cash by an offeror (*i.e.*, a bidder) and any person acting in concert with it in the offer period and the previous 12 months, the offer must be in cash or include a cash alternative for all shareholders of that class at not less than the highest price paid for any interest in shares of that class by the offeror and by any person acting in concert with it in that period. Further, if an offeror acquires for cash any interest in shares during the offer period, a cash alternative must be made available at not less than the highest price paid for any interest in the shares of that class;
- if, after making an offer for a company, the offeror or any person acting in concert with them acquires an interest in shares in an offeree company (*i.e.*, a target) at a price higher than the value of the offer, the offer must be increased to not less than the highest price paid for the interest in shares so acquired;
- an offeree company must appoint a competent independent adviser whose advice on the financial terms of the offer must be made known to all the shareholders, together with the opinion of the board of directors of the offeree company;
- special or favorable deals for selected shareholders are not permitted, except in certain circumstances where independent shareholder approval is given and the arrangements are regarded as fair and reasonable in the opinion of the financial adviser to the offeree;
- all shareholders must be given the same information;
- each document published in connection with an offer by or on behalf of the offeror or offeree must state that the directors of the offeror or the offeree, as the case may be, accept responsibility for the information contained therein;
- profit forecasts, quantified financial benefits statements and asset valuations must be made to specified standards and must be reported on by professional advisers;
- misleading, inaccurate or unsubstantiated statements made in documents or to the media must be publicly corrected immediately;
- actions during the course of an offer by the offeree company, which might frustrate the offer are generally prohibited unless shareholders approve these plans. Frustrating actions would include, for example, lengthening the notice period for directors under their service contract or agreeing to sell off material parts of the target group;
- stringent and detailed requirements are laid down for the disclosure of dealings in relevant securities during an offer, including the prompt disclosure of positions and dealing in relevant securities by the parties to an offer and any person who is interested (directly or indirectly) in 1% or more of any class of relevant securities; and
- employees of both the offeror and the offeree company and the trustees of the offeree company's pension scheme must be informed about an offer. In addition, the offeree company's employee representatives and pension scheme trustees have the right to have a separate opinion on the effects of the offer on employment appended to the offeree board of directors' circular or published on a website.

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

We are incorporated under the laws of England and Wales. The rights of holders of ordinary shares and, therefore, certain of the rights of holders of ADSs, are governed by the laws of England and Wales, including the provisions of the Companies Act 2006, and by our Articles. These rights differ in certain respects from the rights of shareholders in typical U.S. corporations. See "Description of Share Capital and Articles of Association—Differences in Corporate Law" in this prospectus 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.

The principal differences include the following:

- under English law and our Articles, each shareholder present at a meeting has only one vote unless demand is made for a vote on a poll, in which case each holder gets one vote per share owned. Under U.S. law, each shareholder typically is entitled to one vote per share at all meetings;
- under English law, it is only on a poll that the number of shares determines the number of votes a holder may cast. You should be aware, however, that the voting rights of ADSs are also governed by the provisions of a deposit agreement with our depositary bank;
- under English law, subject to certain exceptions and disapplications, each shareholder generally has preemptive rights to subscribe on a proportionate basis to any issuance of ordinary shares or rights to subscribe for, or to convert securities into, ordinary shares for cash. Under U.S. law, shareholders generally do not have preemptive rights unless specifically granted in the certificate of incorporation or otherwise;
- under English law and our Articles, certain matters require the approval of 75% of the shareholders who vote (in person or by proxy) on the relevant resolution (or on a poll of shareholders representing 75% of the ordinary shares voting (in person or by proxy)), including amendments to the Articles. This may make it more difficult for us to complete corporate transactions deemed advisable by our board of directors. Under U.S. law, generally only majority shareholder approval is required to amend the certificate of incorporation or to approve other significant transactions;
- in the UK, takeovers may be structured as takeover offers or as schemes of arrangement. Under English law, for so long as we are subject to the Takeover Code, a bidder seeking to acquire us by means of a takeover offer would need to make an offer for all of our outstanding ordinary shares/ADSs. If acceptances are not received for 90% or more of the ordinary shares/ADSs under the offer, under English law, the bidder cannot complete a "squeeze out" to obtain 100% control of us. Accordingly, acceptances of 90% of our outstanding ordinary shares (including those represented by ADSs) will likely be a condition in any takeover offer to acquire us, not 50% as is more common in tender offers for corporations organized under Delaware law. By contrast, a scheme of arrangement, the successful completion of which would result in a bidder obtaining 100% control of us, requires the approval of a majority of shareholders voting at the meeting and representing 75% of the ordinary shares (including those represented by ADSs) voting at the meeting for approval;
- under English law and our Articles, shareholders and other persons whom we know or have reasonable cause to believe are, or have been, interested in our shares may be required to disclose information regarding their interests in our shares upon our request, and the failure to provide the required information could result in the loss or restriction of rights attaching to the shares, including prohibitions on certain transfers of the shares, withholding of dividends and loss of voting rights. Comparable provisions generally do not exist under U.S. law; and
- the quorum requirement for a shareholders' meeting is one or more qualifying persons present at a meeting and between them holding (or being the proxy or corporate representative of the holders of) at least thirty-three and one-third percent (33 1/3%) in number of the issued shares (excluding any shares held as treasury shares) entitled to attend and vote on the business to be transacted. Under U.S. law, a majority of the shares eligible to vote must generally be present (in person or by proxy) at a shareholders' meeting in order to constitute a quorum. The minimum number of shares required for a quorum can be reduced pursuant to a provision in a company's certificate of incorporation or bylaws, but typically not below one-third of the shares entitled to vote at the meeting.

Our Articles will provide that the courts of England and Wales will be the exclusive forum for the resolution of all shareholder complaints other than complaints asserting a cause of action arising under the Securities Act or the Exchange Act, and that the United States District Court for the Southern District of New York will be the exclusive forum for the resolution of any shareholder complaint asserting a cause of action arising under the Securities Act or the Exchange Act.

Our Articles will provide that, unless we consent by ordinary resolution to the selection of an alternative forum, the courts of England and Wales shall, to the fullest extent permitted by law, be the exclusive forum

for: (a) any derivative action or proceeding brought on our behalf; (b) any action or proceeding asserting a claim of breach of fiduciary duty owed by any of our directors, officers or other employees to us; (c) any action or proceeding asserting a claim arising out of any provision of the Companies Act 2006 or our Articles (as may be amended from time to time); or (d) any action or proceeding asserting a claim or otherwise related to our affairs, or the England and Wales Forum Provision. The England and Wales Forum Provision will not apply to any causes of action arising under the Securities Act or the Exchange Act. Our Articles will further provide that unless we consent by ordinary resolution to the selection of an alternative forum, the United States District Court for the Southern District of New York shall be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act or the Exchange Act, or the U.S. Federal Forum Provision. In addition, our Articles will provide that any person or entity purchasing or otherwise acquiring any interest in our shares is deemed to have notice of and consented to the England and Wales Forum Provision and the U.S. Federal Forum Provision; provided, however, that our shareholders cannot and will not be deemed to have waived our compliance with the U.S. federal securities laws and the rules and regulations thereunder.

The England and Wales Forum Provision and the U.S. Federal Forum Provision in our Articles may impose additional litigation costs on our shareholders in pursuing any such claims. Additionally, the forum selection clauses in our Articles may limit the ability of our shareholders to bring a claim in a judicial forum that they find favorable for disputes with us or our directors, officers or employees, which may discourage the filing of lawsuits against us and our directors, officers and employees, even though an action, if successful, might benefit our shareholders. In addition, while the Delaware Supreme Court ruled in March 2020 that federal forum selection provisions purporting to require claims under the Securities Act be brought in federal court are "facially valid" under Delaware law, there is uncertainty as to whether other courts, including the courts of England and Wales and other courts within the U.S., will enforce our U.S. Federal Forum Provision. If the U.S. Federal Forum Provision is found to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our results of operations and financial condition. The U.S. Federal Forum Provision may also impose additional litigation costs on our shareholders who assert that the provision is not enforceable or invalid. The courts of England and Wales and the United States District Court for the Southern District of New York may also reach different judgments or results than would other courts, including courts where a shareholder considering an action may be located or would otherwise choose to bring the action, and such judgments may be more or less favorable to us than our shareholders.

Changes in U.S. tax law could adversely affect our financial condition and results of operations.

The rules dealing with U.S. federal, state, and local income taxation are constantly under review by persons involved in the legislative process and by the Internal Revenue Service and the U.S. Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect us or holders of our ordinary shares or ADSs. In recent years, many such changes have been made and changes are likely to continue to occur in the future. For example, on March 27, 2020, President Trump signed into law the CARES Act, which included certain changes in tax law intended to stimulate the U.S. economy in light of the COVID-19 coronavirus outbreak, including temporary beneficial changes to the treatment of net operating losses, interest deductibility limitations and payroll tax matters. Future changes in U.S. tax laws could have a material adverse effect on our business, cash flow, financial condition or results of operations. We urge investors to consult with their legal and tax advisors regarding the implications of potential changes in U.S. tax laws on an investment in our ordinary shares or ADSs.

If we were classified as a passive foreign investment company, it would result in adverse U.S. federal income tax consequences to U.S. Holders.

Under the Code, we will be a passive foreign investment company, or PFIC, for any taxable year in which (i) 75% or more of our gross income consists of passive income or (ii) 50% or more of the average quarterly value of our assets consists of assets that produce, or are held for the production of, passive income. For purposes of these tests, passive income includes dividends, interest, gains from the sale or exchange of investment property and certain rents and royalties. In addition, for purposes of the above calculations, a non-U.S. corporation that directly or indirectly owns at least 25% by value of the shares of another corporation is treated as holding and receiving directly its proportionate share of assets and income of such

corporation. If we are a PFIC for any taxable year during which a U.S. Holder (as defined below under "Material Income Tax Considerations—Material U.S. Federal Income Tax Considerations for U.S. Holders") holds our ordinary shares or ADSs, the U.S. Holder may be subject to adverse tax consequences regardless of whether we continue to qualify as a PFIC, including 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.

Our PFIC status for the 2020 taxable year is currently not certain. However, based on the current and expected composition of our income and the value of our assets, we believe we were not a PFIC for 2020, and we do not expect to be a PFIC for our current taxable year. However, no assurances regarding our PFIC status can be provided for the current taxable year or any future taxable years. The determination of whether we are a PFIC is a fact-intensive determination made on an annual basis applying principles and methodologies that in some circumstances are unclear and subject to varying interpretation. In addition, our belief that we do not expect to be a PFIC for the current taxable year is based in part upon proposed Treasury Regulations and there is a risk that those proposed Treasury Regulations may be modified or withdrawn, which could result in our being classified as a PFIC for the current taxable year. Under the income test, our status as a PFIC depends on the composition of our income which will depend on the transactions we enter into in the future and our corporate structure. The composition of our income and assets is also affected by the spending of the cash we raise in any offering, including this offering.

For further discussion of the PFIC rules and adverse U.S. federal income tax consequences in the event we are classified as a PFIC, see the section titled "Material Income Tax Considerations—Material U.S. Federal Income Considerations for U.S. Holders" in this prospectus. Each U.S. Holder should consult its own tax advisors with respect to the potential adverse U.S. tax consequences to it if we are or were to become a PFIC.

If we are a controlled foreign corporation, there could be adverse U.S. federal income tax consequences to certain U.S. Holders.

Each "Ten Percent Shareholder" (as defined below) in a non-U.S. corporation that is classified as a "controlled foreign corporation," or a CFC, for U.S. federal income tax purposes generally is required to include in income for U.S. federal tax purposes such Ten Percent Shareholder's pro rata share of the CFC's "Subpart F income," "global intangible low-taxed income" and investment of earnings in U.S. property, even if the CFC has made no distributions to its shareholders. In addition, if a non-U.S. corporation owns at least one U.S. subsidiary, under current law, any current non-U.S. subsidiaries and any future newly formed or acquired non-U.S. subsidiaries of the non-U.S. corporation will be treated as CFCs, regardless of whether the non-U.S. corporation is treated as a CFC. Subpart F income generally includes dividends, interest, rents, royalties, gains from the sale of securities and income from certain transactions with related parties. In addition, a Ten Percent Shareholder that realizes gain from the sale or exchange of shares in a CFC may be required to classify a portion of such gain as dividend income rather than capital gain. A non-U.S. corporation generally will be classified as a CFC for U.S. federal income tax purposes if Ten Percent Shareholders own, directly or indirectly, more than 50% of either the total combined voting power of all classes of stock of such corporation entitled to vote or of the total value of the stock of such corporation. A "Ten Percent Shareholder" is a United States person (as defined by the Code) who owns or is considered to own 10% or more of the value or total combined voting power of all classes of stock entitled to vote of such corporation.

We do not believe that we were a CFC in 2019, and we do not expect to be a CFC in 2020. The determination of CFC status is complex and includes attribution rules, the application of which is not entirely certain. An individual that is a Ten Percent Shareholder with respect to a CFC generally would not be allowed certain tax deductions or foreign tax credits that would be allowed to a Ten Percent Shareholder that is a U.S. corporation. Failure to comply with CFC reporting obligations may subject a United States shareholder to significant monetary penalties. We cannot provide any assurances that we will furnish to any Ten Percent Shareholder information that may be necessary to comply with the reporting and tax paying obligations applicable under the CFC rules of the Code. U.S. Holders should consult their own tax advisors with respect to the potential adverse U.S. tax consequences of becoming a Ten Percent Shareholder in a CFC.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Upon the closing of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. We are continuing to refine our disclosure controls and procedures to provide reasonable assurance that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

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. As a result, shareholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our ADSs.

Ensuring that we have adequate internal financial and accounting controls and procedures in place so that we can produce accurate financial statements on a timely basis is a costly and time-consuming effort that needs to be re-evaluated frequently. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with generally accepted accounting principles. In connection with this offering, we intend to begin the process of documenting, reviewing, and improving our internal controls and procedures for compliance with Section 404 of the Sarbanes-Oxley Act, which will require annual management assessment of the effectiveness of our internal control over financial reporting. We have begun recruiting additional finance and accounting personnel with certain skill sets that we will need as a public company. Our independent registered public accounting firm will not be required to formally attest to the effectiveness of our internal control over financial reporting until the later of our second annual report or the first annual report required to be filed with the SEC following the date we are no longer an emerging growth company, depending on whether we choose to rely on certain exemptions set forth in the JOBS Act.

Implementing any appropriate changes to our internal controls, including compliance with the requirements of Section 404 of the Sarbanes-Oxley Act, may distract our officers and employees, entail substantial costs to modify our existing processes, and take significant time to complete. These changes may not, however, be effective in maintaining the adequacy of our internal controls, and any failure to maintain that adequacy, or consequent inability to produce accurate financial statements on a timely basis, could increase our operating costs and harm our business. In addition, investors' perceptions that our internal controls are inadequate or that we are unable to produce accurate financial statements on a timely basis may harm our stock price and make it more difficult for us to continue to discover and develop novel immunotherapeutics and vaccines for the treatment and prevention of infectious diseases and cancer.

We identified material weaknesses in connection with our internal control over financial reporting. Although we are taking steps to remediate these material weaknesses, we may not be successful in doing so in a timely manner, or at all, and we may identify other material weaknesses.

In connection with the audits of our consolidated financial statements for each of the years ended December 31, 2019 and 2020, our management and independent registered public accounting firm identified material weaknesses in our internal control over financial reporting. The material weaknesses related to: (i) our lack of a sufficient number of personnel with an appropriate level of knowledge and experience in the application of U.S. generally accepted accounting principles, or U.S. GAAP, commensurate with our financial reporting requirements; (ii) our IT general control environment has not been sufficiently designed to include appropriate user access rights and (iii) policies and procedures with respect to the review, supervision and monitoring of our accounting and reporting functions were either not designed and in place or not operating effectively. As a result, a number of adjustments to our consolidated financial statements for each of the years ended December 31, 2019 and 2020 were identified and made during the course of the audit process.

We are currently not required to comply with Section 404 of the Sarbanes-Oxley Act, and are therefore not required to make an assessment of the effectiveness of our internal control over financial reporting. Further, our independent registered public accounting firm has not been engaged to express, nor have they expressed, an opinion on the effectiveness of our internal control over financial reporting. Had we and our independent registered public accounting firm performed an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act, additional control deficiencies may have been identified by our management or independent registered public accounting firm, and those control deficiencies could have also represented one or more material weaknesses. In an effort to remediate the material weaknesses, we have hired a Chief Financial Officer with public company experience and we plan to increase the number of our finance and accounting personnel.

Assessing our procedures to improve our internal control over financial reporting is an ongoing process. We can provide no assurance that our remediation efforts described herein will be successful and that we will not have material weaknesses in the future. Any material weaknesses we identify could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our consolidated financial statements.

After the completion of this offering, we may be at an increased risk of securities class action litigation.

Historically, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology and pharmaceutical companies have experienced significant stock price volatility in recent years. If we were to be sued, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

Our business and results of operations may be negatively impacted by the UK's withdrawal from the EU.

On June 23, 2016, the UK held a referendum in which a majority of voters approved an exit from the EU, or Brexit. After nearly three years of negotiation and political and economic uncertainty, the UK's withdrawal from the EU became effective on January 31, 2020. There was a transitional period, during which EU laws continued to apply in the UK, which ended on December 31, 2020. The UK and EU have signed a EU-UK Trade and Cooperation Agreement, which became provisionally applicable on January 1, 2021 and which will become formally applicable once ratified by both the UK and the EU. This agreement provides details on how some aspects of the UK and EU's relationship regarding medicinal products will operate, particularly in relation to Good Manufacturing Practice; however, there are still many uncertainties.

Brexit may affect our results of operations in a number of ways, including increasing currency exchange risk, generating instability in the global financial markets or negatively impacting the economies of the UK and Europe. In addition, as we are headquartered in the UK, it is possible that Brexit may impact some or all of our current operations. For example, Brexit will impact our ability to freely move employees from our headquarters in the UK to other locations in Europe. Furthermore, if other EU member states pursue withdrawal, barrier-free access among the EU overall could be diminished or eliminated.

The long-term effects of Brexit will depend in part on how the EU-UK Trade and Cooperation Agreement, and any future agreements signed by the UK and the EU, play out in practice. Such a withdrawal from the EU is unprecedented, and it is unclear how the restrictions on the UK's access to the European single market for goods, capital, services and labor within the EU, or single market, and the wider commercial, legal and regulatory environment, will impact our current and future operations (including business activities conducted by third parties and contract manufacturers on our behalf) and clinical activities in the UK In addition to the foregoing, our UK operations support our current and future operations and clinical activities in the EU and EEA and these operations and clinical activities could be disrupted by Brexit.

We may also face new regulatory costs and challenges that could have an adverse effect on our operations as a result of Brexit. The UK will lose the benefits of global trade agreements negotiated by the EU on behalf of its member states, which may result in increased trade barriers that could make our doing business in the EU and the EEA more difficult. Since the regulatory framework in the UK covering quality, safety and efficacy of therapeutic substances, clinical trials, marketing authorization, commercial sales and distribution

of therapeutic substances is derived from EU directives and regulations, Brexit could materially impact the future regulatory regime with respect to the approval of our current or future product candidates in the UK, now that the UK legislation has the potential to diverge from EU legislation. It remains to be seen how Brexit will impact regulatory requirements for product candidates and therapies in the UK in the long term. Any delay in obtaining, or an inability to obtain, any marketing authorizations, as a result of Brexit or otherwise, would delay or prevent us from commercializing our current or future product candidates in the UK and/or the EU and restrict our ability to generate revenue and achieve and sustain profitability. If any of these outcomes occur, we may be forced to restrict or delay efforts to seek marketing authorization in the UK and/or EU for our current or future product candidates, which could significantly and materially harm our business. Even prior to any change to the UK's relationship with the EU, the announcement of Brexit had created economic uncertainty surrounding the terms of Brexit and its consequences could adversely impact customer confidence resulting in customers reducing their spending budgets on our current or future product candidates, if approved, which could adversely affect our business, financial condition, results of operations and could adversely affect the market price of our ADSs.

We expect that Brexit could lead to legal uncertainty and potentially divergent national laws and regulations as the UK determines which EU laws to replicate or replace, including those related to data privacy and the regulation of medicinal products, as described above. Any of these effects of Brexit, and others we cannot anticipate, could negatively impact our business and results of operations.

Legal, political and economic uncertainty surrounding the United Kingdom's withdrawal from the European Union may be a source of instability in international markets, create significant currency fluctuations and risks of additional taxation, adversely affect our operations in the United Kingdom and pose additional risks to our business, revenue, financial condition, and results of operations.

Since a significant proportion of the regulatory framework in the United Kingdom applicable to our business and our product candidates is derived from European Union directives and regulations, Brexit could materially impact the regulatory regime with respect to the development, manufacture, importation, approval and commercialization of our product candidates in the United Kingdom or the European Union. For example, Great Britain will no longer be covered by the centralized procedures for obtaining EEA-wide marketing and manufacturing authorizations from the EMA (centralized marketing authorizations will continue to be valid in Northern lreland under the Northern Ireland Protocol) and a separate process for authorization of drug products will be required in Great Britain resulting in an authorization covering the United Kingdom or Great Britain only. For a period of two years from January 1, 2021, the Medicines and Healthcare products Regulatory Agency, or MHRA (the UK medicines and medical devices regulator) may rely on a decision taken by the European Commission on the approval of a new marketing authorization in the centralized procedure, in order to more quickly grant a Great Britain marketing authorization. A separate application will, however, still be required. The MHRA has published a series of guidance notes on how the process for authorization of medicines will now work, however exactly what implications this will have in practice remain unclear. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, would prevent us from commercializing our product candidates in the United Kingdom or the European Union and limit our ability to generate revenue and achieve and sustain profitability. If any of these outcomes occur, we may be forced to restrict or delay efforts to seek marketing authorization in the United Kingdom or the European Union for our product candidates, or incur significant additional expenses to operate our business, which could significantly and materially harm or delay our ability to generate revenues or achieve profitability of our business. Any further changes in international trade, tariff and import/export regulations as a result of Brexit or otherwise may impose unexpected duty costs or other non-tariff barriers on us. These developments, or the perception that any of them could occur, may significantly reduce global trade and, in particular, trade between the impacted nations and the United Kingdom. It is also possible that Brexit may negatively affect our ability to attract and retain employees, particularly those from the European Union.

The uncertainty concerning the United Kingdom's legal, political and economic relationship with the European Union following Brexit may be a source of instability in the international markets, create significant currency fluctuations, and/or otherwise adversely affect trading agreements or similar cross-border co-operation arrangements (whether economic, tax, fiscal, legal, regulatory or otherwise).

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains express or implied forward-looking statements that involve substantial risks and uncertainties. In some cases, you can identify forward-looking statements by the words "may," "might," "will," "could," "would," "should," "expect," "intend," "plan," "objective," "anticipate," "believe," "estimate," "predict," "potential," "continue," "ongoing," or the negative of these terms, or other comparable terminology intended to identify statements about the future. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. The forward-looking statements and opinions contained in this prospectus are based upon information available to our management as of the date of this prospectus and, while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. Forward-looking statements contained in this prospectus include, but are not limited to, statements about:

- the success, cost and timing of our product development activities and clinical trials;
- the timing, scope or likelihood of regulatory filings and approvals, including timing of Investigational New Drug Application and Biological License Application filings for our current and future product candidates, and final U.S. Food and Drug Administration, European Medicines Agency, United Kingdom Medicines and Healthcare products Regulatory Agency or other foreign regulatory authority approval of our current and future product candidates;
- our ability to develop and advance our current and future product candidates and programs into, and successfully complete, clinical trials;
- our ability to establish future or maintain current collaborations or strategic relationships or obtain additional funding;
- the rate and degree of market acceptance and clinical utility of our current and future product candidates;
- the ability and willingness of our third-party collaborators to continue research and development activities relating to our product candidates;
- our and our collaborators' ability to obtain, maintain, defend and enforce our intellectual property protection for our product candidates, and the scope of such protection;
- our manufacturing, commercialization and marketing capabilities and strategy;
- future agreements with third parties in connection with the commercialization of our product candidates and any other approved products;
- regulatory developments in the United States and foreign countries;
- competitive companies, technologies and our industry and the success of competing therapies that are or may become available;
- our ability to attract and retain key scientific or management personnel;
- our ability to obtain funding for our operations, including funding necessary to complete further development and commercialization of our product candidates;
- the accuracy of our estimates of our annual total addressable markets, future revenue, expenses, capital requirements and needs for additional financing;
- our expectations about market trends;
- our ability to overcome the challenges posed by the COVID-19 pandemic to the conduct of our business;
- our expectations regarding the period during which we qualify as an emerging growth company under the Jumpstart Our Business Startups Act of 2012, as amended; and

- our expectations regarding use of the proceeds from this offering.

You should refer to the section titled “Risk Factors” for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this prospectus will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements in this prospectus by these cautionary statements.

USE OF PROCEEDS

We estimate that the net proceeds to us in this offering will be approximately $99.9 million, based on the initial public offering price of $17.00 per ADS after deducting underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their option to purchase 975,000 additional ADSs in full, we estimate that the net proceeds to us from this offering will be approximately $115.4 million, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

As of December 31, 2020, we had cash and cash equivalents of $43.3 million. In March 2021, we issued Series B Shares for aggregate gross proceeds of $125.2 million. We expect to use the net proceeds to us from this offering, together with our existing cash and cash equivalents, as follows:

- approximately $40.0 million to advance the development of VTP-300 for the treatment of HBV, including through the completion of our ongoing Phase 1/2a clinical trial and our planned Phase 2b clinical trial;
- approximately $30.0 million to advance the development of VTP-200 for the treatment of HPV, including the completion of our ongoing Phase 1/2 clinical trial and the initiation of additional expansion trials;
- approximately $20.0 million to advance the development of VTP-850 for the treatment of prostate cancer, including through the initiation of our Phase 1/2 clinical trial;
- approximately $10.0 million to support co-funded programs, including the development of VTP-600 for the treatment of NSCLC, VTP-400 for the prevention of zoster and VTP-500 for the prevention of MERS; and
- the remaining proceeds for early stage research and development, continued development of our next-generation platform technologies, including for use in rapid deployment against new and emerging pandemic and epidemic threats, and other general corporate purposes.

This expected use of net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. We may also use a portion of the net proceeds to in-license, acquire or invest in additional businesses, technologies, products or assets. We cannot predict with certainty all of the particular uses for the net proceeds to be received upon the consummation of this offering or the amounts that we will actually spend on the uses set forth above. Predicting the cost necessary to develop product candidates and commercialize approved products can be difficult and the amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, our plans to develop our in-house product manufacturing capabilities, the status of and results from clinical trials, any collaborations that we may enter into with third parties for our product candidates and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

Based on our planned use of the net proceeds from this offering and our existing cash and cash equivalents, we estimate that such funds will be sufficient to fund our operations and capital expenditure requirements into the first half of 2024. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect.

Pending our use of proceeds from this offering, we plan to invest these net proceeds in a variety of capital preservation instruments, including short-term, interest bearing obligations and investment-grade instruments.

DIVIDEND POLICY

We have never declared or paid any cash dividend, and we do not anticipate declaring or paying any cash dividends in the foreseeable future. We intend to retain all available funds and any future earnings to fund the development and expansion of our business. See “Risk Factors—General Risk Factors—We do not intend to pay dividends on our ADSs, so any returns will be limited to the value of our ordinary shares.” We do not intend to pay dividends on our ADSs, so it is expected that any returns will be limited to the value of our ordinary shares.

Any future determination to pay dividends will be made at the discretion of our board of directors and will depend on a number of factors, including our future operations and earnings, capital requirements and surplus, general financial condition, contractual restrictions and other factors that our board of directors may deem relevant. If we pay any dividends, we will pay the ADS holders to the same extent as holders of our ordinary shares, subject to the terms of the deposit agreement, including the fees and expenses payable thereunder. See “Description of American Depositary Shares.” Cash dividends on our ordinary shares, if any, will be paid in U.S. dollars.

CORPORATE REORGANIZATION

Vaccitech plc is a public limited company with limited liability originally incorporated pursuant to the laws of England and Wales in March 2021 as a private limited company named Vaccitech Rx Limited, with nominal assets and liabilities, for the purpose of becoming the holding company of Vaccitech (UK) Limited (formerly Vaccitech Limited) and for the purpose of consummating the corporate reorganization described herein. Vaccitech (UK) Limited (formerly Vaccitech Limited) was formed as a separate company in January 2016. Vaccitech plc is a holding company which has not or will not have conducted any operations prior to this offering other than activities incidental to its formation, the corporate reorganization, and this offering.

Prior to the completion of this offering:

- Vaccitech Rx Limited became the direct holding company of Vaccitech (UK) Limited (formerly Vaccitech Limited).
- Vaccitech Limited changed its name to Vaccitech (UK) Limited.
- Vaccitech Rx Limited re-registered as a public limited company and changed its name to Vaccitech plc.

Vaccitech plc has five direct and indirect subsidiaries: Vaccitech (UK) Limited (formerly Vaccitech Limited), Vaccitech Australia Pty Limited, Vaccitech Oncology Limited, Vaccitech USA, Inc. and Vaccitech Italia S.R.L.

Therefore, investors in this offering will only acquire, and this prospectus only describes the offering of, ADSs representing ordinary shares of Vaccitech plc. The corporate reorganization will take place in several steps, some of which will be completed following the completion of this offering. We refer to the following steps, which are discussed in more detail below, as our "corporate reorganization":

Prior to completion of this offering:

- **Exchange of Vaccitech (UK) Limited (formerly Vaccitech Limited) Shares for Vaccitech Rx Limited Shares**: All shareholders of Vaccitech (UK) Limited (formerly Vaccitech Limited) exchanged each of the shares held by them for one share of Vaccitech Rx Limited to result in them holding the same percentage and class of newly issued shares of Vaccitech Rx Limited and, as a result, Vaccitech Rx Limited became the sole shareholder of Vaccitech (UK) Limited (formerly Vaccitech Limited). The series A shares and series B shares in Vaccitech Rx Limited had a nominal value at the time of issue of £2,500.00 and the ordinary shares in Vaccitech Rx Limited had a nominal value at the time of issue of £250.00.
- **Subdivision of each series A share and series B share in the share capital of Vaccitech Rx Limited**: Each series A share and each series B share resulting from the exchange described in the previous step was subdivided into (i) one share of the same class, with a nominal value of £2,499.00, and (ii) one deferred A share with a nominal value of £1.00.
- **Reduction of capital of Vaccitech Rx Limited**: Vaccitech Rx Limited reduced its issued share capital pursuant to Chapter 10 of Part 17 of the Companies Act 2006.
- **Re-registration of Vaccitech Rx Limited**: Vaccitech Rx Limited re-registered as a public limited company and changed its name to Vaccitech plc.
- **Reorganization of separate classes of shares of Vaccitech plc (except its deferred A shares) into a single class of ordinary shares, deferred B shares and deferred C shares**: The different classes of issued share capital of Vaccitech plc (except its deferred A shares) will be reorganized into a single class of ordinary shares, deferred B shares and deferred C shares.

Following completion of this offering:

- **Reorganization of separate classes of shares of Vaccitech (UK) Limited into a single class of ordinary shares**: The different classes of issued share capital of Vaccitech (UK) Limited will be reorganized into a single class of ordinary shares.

- **Reduction of Capital of Vaccitech (UK) Limited**: Vaccitech (UK) Limited may reduce its issued share capital pursuant to Chapter 10 of Part 17 of the Companies Act.

Exchange of Vaccitech (UK) Limited (formerly Vaccitech Limited) shares for Vaccitech Rx Limited shares

The issued share capital of Vaccitech (UK) Limited (formerly Vaccitech Limited) is divided into the following classes: ordinary shares, series A shares and series B shares. Prior to the completion of this offering, the shareholders of Vaccitech (UK) Limited (formerly Vaccitech Limited) exchanged each of these shares of Vaccitech (UK) Limited (formerly Vaccitech Limited) for one share of Vaccitech Rx Limited to result in them holding the same percentage and class of shares in Vaccitech Rx Limited. As a result, Vaccitech Rx Limited became the sole shareholder of Vaccitech (UK) Limited (formerly Vaccitech Limited).

Subdivision of each series A share and series B share in the share capital of Vaccitech Rx Limited

Each share in the share capital of Vaccitech Rx Limited resulting from the exchange described in the previous step was subdivided into (i) one share of the same class, with a nominal value of £2,499.00, and (ii) one deferred A share with a nominal value of £1.00.

Reduction of capital of Vaccitech Rx Limited

Vaccitech Rx Limited reduced its issued share capital pursuant to Chapter 10 of Part 17 of the Companies Act 2006 by way of the reduction of the nominal value of the Series A Shares and Series B Shares of £2,499.00 issued and outstanding to £0.10 per share and the nominal value of the ordinary shares of £250.00 issued and outsanding to £0.01 per share. Such reductions were approved by special resolutions passed by the shareholders of Vaccitech Rx Limited and credited to Vaccitech Rx Limited's reserves that are available for distribution.

Re-registration of Vaccitech Rx Limited as a public limited company and change of name to Vaccitech plc

Following the steps described above, Vaccitech Rx Limited re-registered as a public limited company and changed its name to Vaccitech plc. Special resolutions were passed by the shareholders of Vaccitech Rx Limited to approve the re-registration as a public limited company, the name change to Vaccitech plc and the adoption of new articles of association for Vaccitech plc appropriate for a public company.

Reorganization of separate classes of shares of Vaccitech plc (other than deferred shares) into a single class of ordinary shares

Pursuant to the terms of the articles of association of Vaccitech plc in effect at such time, all of the Series A Shares and Series B Shares of Vaccitech plc will be converted into a single class of ordinary shares and deferred B shares. All ordinary shares of Vaccitech plc will then be subdivided and each resultant ordinary share from the subdivision will be redesignated as one ordinary share and one deferred C share in order to ensure that the nominal value of Vaccitech plc's ordinary shares at the time of the initial public offering is £0.000025. At the initial public offering price of $17.00 per ADS, the ordinary shares, the Series A Shares and Series B Shares of Vaccitech plc outstanding on the date of this prospectus (other than deferred shares and with the possible exception of certain arrangements with limited number of executives of the company whose shares may be converted at different ratios) will be reorganized into one class of ordinary shares of Vaccitech plc immediately prior to the closing of this offering as follows:

- Each ordinary share will be redesignated as 309 ordinary shares and 309 deferred C shares.
- Each Series A Share will be redesignated as 309 ordinary shares, 9 deferred B shares and 309 deferred C shares.
- Each Series B Share will be redesignated as 309 ordinary shares, 9 deferred B shares and 309 deferred C shares.

Reorganization of separate classes of shares of Vaccitech (UK) Limited into a single class of ordinary shares

Pursuant to the terms of the articles of association of Vaccitech (UK) Limited in effect at such time, the series A shares of Vaccitech (UK) Limited and the series B shares of Vaccitech (UK) Limited will be reorganized into ordinary shares of Vaccitech (UK) Limited.

Reduction of capital of Vaccitech (UK) Limited

Vaccitech (UK) Limited may reduce its issued share capital pursuant to Chapter 10 of Part 17 of the Companies Act 2006 by way of reduction in the nominal value of shares issued and outstanding and/or reduction of the amounts credited to the company's share premium account or other permitted undistributable reserve. Any such reduction of capital will be credited to the company's reserves that are available for distribution.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of December 31, 2020 on:

- an actual basis;
- a pro forma basis to give effect to (i) the issuance of 12,785,802 Series B Shares in March 2021, which included the conversion of our 2020 Notes into Series B Shares, and (ii) our corporate reorganization; and
- on a pro forma as adjusted basis giving effect to the pro forma adjustments set forth above and to give further effect to the sale of 6,500,000 ADSs in this offering, at the initial public offering price of $17.00 per ADS, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this information together with our consolidated financial statements and related notes appearing elsewhere in this prospectus and the information set forth under the sections titled "Selected Consolidated Financial Data," "Use of Proceeds" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	AS OF DECEMBER 31, 2020		
	ACTUAL	PRO FORMA	PRO FORMA AS ADJUSTED
		(in thousands) (unaudited)	
Cash and cash equivalents	$ 43,266	$166,612	$266,577
Long-term debt[(1)]	$ 46,172	$ 1,472	$ 1,472
Series A Shares	33,765	—	—
Shareholders' equity:			
Ordinary shares	—	1	1
Additional paid-in capital	19,531	221,341	321,306
Accumulated deficit	(55,591)	(55,591)	(55,591)
Accumulated other comprehensive loss	(1,243)	(1,243)	(1,243)
Non controlling interest	391	391	391
Total shareholders' (deficit) equity	(36,912)	164,899	264,864
Total capitalization	$ 43,025	$166,371	$266,336

(1) Long-term debt is comprised of convertible loan notes (including derivative liabilities) and lease liability. Pro forma and pro forma as adjusted long-term debt reflects the conversion of our previously issued convertible loan notes into Series B Shares for cash consideration of approximately $43.0 million.

The number of ordinary shares outstanding in the table above does not include:

- 2,072,463 ordinary shares issuable upon the exercise of options for ordinary shares outstanding as of December 31, 2020, with a weighted-average exercise price of $0.0004 per share;
- 748,707 ordinary shares reserved for issuance under our EMI Option Scheme, or the Scheme, as of December 31, 2020, which shares will no longer be reserved following this offering;
- 3,675,680 ordinary shares that will be made available for future issuance under our 2021 Share Option and Incentive Plan upon the effectiveness of the registration statement of which this prospectus forms a part; and
- 367,568 shares reserved for future issuance under our 2021 Employee Share Purchase Plan upon the effectiveness of the registration statement of which this prospectus forms a part.

DILUTION

If you invest in the ADSs in this offering, your interest will be immediately diluted to the extent of the difference between the initial public offering price per ADS in this offering and the pro forma as adjusted net tangible book value per ADS after this offering. Dilution results from the fact that the initial public offering price per ADS is substantially in excess of the net tangible book value per ADS. As of December 31, 2020, we had a historical net tangible book value of $(3.1 million), or $(0.40) per ordinary share ($(0.40) per ADS). Our net tangible book value per share represents total tangible assets (total assets less intangible assets) less total liabilities, divided by the number of ordinary shares outstanding on December 31, 2020.

Our pro forma net tangible book value as of December 31, 2020 was $164.9 million, or $5.98 per ordinary share ($5.98 per ADS). Pro forma net tangible book value represents the amount of our net tangible book value, after giving effect to (i) the issuance of 12,785,802 Series B Shares in March 2021, which included the conversion of our 2020 Notes into Series B Shares and (ii) our corporate reorganization.

After giving effect to (i) the issuance of 12,785,802 Series B Shares in March 2021, which included the conversion of our 2020 Notes into Series B Shares, (ii) our corporate reorganization and (iii) the sale of 6,500,000 ADSs in this offering at the initial public offering price of $17.00 per ADS and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value at December 31, 2020 would have been $7.78 per ordinary share ($7.78 per ADS). This represents an immediate increase in pro forma as adjusted net tangible book value of $1.79 per ordinary share ($1.79 per ADS) to existing shareholders and immediate dilution of $9.22 per ADS to new investors. The following table illustrates this dilution to new investors purchasing ADSs in this offering:

Initial public offering price per ADS		$17.00
Historical net tangible book value per ADS as of December 31, 2020	$(0.40)	
Increase per ADS attributable to the pro forma adjustments described above	6.38	
Pro forma net tangible book value per ADS as of December 31, 2020	5.98	
Increase in pro forma as adjusted net tangible book value attributable to new investors purchasing ADSs in this offering	1.79	
Pro forma as adjusted net tangible book value per ADS as of December 31, 2020		7.78
Dilution per share to new investors purchasing ADSs in this offering		$ 9.22

If the underwriters exercise their option to purchase additional ADSs in full, the pro forma as adjusted net tangible book value per ADS after the offering would be $8.00, the increase in net tangible book value per ADS to existing shareholders would be $0.22 and the immediate dilution in net tangible book value per ADS to new investors in this offering would be $0.22.

The following table summarizes, on the pro forma as adjusted basis described above as of December 31, 2020, the differences between the existing shareholders and the new investors in this offering with respect to the number of ordinary shares purchased from us (including ordinary shares in the form of ADSs), the total consideration paid to us and the average price per ordinary share (including ordinary shares in the form of ADSs), based on the initial public offering price of $17.00 per ADS, before deducting underwriting discounts and commissions and estimated offering expenses payable by us.

	ORDINARY SHARES/ADS PURCHASED		TOTAL CONSIDERATION		AVERAGE PRICE PER ORDINARY SHARE/ADS
	NUMBER	PERCENT	AMOUNT	PERCENT	
Existing shareholders	27,564,345	80.9%	$219,775,806	66.5%	$ 7.97
New investors participating in this offering	6,500,000	19.1	110,500,000	33.5	17.00
Total	34,064,345	100.0%	$330,275,806	100.0%	

If the underwriters exercise their option to purchase additional ADSs in full, the percentage of ordinary shares held by existing shareholders will decrease to 79% of the total number of ordinary shares outstanding after the offering, and the number of shares held by new investors will be increased to 7,475,000, or 21% of the total number of ordinary shares outstanding after this offering.

The above discussions and tables are based on 27,564,345 ordinary shares issued and outstanding as of December 31, 2020, after giving effect to the issuance of 12,785,802 Series B Shares in March 2021, which included the conversion of the 2020 Notes into Series B Shares, and excludes:

- 2,072,463 ordinary shares issuable upon the exercise of options for ordinary shares outstanding as of December 31, 2020, with a weighted-average exercise price of $0.0004 per share;
- 748,707 ordinary shares reserved for issuance under our EMI Option Scheme, or the Scheme, as of December 31, 2020, which shares will no longer be reserved following this offering;
- 3,675,680 ordinary shares that will be made available for future issuance under our 2021 Share Option and Incentive Plan upon the effectiveness of the registration statement of which this prospectus forms a part; and
- 367,568 shares reserved for future issuance under our 2021 Employee Share Purchase Plan upon the effectiveness of the registration statement of which this prospectus forms a part.

SELECTED CONSOLIDATED FINANCIAL DATA

The following tables set forth our selected consolidated financial data for the periods ended on and as of the dates indicated. We derived the selected consolidated statements of operations data for the fiscal years ended December 31, 2019 and 2020 and the selected consolidated balance sheet data as of December 31, 2019 and 2020 from our audited consolidated financial statements included elsewhere in this prospectus. We changed our fiscal year end from January 31 to December 31, beginning with the fiscal year ended December 31, 2019. References to "year ended December 31, 2019" relate to the period from February 1, 2019 to December 31, 2019. References to "year ended December 31, 2020" relate to the period from January 1, 2020 to December 31, 2020. As a result, year ended December 31, 2019 is an eleven-month transition period, whereas year ended December 31, 2020 is, and our future fiscal years will be, twelve-month periods. Comparability of year ended December 31, 2019 to other fiscal years is therefore limited. Our historical results are not necessarily indicative of the results to be expected in any future period.

The selected consolidated financial data below should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes included elsewhere in this prospectus. The selected consolidated financial data in this section are not intended to replace the consolidated financial statements and are qualified in their entirety by our consolidated financial statements and related notes included elsewhere in this prospectus. Our reporting currency is the U.S. dollar.

	Year ended December 31, 2019	Year ended December 31, 2020
		(in thousands, except share and per share data)
Consolidated Statement of Operations Data		
License revenue	$ 20	$ 2,552
Service revenue	203	405
Sale of viral seeds	115	—
Research grants and contracts	6,507	1,863
Total revenue	6,845	4,820
Operating expenses		
Research and development	29,842	14,386
General and administrative	2,668	10,481
Total operating expenses	32,510	24,867
Loss from operations	(25,665)	(20,047)
Other income (expense):		
Change in fair value of derivatives	—	2,039
Unrealized foreign exchange gain on convertible loan notes	—	448
Interest expense	(133)	(3,600)
Interest income	40	—
Gain from disposal of property and equipment	4	—
Research and development incentives	2,976	3,279
Other income	80	42
Total other income	2,967	2,208
Tax expense	—	(95)
Net loss	(22,698)	(17,934)
Net loss attributable to noncontrolling interest	1,968	228
Net loss attributable to Vaccitech shareholders	$(20,730)	$ (17,706)
Weighted-average ordinary shares outstanding, basic and diluted	23,469	25,581
Net loss per share attributable to ordinary shareholders, basic and diluted	$(883.27)	$ (692.16)
Pro forma weighted-average ordinary shares outstanding, basic and diluted (unaudited)[1]		14,722,614
Pro forma net loss per share, basic and diluted (unaudited)[1]		$ (1.20)

(1) See Note 4 to our consolidated financial statements appearing at the end of this prospectus for further details on the calculation of pro forma basic and diluted net loss per share attributable to ordinary shareholders, further adjusted for the 309-for-one forward split of our ordinary and preferred shares, which will become effective immediately prior to the closing of this offering.

	December 31,	
	2019	2020
	(in thousands)	
Consolidated Balance Sheet Data		
Cash and cash equivalents	$ 11,432	$ 43,266
Working capital[(1)]	10,497	40,260
Total assets	19,043	50,666
Long-term debt[(2)]	1,606	46,172
Total liabilities	7,358	53,813
Series A Shares	33,765	33,765
Total shareholders' deficit	(22,079)	(36,912)

(1) Working capital is defined as current assets less current liabilities.

(2) Long-term debt includes convertible loan notes and lease liability.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with the section titled "Selected Consolidated Financial Data" and our audited consolidated financial statements and related notes included elsewhere in this prospectus. This discussion and other parts of this prospectus contain forward-looking statements that involve risks and uncertainties, such as our plans, objectives, expectations, intentions and beliefs. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in the section titled "Risk Factors" included elsewhere in this prospectus. For convenience of presentation, some of the numbers have been rounded in the text below.

We changed our fiscal year end from January 31 to December 31, beginning with the fiscal year ended December 31, 2019. The change was intended to more closely align our fiscal year end with our business cycle and that of our industry. References to "year ended December 31, 2019" relate to the period from February 1, 2019 to December 31, 2019. References to "year ended December 31, 2020" relate to the period from January 1, 2020 to December 31, 2020. As a result, year ended December 31, 2019 is an eleven-month transition period, whereas year ended December 31, 2020 is, and our future fiscal years will be, twelve-month periods. Comparability of year ended December 31, 2019 to other fiscal years is therefore limited.

Overview

We are a clinical-stage biopharmaceutical company engaged in the discovery and development of novel immunotherapeutics and vaccines for the treatment and prevention of infectious diseases and cancer. We use our proprietary platform to develop product candidates that stimulate powerful, targeted immune responses against pathogens and tumor cells. We design our product candidates to stimulate immune responses that are robust, highly specific, and are differentiated by the magnitude of the T cell populations induced, which exhibit critical functionality and durability. We are focused on applying our platform capabilities and the expertise of our team to address significant unmet medical needs in two settings—the therapeutic setting, for the treatment of chronic infectious diseases and cancer, and the prophylactic setting, for the prevention of infectious diseases, based on our platform's ability to respond rapidly to epidemic and pandemic threats.

We have a broad pipeline of both clinical and preclinical stage therapeutic and prophylactic programs. Our current therapeutic programs include VTP-300 for the treatment of chronic hepatitis B infection, or CHB, VTP-200 for the treatment of human papilloma virus infection, or HPV, VTP-850 for the treatment of prostate cancer and VTP-600 for the treatment of non-small cell lung cancer, or NSCLC. Our current prophylactic programs include VTP-400 for the prevention of herpes zoster, or shingles, and VTP-500 for the prevention of Middle East respiratory syndrome, or MERS. In addition, we co-invented a COVID-19 vaccine candidate with the University of Oxford, which we assigned to Oxford University Innovation, or OUI, to facilitate the license of those rights by OUI to AstraZeneca UK Limited, or AstraZeneca. The product candidate is now known as COVID-19 Vaccine AstraZeneca, which we refer to as AZD1222.

We have funded our operations to date primarily from private placements of our ordinary and preferred shares, with aggregate gross proceeds of approximately $175.2 million, private placements of loan notes convertible into ordinary shares with aggregate gross proceeds of $41.2 million between July 2020 and November 2020, as well as from grants and licensing agreements, including a $8.6 million grant received from Biomedical Advanced Research and Development Agency, or BARDA, as part of funding agreements for our influenza studies, research tax credit payments of $7.0 million, investments from non-controlling interest of $3.0 million and a $2.5 million upfront payment from OUI in July 2020 in connection with the Amendment, Assignment and Revenue Share Agreement, or the OUI License Agreement Amendment, related to the licensing of the COVID-19 vaccine candidate now known as AZD1222. We do not expect to generate revenue from any of our own product candidates until we obtain regulatory authorization for one or more of such product candidates, if at all, and commercialize our products, or we enter into out-licensing agreements with third parties. We may receive some revenue pursuant to the OUI License Agreement Amendment with OUI with respect to the AstraZeneca COVID-19 vaccine candidate AZD1222 in certain circumstances if it receives marketing approval from regulatory authorities and is sold commercially. Substantially all of our net losses have resulted from costs incurred in connection with our research and development activities and from general and administrative costs associated with our operations.

We have incurred net losses each year since inception. In 2019, we changed our financial year end from January 31 to December 31. Our net losses include net losses of $22.7 million and $17.9 million for the year ended December 31, 2019 and for the year ended December 31, 2020, respectively. As of December 31, 2020, we had an accumulated deficit of $55.6 million and we do not expect positive cash flows from operations in the foreseeable future. We expect to continue to incur net operating losses for at least the next several years as we advance our product candidates through clinical development, seek regulatory approval, prepare for approval, and in some cases proceed to commercialization of our product candidates, as well as continue our research and development efforts and invest to establish a commercial manufacturing facility, as and when appropriate.

At this time, we cannot reasonably estimate, or know the nature, timing and estimated costs of all of the efforts that will be necessary to complete the development of any of our product candidates that we develop through our programs. We are also unable to predict when, if ever, material net cash inflows will commence from sales of product candidates we develop, if at all. This is due to the numerous risks and uncertainties associated with developing product candidates to approval and commercialization, including the uncertainty of:

- successful completion of preclinical studies and clinical trials;
- sufficiency of our financial and other resources to complete the necessary preclinical studies and clinical trials;
- acceptance of investigational new drug applications, or INDs, for our planned clinical trials or future clinical trials;
- successful enrollment and completion of clinical trials;
- data from our clinical program supporting approvable and commercially acceptable risk/benefit profiles for our product candidates in the intended populations;
- receipt and maintenance of necessary regulatory and marketing approvals from applicable regulatory authorities, in the light of the commercial environment then existent;
- scale-up of our manufacturing processes and formulation of our product candidates for later stages of development and commercial production;
- establishing either our own manufacturing capabilities or satisfactory agreements with third-party manufacturers for clinical supply for later stages of development and commercial manufacturing;
- entry into collaborations where appropriate to further the development of our product candidates;
- obtaining and maintaining intellectual property and trade secret protection or regulatory exclusivity for our product candidates as well as qualifying for, maintaining, enforcing and defending such intellectual property rights and claims;
- successfully launching or assisting with the launch of commercial sales of our product candidates following approval;
- acceptance of each product’s benefits and uses by patients, the medical community and third-party payors following approval;
- the prevalence and severity of any adverse events experienced with our product candidates in development;
- establishing and maintaining a continued acceptable safety profile of the product candidates following approval;
- obtaining and maintaining healthcare coverage and adequate reimbursement from third-party payors if necessary or desirable; and
- effectively competing with other therapies.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and/or timing associated with the development of that product candidate or could prevent continuation of that program being in the company's interests. For example, if the FDA or another regulatory authority were to require us to conduct clinical trials beyond those that we anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant delays in our clinical trials due to patient enrollment or other reasons, we might be required to expend significant additional financial resources and time on the completion of clinical development. In some circumstances, such as the emergence of a significantly more effective therapy from a competitor, it may be appropriate to discontinue a product candidate program.

Without giving effect to the net proceeds from this offering, we expect that our cash balance at December 31, 2020 together with the cash proceeds received from the issuance of our Series B Shares in March 2021 will enable us to fund our operating expenses and capital requirements for the foreseeable future. To address our capital needs, including our planned clinical trials and other expenditures, we may need to obtain additional capital. Adequate financing opportunities might not be available, when and if needed, on acceptable terms or at all. See Note 2 to our consolidated financial statements appearing at the end of this prospectus for additional information on our assessment.

Impact of the COVID-19 Pandemic

The spread of COVID-19, which we refer to as the COVID-19 pandemic, and the policies and regulations implemented by governments in response to the COVID-19 pandemic have had a significant impact, both directly and indirectly, on the global economy and our business and operations, including in particular the interruption of our clinical trial activities and potential interruption to our supply chain. For example, the initiation of our Phase 1/2a clinical trial for VTP-200 and our Phase 1 clinical trial for VTP-500, which are being conducted at the University of Oxford sites, have been delayed and paused, respectively due to COVID-19. If the disruption due to the COVID-19 pandemic continues, our planned future preclinical and clinical development for our other product candidates could also be delayed due to government orders and site policies as a result of the pandemic. The pandemic and government measures taken in response have also had a significant impact, both direct and indirect, on businesses and commerce, as worker shortages have occurred; supply chains have been disrupted; facilities and production have been suspended; and demand for certain goods and services, such as medical services and supplies, has spiked, while demand for other goods and services, such as travel, has fallen. In response to the spread of COVID-19, we have mandated that our non-laboratory based employees, such as clinical, manufacturing, finance, administrative, quality, regulatory and program managers continue their work outside of our offices and limited the number of staff in any given research and development laboratory at any time. Our increased reliance on personnel working from home may negatively impact productivity, increase the potential risks of data privacy or security breaches, or disrupt, delay, or otherwise adversely impact our business.

We are still assessing our business plans and the impact the COVID-19 pandemic may have on our ability to advance the development of our product candidates as a result of adverse impacts on the research sites, service providers, vendors, or suppliers on whom we rely, or to raise financing to support the development of our ongoing product candidate development. No assurances can be given that this analysis will enable us to avoid part or all of any impact from the COVID-19 pandemic, including downturns in business sentiment generally or in our sector in particular. We cannot currently predict the scope and severity of any potential business shutdowns or disruptions, but if we or any of the third parties on whom we rely or with whom we conduct business were to experience shutdowns or other business disruptions, our ability to conduct our business in the manner and on the timelines presently planned could be materially and adversely impacted.

Components of Our Operating Results

Revenue

To date, we have not generated any revenue from product sales and do not expect to do so in the near future, if at all. Our revenue to date has been derived from a research grant from BARDA, a research, collaboration and license agreement with Enara Bio and the OUI License Agreement Amendment with OUI relating to AZD1222.

In April 2020, we entered into the OUI License Agreement Amendment with OUI in respect of our rights to use the ChAdOx1 technology in COVID-19 vaccines to facilitate the license of those rights by OUI to AstraZeneca. Under this agreement, we are entitled to receive from OUI a share of payments, including royalties and milestones, received by OUI from AstraZeneca in respect of this vaccine. Further details on the OUI License Agreement Amendment can be found under the section titled "Business—Our Collaboration and License Agreements—OUI License Agreement Amendment." As a direct result of the OUI License Agreement Amendment, we received a payment of $2.5 million, of which we recognized $2.5 million as revenue during the year ended December 31, 2020.

We determined that we have no further performance obligations under the terms of the OUI License Agreement Amendment, which comprised the transfer of intellectual property rights only. Accordingly, we plan to recognize these and any future amounts as revenue when received.

Operating Expenses

Our operating expenses since inception have consisted of research and development costs and general administrative costs.

Research and Development Expenses

Since our inception, we have focused significant resources on our research and development activities, including establishing and building on our adenovirus platform, further enhancing our in-licensed ChAdOx1, ChAdOx2 and MVA vectors, developing a new next-generation adenoviral vector, conducting preclinical studies, developing various manufacturing processes, and advancing clinical development of our programs including Phase 2 clinical trials for VTP-100, which we subsequently discontinued development of, as well as initiating the clinical trials for VTP-200 and VTP-300, and readying VTP-600 and VTP-850 for clinical trials. Research and development activities account for the major portion of our operating expenses. Research and development costs are expensed as incurred. These costs include:

- salaries, benefits and other related costs, including share-based compensation, for personnel engaged in research and development functions;
- expenses incurred in connection with the development of our programs including preclinical studies and clinical trials of our product candidates, under agreements with third parties, such as consultants, contractors, academic institutions and CROs;
- the cost of manufacturing drug products for use in preclinical development and clinical trials, including under agreements with third parties, such as CMOs, consultants and contractors;
- laboratory costs;
- leased facility costs, equipment depreciation and other expenses, which include direct and allocated expenses; and
- intellectual property costs incurred in connection with filing and prosecuting patent applications as well as third-party license fees.

General and Administrative Expenses

Our general and administrative expenses consist primarily of personnel costs in our executive, finance, business development and other administrative functions. Other general and administrative expenses include consulting fees and professional service fees for auditing, tax and legal services, rent expenses related to our offices, depreciation and other central non-research costs. We expect our general and administrative expenses to continue to increase in the future as we expand our operating activities and potentially prepare for manufacturing and/or commercialization of our current and future product candidates. These costs would normally increase as our headcount rises to allow full support for our operations as a public company, including increased expenses related to legal, accounting, regulatory and tax-related services associated with maintaining compliance with requirements of the Nasdaq Global Market and the Securities and Exchange Commission, directors and officers liability insurance premiums and investor relations activities.

Other Income (Expense), Net

Interest Expense

Interest expense results primarily from our convertible loan notes, which carry a market rate of interest. These notes have been issued since July 2020.

Research and development incentives

We have received an aggregate total of $7.0 million of research and development relief since inception under corporation tax relief on research and development projects incentive programs in the United Kingdom and Australia since inception. We account for such relief received as other income. For the year ended December 31, 2019 and for the year ended December 31, 2020, we recognized a total of $3.0 million and $3.3 million of research and development incentives, respectively.

Income Taxes

Income tax expense results from foreign minimum income tax and profit on a legal entity basis. The losses that we have incurred since inception result primarily from the losses of our main United Kingdom operating entity and its Australian subsidiary. As of December 31, 2020, we had foreign net operating loss balances to be carried forward for tax purposes of $23.2 million, resulting in a potential unrecognised net deferred tax asset of $4.5 million. We have considered that at present there is not sufficient certainty that these tax losses carried forward can be used in all or in part, and so it is more likely than not that we will not realize the benefits of the deferred tax asset. As a result, we have not taken the deferred tax asset to the balance sheet as a full valuation allowance as of December 31, 2020.

Results of Operations

We changed our fiscal year end from January 31 to December 31, beginning with the fiscal year ended December 31, 2019. The change was intended to more closely align our fiscal year end with our business cycle and that of our industry. References to “year ended December 31, 2019” relate to the period from February 1, 2019 to December 31, 2019. References to “year ended December 31, 2020” relate to the period from January 1, 2020 to December 31, 2020. As a result, year ended December 31, 2019 is an eleven-month transition period, whereas year ended December 31, 2020 is, and our future fiscal years will be, twelve-month periods. Comparability of year ended December 31, 2019 to other fiscal years is therefore limited.

Comparison of the years ended December 31, 2019 and 2020

The following table sets forth the significant components of our results of operations (in thousands for the years ended December 31, 2019 and 2020):

	Year ended December 31, 2019	Year ended December 31, 2020
Total revenue	$ 6,845	$ 4,820
Operating expenses:		
Research & development	29,842	14,386
General and administrative	2,668	10,481
Total operating expenses	32,510	24,867
Loss from operations	(25,665)	(20,047)
Other income (expense)		
Change in fair value of derivatives	—	2,039
Unrealized foreign exchange gain on convertible loan notes	—	448
Interest expense	(133)	(3,600)
Research and development incentives	2,976	3,279
Other income	124	42
Total other income	2,967	2,208
Tax expense	—	(95)
Net loss	$(22,698)	$(17,934)

Revenue

For the year ended December 31, 2019, our revenue primarily consisted of $6.5 million of reimbursement of research and development expenses from BARDA. For the year ended December 31, 2020, our revenue primarily consisted of $2.5 million of license revenue from OUI and $1.6 million of reimbursement of research and development expenses from BARDA.

Research and Development Expenses

Our research and development expenses for the year ended December 31, 2019 and for the year ended December 31, 2020 were $29.8 million and $14.4 million, respectively. Personnel-related expenses were $3.1 million and $3.0 million, respectively, as result of our static headcount growth owing to the COVID-19 pandemic. Facility-related expenses were $0.1 million and $0.3 million for the year ended December 31, 2019 and the year ended December 31, 2020, respectively, reflecting the full-period cost of a move made to a larger laboratory and office space in 2019 as a result of our increased research and development needs and headcount. Direct expenses for outside services and consultants and laboratory materials were $26.0 million for the year ended December 31, 2019 and $10.3 million for the year ended December 31, 2020 and mainly comprised costs for manufacturing of clinical trial materials, costs for clinical trials and costs for external preclinical services and sample testing.

The following table summarizes our research and development expenses by product candidate or program (in thousands):

	Year ended December 31, 2019	Year ended December 31, 2020
Direct research and development expenses by program:		
VTP-200 HPV:	$ 4,168	$ 1,716
VTP-300 HBV	1,993	3,646
VTP-600 NSCLC	5,313	1,598
VTP-800/VTP-850 Prostate cancer	7	119
Other and earlier-stage programs	14,470	3,245
Internal research and development expenses:		
Personnel-related (including share-based compensation)	3,098	2,966
Facility-related	101	191
Other internal costs	692	905
Total research and development expenses	$29,842	$14,386

General and Administrative Expenses

General and administrative expenses for the year ended December 31, 2019 were $2.7 million, which were mainly attributable to operating lease costs, plus personnel expenses of $0.9 million and professional fees and consulting fees of $1.0 million. For the year ended December 31, 2020, general and administrative expenses were $10.5 million, mainly attributable to an increase in fundraising activities, including personnel expenses of $5.4 million, professional fees and consulting fees of $3.2 million.

Change in Fair Value of Derivatives

Change in the fair value of derivatives for the year ended December 31, 2020 was $2.0 million, which was mainly attributable to bifurcation of embedded conversion options of convertible loan notes issued throughout 2020.

Unrealized Foreign Exchange Gain on Convertible Loan Notes

Unrealized foreign exchange on convertible loan notes for the year ended December 31, 2020 was $0.4 million, which resulted from part of the convertible loan notes issued in British Pound Sterling.

Interest Expense

For the year ended December 31, 2019, interest expense was $0.1 million, which primarily relate to operating lease expense. For the year ended December 31, 2020, interest expense was $3.6 million, mainly comprising of interest on convertible loan notes issued throughout 2020.

Research and Development Incentives

Research and development incentives for the year ended December 31, 2019 and for the year ended December 31, 2020 were $3.0 million and $3.3 million, respectively, and primarily consisted of our entitlement to a research and development tax relief for small and medium-sized enterprises in the United Kingdom.

Liquidity and Capital Resources

Sources of Liquidity

Since our inception, we have funded our operations primarily through private placements of our ordinary and preferred shares as well as from grants and research incentives, various agreements with public funding agencies, and most recently from an upfront payment from OUI in connection with the OUI License Agreement Amendment and the issuance of convertible loan notes. Through December 31, 2020, we had received gross proceeds of approximately $89.1 million from the issuance of our ordinary and preferred shares and convertible loan notes. As of December 31, 2020, we had cash and cash equivalents of $43.3 million. Key financing and corporate milestones include the following:

- In March 2016, we raised gross proceeds of approximately $14.0 million from the issuance of our seed round of ordinary shares.
- Between November 2017 and December 2018, we raised gross proceeds of $33.9 million from the issuance of our Series A Shares.
- Between July 2020 and November 2020, we raised gross proceeds of $41.2 million from the issuance of convertible loan notes.
- In March 2021, we raised gross proceeds of $125.2 million from the issuance of our Series B Shares.

We do not expect positive cash flows from operations in the foreseeable future, if at all. Historically, we have incurred operating losses as a result of ongoing efforts to develop our heterologous ChAdOx1-MVA prime-boost immunotherapy platform and our product candidates, including conducting ongoing research and development, preclinical studies, clinical trials, providing general and administrative support for these operations and developing our intellectual property portfolio. We expect to continue to incur net operating losses for at least the next few years as we progress clinical development, seek regulatory approval, prepare for and, if approved, proceed to manufacture and commercialization of our most advanced product candidates. Operating profits may arrive earlier if programs are licensed or sold to third parties before final approval, but this cannot be guaranteed.

Cash Flows

The following table sets forth a summary of the primary sources and uses of cash (in thousands for the years ended December 31, 2019 and 2020):

	Year ended December 31, 2019	Year ended December 31, 2020
Net cash used in operating activities	$(18,682)	$(11,028)
Net cash used in investing activities	(124)	(293)
Net cash provided by financing activities	2,044	41,435
Effect of exchange rates on cash and cash equivalents	(444)	1,720
Net decrease in cash and cash equivalents	$(17,206)	$ 31,834

Cash Used in Operating Activities

During the year ended December 31, 2019, net cash used in operating activities was $18.7 million, primarily resulting from our net loss of $22.7 million, adjusted by share based compensation of $0.8 million, depreciation of $0.3 million and changes in our operating assets and liabilities, net of $2.9 million. During

the year ended December 31, 2020, net cash used in operating activities was $11.0 million, primarily resulting from our net loss of $17.9 million, adjusted by share based compensation of $3.6 million, depreciation of $0.2 million and changes in our operating assets and liabilities, net of $2.0 million.

Net Cash Used in Investing Activities

During the year ended December 31, 2019 and the year ended December 31, 2020, cash used in investing activities was $0.1 million and $0.3 million, respectively, which resulted from capital expenditures in connection with the new labs and improvements to expand our laboratory space and for purchase of property and equipment.

Net Cash Provided by Financing Activities

During the year ended December 31, 2019, cash provided by financing activities was $2.0 million primarily representing capital contributions from non-controlling interest. During the year ended December 31, 2020, cash provided by financing activities was $41.4 million, consisting of $41.2 million of proceeds from the issuance of convertible loan notes and $0.3 million of capital contributions from non-controlling interest.

Options Granted

The following table sets forth by grant date the number of shares underlying options granted since February 1, 2019, the exercise price per share of the options, the fair value per share on each grant date, and the estimated fair value per share of the options on each grant date:

Year ended December 31, 2019					
Grant Date	Number Granted	Underlying Security per Share	Weighted Average Exercise Price	Estimated Fair Value per Option at Grant Date	Intrinsic Value at Grant Date
August 2019	264,195	$0.000035 Ordinary shares	$0.00042	$4.27	$4.27

Year ended December 31, 2020					
Grant Date	Number Granted	Underlying Security per Share	Weighted Average Exercise Price	Estimated Fair Value per Option at Grant Date	Intrinsic Value at Grant Date
January 2020	302,820	$0.000035 Ordinary shares	$0.00036	$4.98	$4.98
November 2020	460,410	$0.000035 Ordinary shares	$0.00042	$6.28	$6.28

Year ended December 31, 2021					
Grant Date	Number Granted	Underlying Security per Share	Weighted Average Exercise Price	Estimated Fair Value per Option at Grant Date	Intrinsic Value at Grant Date
February 2021	364,620	$0.000035 Ordinary shares	$0.00003	$9.14	$9.14

In determining the compensation expense in our consolidated statements of operations and comprehensive loss, we estimated the fair value of our ordinary shares as of the date of each option grant. See “Critical Accounting Policies and Use of Estimates—Share based Compensation.”

Future Funding Requirements

To date, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, undertaking preclinical studies and conducting clinical trials of our product candidates. As a result, we are not yet profitable and have incurred losses in each period since our inception in 2016. As of December 31, 2020, we had an accumulated deficit of $55.6 million. We expect to continue to incur significant losses for the foreseeable future. We anticipate that our expenses will increase substantially as we:

- pursue the clinical and preclinical development of our current product candidates;
- use our technologies to advance additional product candidates into preclinical and clinical development;
- seek marketing authorizations for product candidates that successfully complete clinical trials, if any;
- attract, hire and retain additional clinical, regulatory, quality control and other scientific personnel;
- establish our manufacturing capabilities through third parties or by ourselves and scale-up manufacturing to provide adequate supply for clinical trials and commercialization, including any manufacturing finishing and logistics personnel;
- expand our operational, financial and management systems and increase personnel appropriately, including personnel to support our manufacturing and commercialization efforts and our operations as a public company;
- maintain, expand, enforce, and protect our intellectual property portfolio as appropriate;
- establish sales, marketing, medical affairs and distribution teams and infrastructure to commercialize any products for which we may obtain marketing approval and intend to commercialize on our own or jointly;
- acquire or in-license other product candidates and technologies; and
- incur additional legal, accounting and other expenses in operating our business, including office expansion and the additional costs associated with operating as a public company.

Even if we succeed in commercializing one or more of our product candidates, we will continue to incur substantial research and development and other expenditure to develop and market additional product candidates. We may encounter unforeseen expenses, difficulties, complications, delays and other factors that may adversely affect our business. The size of our future net losses will depend on the rate of future growth of our expenses combined with our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our shareholders' equity and working capital unless and until eliminated by revenue growth.

Even if we consummate this offering, we may require substantial additional financing in the future to meet any such unanticipated factors and a failure to obtain this necessary capital could force us to delay, limit, reduce or terminate our product development programs, commercialization efforts or other operations.

Since our foundation, we have invested a significant portion of our efforts and financial resources in research and development activities for our ChAdOx1, ChAdOx2 and MVA technologies and our product candidates derived from these technologies. Preclinical studies and especially clinical trials and additional research and development activities will require substantial funds to complete. We believe that we will continue to expend substantial resources for the foreseeable future in connection with the development of our current product candidates and programs as well as any future product candidates we may elect to pursue, as well as the gradual gaining of control over our required manufacturing capabilities and other corporate functions. These expenditures will include costs associated with conducting preclinical studies and clinical trials, obtaining regulatory approvals, and potentially in-house manufacturing and supply, as well as marketing and selling any products approved for sale. In addition, other unanticipated costs may arise as outlined above. Because the outcome of any preclinical study or clinical trial is uncertain and the rate of change of third party costs is also unpredictable, we cannot reasonably estimate now the actual amounts which will be necessary to complete the development and commercialization of our current or future product candidates successfully.

Our future capital requirements may depend on many factors, including:

- the scope, progress, results and costs of researching and developing our current and future product candidates and programs, and of conducting preclinical studies and clinical trials;

- the number and development requirements of other product candidates that we may pursue, and of other indications for our current product candidates that we may pursue;
- the stability, scale and yield of future manufacturing processes as we scale-up production and formulation of our product candidates either internally or externally for later stages of development and commercialization;
- the timing of, success achieved and the costs involved in obtaining regulatory and marketing approvals and developing our ability to establish license or sale transactions and/or sales and marketing capabilities, if any, for our current and future product candidates if clinical trials and approval processes are successful;
- the success of our collaborations with CanSino, CRUK and the Ludwig Institute and any future collaboration partners;
- the success of OUI's licensed product candidate with AstraZeneca;
- our ability to establish and maintain collaborations, strategic licensing or other arrangements and the financial terms of such agreements;
- the cost to the company of commercialization activities for our current and future product candidates that we may take on, whether alone or with a collaborator;
- the costs involved in preparing, filing, prosecuting, maintaining, expanding, defending and enforcing patent and other intellectual property claims, including litigation costs and the outcome of such litigation;
- the timing, receipt and amount of sales of, or royalties or other income from, our future products, if any; and
- the emergence and success or otherwise of competing oncology and infectious disease therapies and other market developments.

A change in the outcome of any of these or other variables with respect to the development of any of our current and future product candidates could significantly change the costs and timing associated with the development of that product candidate, in either direction. Furthermore, our operating plans may change in the future owing to research outcomes or other opportunities, and we may need additional funds to meet operational needs and capital requirements associated with such altered operating plans.

We do not have any committed external source of funds or other support for our development efforts at this time. It is expected that the license agreement between OUI and AstraZeneca may produce some revenue, of which a share would be due to us pursuant to the OUI License Agreement Amendment, but at present it is not possible to predict how much this revenue would be, or when it may be received, with much certainty. Until we can generate sufficient product and royalty revenue to finance our cash requirements, which we may never do, we expect to finance our future cash needs through a combination of public or privately-placed equity offerings, debt financings, collaborations, strategic alliances, licensing arrangements and other marketing or distribution arrangements as well as grant funding. Based on our research and development plans, we expect that the net proceeds from this offering, together with our existing cash and cash equivalents, plus the proceeds from the issuance of Series B Shares in March 2021, will enable us to fund our operating expenses and capital expenditure requirements into the first half of 2024. These estimates are based on assumptions that may prove to be wrong, and we could use our available capital resources more quickly than we expect.

If we raise additional capital through marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish certain valuable rights to our product candidates, technologies, future revenue streams or research programs or grant licenses on terms that may not be favorable to us. If we raise additional capital through public or privately-placed equity offerings of securities, the terms of these securities or offerings may include liquidation or other preferences that adversely affect our other shareholders' rights. Furthermore, to the extent that we raise additional capital through the sale of ordinary or preferred shares, or of securities convertible or exchangeable into ordinary shares, existing ownership interests will be diluted. If we raise additional capital through debt financing, we would most probably be subject to fixed payment obligations

and may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, licensing or selling assets, making capital expenditures or declaring dividends. If we are unable to obtain additional funding on favorable terms as and when needed, we may have to delay, reduce the scope of or terminate one or more of our research and development programs or clinical trials, or license or sell one or more assets which were originally planned to be retained.

Contractual Obligations and Commitments

Operating Leases

We lease office and laboratory space from OSI in Oxford, England under a non-cancellable operating lease with a contractual term expiring in 2028. As of December 31, 2020, our future lease payments under this operating lease were $2.2 million of which $0.3 million is payable with the next 12 months and $1.9 million beyond the next 12 months.

Between July 2020 and November 2020, we raised gross proceeds of $41.2 million from the issuance of convertible loan notes which mature in June 2023 if not converted before then. As of December 31, 2020, we had a liability $44.7 million. As a result of completion of our Series B funding, the convertible loan notes were converted automatically at the time of completion into Series B Shares for cash consideration of approximately $43 million. The Series B Shares will automatically convert into one ordinary share and nine deferred shares on completion of the sale of ADS in this offering. See “Capitalization” and “Dilution” for additional information.

We have contractual obligations to make certain potential contingent payments under license agreements we have entered into with various universities and partners pursuant to which we have in-licensed certain intellectual property, including our license agreements with OUI and CanSino. We are unable to estimate the quantum of these potential contingent payments in the next 12 months from the most recent fiscal period end or beyond the next 12 months as of the date of this prospectus as the timing, quantum and likelihood of these contingent payments are not known and dependent upon the achievement by us of specified clinical, regulatory and commercial events, as applicable, which have not occurred as of the date of this prospectus. See “Business—Our Collaboration and License Agreements” for additional information about these license agreements, including with respect to potential payments thereunder.

We enter into contracts in the normal course of business with CROs for clinical trials, preclinical research studies and testing, as well as with CMOs for manufacturing and other services and with other parties for products for operating purposes. These contracts generally provide for termination upon notice, and therefore we believe that our non-cancellable obligations under these agreements are not material.

Intellectual Property Licenses

In March 2016, we entered into a license agreement, or the 2016 OUI License Agreement (as amended in January 2019 and April 2020), with OUI for the development and commercialization of vaccines for influenza, cancer (including therapeutic and prophylactic vaccines and including cancer associated with viral infections), varicella zoster and MERS. Pursuant to the 2016 OUI License Agreement, OUI granted us a worldwide license under certain patent rights of OUI, which are exclusive in certain fields and non-exclusive in others. Pursuant to the 2016 OUI License Agreement, we are obligated to pay OUI a low single-digit royalty (that varies based on indications) on net sales of any product or process produced by or using the technology licensed under the agreement, and to pay a mid-single digit royalty on any royalties paid to us by any sublicensee and a high-single digit royalty on non-royalty sublicensing income (excluding milestone payment income overlapping with milestone payments paid to OUI and income used to fund research and development). In addition, we are required to pay OUI milestone payments of up to an aggregate of £14.8 million upon the achievement of specified development, regulatory and commercial milestones.

In the year ended December 31, 2019 or in the year ended December 31, 2020, we did not incur any licensing fee payments from intellectual property licenses as research and development expenses.

For additional information on these license agreements, please see “Business—Our Collaboration and License Agreements.”

Critical Accounting Policies and Use of Estimates

This discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States, or US GAAP. The preparation of financial statements requires management to make estimates and judgments that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities as of the date of the financial statements and the reported amounts of expenses during the reporting period. On an ongoing basis, management evaluates its estimates, including those related to accruals for external manufacturing of clinical trial material as well as clinical study conduct, fair value of assets and liabilities, and the fair value of ordinary shares and share-based compensation. Management bases its estimates on historical experience and on various other market-specific and relevant assumptions that management believes to be reasonable under the circumstances. Actual results could differ from those estimates.

While our significant accounting policies are more fully described in the notes to our audited financial statements included elsewhere in this prospectus, we believe that the following accounting policies are critical to the process of making significant judgments and estimates in the preparation of our financial statements and understanding and evaluating our reported financial results.

Going Concern

The consolidated financial statements included elsewhere herein have been presented on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. We have financed our activities principally from the issuance of ordinary and preferred equity securities and convertible loan notes. We have experienced recurring losses since inception and expect to incur additional losses in the future in connection with research and development activities. Our ability to continue as a going concern is dependent upon our ability to raise additional debt and equity capital. There can be no assurance that such capital will be available in sufficient amounts or on terms acceptable to us. The consolidated financial statements included elsewhere herein do not include any adjustments relating to the recoverability of the recorded assets or the classification of liabilities that may be necessary should we be unable to continue as a going concern.

We incurred a net loss of $22.7 million and used $18.7 million in cash to fund operations during the year ended December 31, 2019 and $17.9 million and $11.0 million, respectively, for the year ended December 31, 2020. We had an accumulated deficit of $55.6 million as of December 31, 2020. As of December 31, 2020, we had $43.3 million in cash and cash equivalents. We also raised $125.2 million in equity issuances subsequent to December 31, 2020 and through the issuance date of the financial statements for the period ended December 31, 2020 (see Note 16 to the Consolidated Financial Statements). Our management believes that we have sufficient cash to support our operations at least through April 2023. In order to address our capital needs, including our planned clinical trials and other expenditure, we are actively pursuing additional equity financing in the form of a public offering. We have been in ongoing discussions with institutional investors and investment banks with respect to such possible offerings. Adequate financing opportunities might not be available to us, when and if needed, on acceptable terms or at all. If we are unable to obtain additional financing in sufficient amounts or on acceptable terms or if we fail to consummate a public offering, we may be forced to delay, reduce or eliminate some or all of our research and development programs and product portfolio expansion, which could adversely affect our operating results or business prospects. Although our management continues to pursue these plans, there is no assurance that we will be successful in obtaining sufficient funding on terms acceptable to us to fund continuing operations, if at all. After considering the uncertainties, management consider it is appropriate to continue to adopt the going concern basis in preparing the consolidated financial statements.

Convertible Loan Notes and Embedded Derivatives

In 2020, we entered into a series of unsecured convertible loan notes arrangements on various dates between July through November 2020. The convertible loan notes accrue interest daily at 8% per annum, which is payable in (a) cash upon an event of default or (b) cash or shares at the Board’s discretion upon conversion. The convertible loan notes will mature on June 6, 2023. On maturity, the lenders can elect cash redemption in lieu of conversion, in an amount that equals all outstanding principal plus a redemption premium. The convertible loan notes may not be prepaid without the consent of the lenders.

We review the terms of convertible loan notes and other financing arrangements to determine whether there are embedded derivative instruments, including embedded conversion options that are required to be bifurcated and accounted for separately as a derivative financial instrument. Derivative financial instruments are initially measured at fair value, and then re-valued at each reporting date, with changes in the fair value reported as charges or credits to consolidated statement of operations and comprehensive loss. To the extent that the initial fair values of the freestanding and/or bifurcated derivative instrument exceed the total proceeds received an immediate charge to consolidated statement of operations and comprehensive loss is recognized in order to initially record the derivative instrument at fair value.

The discount from the face value of the convertible loan notes resulting from allocating some or all of the proceeds to the derivative instruments, together with the stated rate of interest on the instrument, is amortized over the life of the instrument through periodic charges to consolidated statement of operations and comprehensive loss, using the effective interest method.

Embedded derivatives bifurcated are presented along with the host contract on the balance sheet.

Recognition of Revenue from Contracts with Customers

We have entered into the OUI License Agreement Amendment with OUI during 2020 to facilitate the license of our rights to the COVID-19 vaccine we co-invented with OUI to AstraZeneca, which is now known as AZD1222. Our performance obligations under the terms of this agreement are limited to the transfer of intellectual property rights (licenses and other rights). Payments by AstraZeneca to OUI under this agreement included an up-front payment and may include payments based upon the achievement of defined milestones, commercial milestones and royalties on product sales if certain future conditions are met. We are entitled to a specified percentage of payments, including royalties and milestones, received by OUI from that license agreement with AstraZeneca as set out in the OUI License Agreement Amendment.

We evaluate our collaboration and licensing arrangements pursuant to Accounting Standards Codification 606, or ASC 606. To determine the recognition of revenue from arrangements that fall within the scope of ASC 606, we perform the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize determinable revenue when, or as, the company satisfies a performance obligation or (if later) when such revenue becomes payable. We present revenues from collaboration and licensing arrangements separately from other sources of revenue.

Amounts received by us as non-refundable upfront payments under the OUI License Agreement Amendment prior to satisfying the above revenue recognition criteria would be recorded as deferred revenue in our consolidated balance sheets. Such amounts would be recognized as revenue over the performance period of the respective services on a percent of completion basis for each of the obligations. Contingent milestone payments related to specified preclinical and clinical development milestones are not initially recognized within the transaction price as they are fully constrained under the guidance in ASC 606.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development expenses consist of costs incurred in performing research and development activities, including salaries and bonuses, share-based compensation, employee benefits, facilities costs, laboratory supplies, depreciation, manufacturing expenses and external costs of vendors engaged to conduct preclinical development activities and clinical trials as well as the cost of licensing technology. Advance payments for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses. The prepaid amounts are then expensed as the related goods are delivered or the services are performed.

All patent-related costs incurred in connection with filing and prosecuting patent applications are classified as research and development costs and expensed as incurred due to the uncertainty about any future recovery of the expenditure. Upfront payments, milestone payments and annual payments made for the licensing of technology are generally expensed as research and development in the period in which they are incurred. Incremental sublicense fees triggered by contracts with customers are capitalized and expensed as research and development expenses over the period in which the relating revenue is recognized.

Share based Compensation

We grant options and restricted shares to employees and directors and account for share-based compensation using a fair value method. All of these arrangements are settled in equity at a predetermined price and generally vest over a period of four years. All share options have a life of 10 years before expiration. To the extent such incentives are in the form of share options, the options may have been granted pursuant bilateral EMI option awards or unapproved option awards. The EMI option award agreements provide for the grant of potentially tax favored Enterprise Management Incentive, or EMI, options, to our U.K. employees and directors. Options issued pursuant to such agreements have an exercise price agreed with HM Revenue & Customs. The exercise price for unapproved share options is £0.01 per share. Exercise prices of our options to subscribe for ordinary shares and restricted shares are in British Pound Sterling.

Share based compensation awards are measured at the grant date fair value. For service-based awards, compensation expense is generally recognized over the requisite service period of the awards, usually the vesting period. The Company applies the "multiple option" method of allocating expense. In applying this method, each vesting tranche of an award is treated as a separate grant and recognized on a straight-line basis over that tranche's vesting period. For performance-based awards where the vesting of the awards may be accelerated upon the achievement of certain milestones. vesting and the related share-based compensation is recognized as an expense when it is probable the milestone will be met. The Company has elected to recognize the effect of forfeitures on share-based compensation when they occur. Any differences in compensation recognized at the time of forfeiture are recorded as a cumulative adjustment in the period where the forfeiture occurs.

We measure share-based awards granted to employees and directors based on the fair value on the date of grant using the Black-Scholes option-pricing model for options. The fair values of options granted during the year ended December 31, 2019 and the year ended December 31, 2020 were determined by independent third-party valuations which were performed at the time of such grants. Black-Scholes utilizes assumptions related to expected term, forfeitures, volatility, the risk-free interest rate, the dividend yield (which is assumed to be zero, as we have not paid any cash dividends).

The assumptions used in the Black-Scholes model to determine fair value for the share option grants during the year ended December 31, 2019 and the year ended December 31, 2020 and were:

	Year ended December 31, 2019	Year ended December 31, 2020
Risk-free interest rate	2.43%	1.10%
Expected term (in years)	6.25	6.40
Expected volatility	102.68%	117.73%
Expected dividends	Nil	Nil

In the year ended December 31, 2019, 264,195 share options were granted, and in the year ended December 31, 2020, 763,230 share options were granted. In February 2021, we granted a further 364,620 options with a weighted average exercise price of $0.000035 and a grant date fair value of $9.14. As of the date of this prospectus, we anticipate to recognize share-based compensation of $3.33 million in respect of this award over a weighted-average period of 2.5 years.

As there is no public market for our ordinary shares to date, we estimated fair value of our ordinary shares as of the date of each option grant, considering third-party valuations. These valuations considered both objective and subjective factors, including:

- the prices at which we sold ordinary shares and the investor rights and preferences of each sale of our ordinary shares at the time of each grant;
- the progress of our research and development programs, including the status of preclinical studies and planned clinical trials for our product candidates;
- our stage of development and our business strategy;

- external market conditions affecting the biotechnology industry, and trends within the biotechnology industry;
- our financial position, including cash on hand, and our historical and forecasted performance and operating results;
- the lack of any active public market for our ordinary shares and our convertible loan notes; and
- the likelihood of achieving a liquidity event, such as an initial public offering or a sale of our company in light of prevailing market conditions, based on the status of the company at each date of valuation.

The valuations were re-performed in October 2020 in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, Valuation of Privately-Held-Company Equity Securities Issued as Compensation. The methods used to derive total equity value varied, depending on the availability of objective valuation-related information. Inputs used in our retrospective valuations include the issue prices of our periodic investment rounds and market factors based on recent mergers and acquisitions within the biotechnology and pharmaceutical industries. An option pricing allocation method, or OPM, was selected to allocate the total equity value. The OPM treats ordinary shares and preferred shares loan notes as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company's securities changes. Under this method, the ordinary shares have value only if the funds which would be expected to be available for distribution to shareholders exceeds the value of other liquidation preference at the time of the liquidity event, such as a strategic sale or a merger.

The assumptions underlying these valuations represented management's best estimate, which involved inherent uncertainties and the application of management's judgment. As a result, if we had used significantly different assumptions or estimates, the fair value of our ordinary shares and our share-based compensation expense could have been materially different.

Once a public trading market for our ADSs has been established in connection with the completion of this offering, it will no longer be necessary for our board of directors to estimate the fair value of our ordinary shares in connection with our accounting for granted options and other such awards as we may grant, as the fair value of our ordinary shares will be determined based on the quoted market price of our ADSs.

Internal Control over Financial Reporting

In connection with the audits of our consolidated financial statements for each of the years ended December 31, 2019 and 2020, our management and independent registered public accounting firm identified material weaknesses in our internal control over financial reporting. The material weaknesses related to: (i) our lack of a sufficient number of personnel with an appropriate level of knowledge and experience in the application of U.S. generally accepted accounting principles, or U.S. GAAP, commensurate with our financial reporting requirements; (ii) our IT general control environment has not been sufficiently designed to include appropriate user access rights and (iii) policies and procedures with respect to the review, supervision and monitoring of our accounting and reporting functions were either not designed and in place or not operating effectively. As a result, a number of adjustments to our consolidated financial statements for each of the years ended December 31, 2019 and 2020 were identified and made during the course of the audit process.

We are currently not required to comply with Section 404 of the Sarbanes-Oxley Act, and are therefore not required to make an assessment of the effectiveness of our internal control over financial reporting. Further, our independent registered public accounting firm has not been engaged to express, nor have they expressed, an opinion on the effectiveness of our internal control over financial reporting. Had we and our independent registered public accounting firm performed an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act, additional control deficiencies may have been identified by our management or independent registered public accounting firm, and those control deficiencies could have also represented one or more material weaknesses. In an effort to remediate the material weaknesses, we have hired a Chief Financial Officer with public company experience and we plan to increase the number of our finance and accounting personnel.

Assessing our procedures to improve our internal control over financial reporting is an ongoing process. We can provide no assurance that our remediation efforts described herein will be successful and that we will not have material weaknesses in the future. Any material weaknesses we identify could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our consolidated financial statements. See "Risk Factors—General Risk Factors."

Emerging Growth Company Status

We are an emerging growth company under the Jumpstart Our Business Startups Act of 2012, as amended, or the JOBS Act. As an emerging growth company, we may delay the adoption of certain accounting standards until those standards would otherwise apply to private companies.

We will remain an emerging growth company until the earliest of (1) the last day of the fiscal year (a) following the fifth anniversary of the consummation of this offering, (b) in which we have total annual gross revenue of at least $1.07 billion, or (c) in which we are deemed to be a "large accelerated filer" as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our ADSs held by non-affiliates exceeded $700.0 million as of the prior June 30th, and (2) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period.

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.

Recent Accounting Pronouncements

See Note 3 to our audited consolidated financial statements and related notes included elsewhere in this prospectus.

Quantitative and Qualitative Disclosures About Market Risk

Foreign Currency and Currency Translation

We are subject to the risk of fluctuations in foreign currency exchange rates, specifically with respect to the euro, pound sterling and Australian dollar. Our reporting currency is the U.S. dollar, our functional currency is the pound sterling and the functional currency of our wholly owned foreign subsidiary, Vaccitech Australia Pty, is the Australian dollar. Our cash and cash equivalents as of December 31, 2020 consisted primarily of cash balances held by Vaccitech (UK) Limited (formerly Vaccitech Limited) in pounds sterling.

Assets and liabilities are translated into U.S. dollars at the exchange rate in effect on the balance sheet date. Revenue and expenses are translated at the average exchange rate in effect during the period. Translation adjustments are included in the consolidated Balance Sheet as a component of accumulated other comprehensive loss. Adjustments that arise from exchange rate changes on transactions denominated in a currency other than the local currency are included in operating expenses, net in the consolidated Statements of Operations and Comprehensive Loss as incurred.

Interest Rate Sensitivity

We are not currently exposed significantly to market risk related to changes in interest rates, as we have no significant variable interest-bearing liabilities. We had cash and cash equivalents of $43.3 million as of December 31, 2020, which were primarily held as account balances with banks in the United Kingdom, United States and Australia. A hypothetical 10% relative change in interest rates during any of the periods presented would not have had a material impact on our financial statements.

BUSINESS

Overview

We are a clinical-stage biopharmaceutical company engaged in the discovery and development of novel immunotherapeutics and vaccines for the treatment and prevention of infectious diseases and cancer. We use our proprietary platform to develop product candidates that stimulate powerful, targeted immune responses against pathogens and tumor cells. We design our product candidates to stimulate immune responses that are robust, highly specific, and are differentiated by the magnitude of the T cell populations induced, which exhibit critical functionality and durability. We are focused on applying our platform capabilities and the expertise of our team to address significant unmet medical needs in two settings — the therapeutic setting, for the treatment of chronic infectious diseases and cancer, and the prophylactic setting, for the prevention of infectious diseases, based on our platform's ability to respond rapidly to epidemic and pandemic threats.

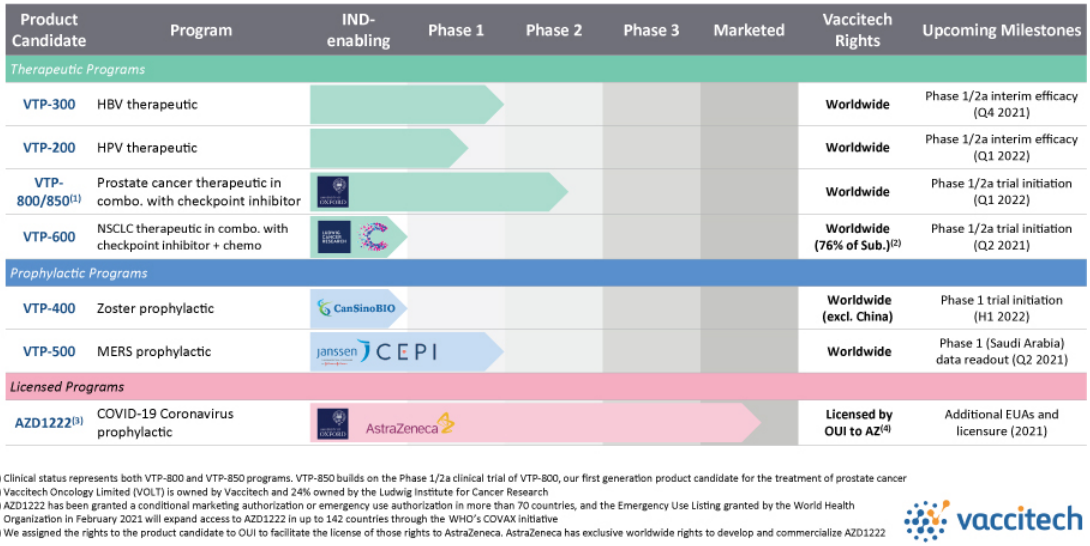
We have a broad pipeline of both clinical and preclinical stage therapeutic and prophylactic programs. Our current therapeutic programs include VTP-300 for the treatment of chronic hepatitis B infection, or CHB, VTP-200 for the treatment of human papilloma virus infection, or HPV, VTP-850 for the treatment of prostate cancer and VTP-600 for the treatment of non-small cell lung cancer, or NSCLC. Our current prophylactic programs include VTP-400 for the prevention of herpes zoster, or shingles, and VTP-500 for the prevention of Middle East respiratory syndrome, or MERS. In addition, we co-invented a COVID-19 vaccine candidate with the University of Oxford, which we assigned to Oxford University Innovation, or OUI, to facilitate the license of those rights by OUI to AstraZeneca UK Limited, or AstraZeneca. This product candidate is now known as COVID-19 Vaccine AstraZeneca, which we refer to as AZD1222.

Scientists have successfully harnessed the immune system to prevent and treat diseases using a wide range of approaches over hundreds of years. In the prophylactic setting, vaccines aim to create lasting protective immunity, while in the therapeutic setting, immunotherapeutics aim to enhance the body's immune response to pathogens and infected or cancerous cells to enable a cure. A key element of the immune system is specialized white blood cells, or lymphocytes. B cells and T cells are the two main types of lymphocytes. B cells are responsible for generating antibodies while T cells assist in the clearance of acute and chronic infections, such as hepatitis B virus and HPV, and are involved in killing cells that become cancerous. Over the past three decades, hundreds of vaccine and immunotherapy trials have examined a wide variety of approaches that induce the production of cytotoxic, or CD8+, T cells against infected and cancerous cells. These trials have demonstrated that different vaccine and immunotherapy approaches induce different breadths and magnitudes of immune response. While there have been many successes, certain diseases requiring a robust CD8+ T cell response have remained resistant to existing approaches.

Infected or cancerous cells are recognized through pathogen-specific molecules, or antigens, which are foreign to the human body. Our platform is designed to stimulate the production of very high levels of T cells, in addition to antibodies, against such antigens. Our approach for the treatment or prevention of a disease with a known target antigen is to prime the immune system with an initial injection of a proprietary adenovirus vector encoded with the target antigen. In the therapeutic setting, this is typically followed by a boost with a second, different, viral vector encoded with the same antigen. This is known as a heterologous prime-boost approach. We employ unique antigen design strategies to optimize immune presentation and maximize the desired type of antibody and/or T cell immunogenicity that we are seeking to induce. This heterologous prime-boost approach has been shown to provide the highest magnitude and durable immunogenic CD8+ T cell response induced in humans to date. Our platform is further differentiated by its flexibility, applicability across diseases in both the therapeutic and prophylactic setting, favorable tolerability profile and proven rapid production on a large scale.

Our Pipeline

The chart below provides key information about our programs.



1) Clinical status represents both VTP-800 and VTP-850 programs. VTP-850 builds on the Phase 1/2a clinical trial of VTP-800, our first generation product candidate for the treatment of prostate cancer
2) Vaccitech Oncology Limited (VOLT) is owned by Vaccitech and 24% owned by the Ludwig Institute for Cancer Research
3) AZD1222 has been granted a conditional marketing authorization or emergency use authorization in more than 70 countries, and the Emergency Use Listing granted by the World Health Organization in February 2021 will expand access to AZD1222 in up to 142 countries through the WHO's COVAX initiative
4) We assigned the rights to the product candidate to OUI to facilitate the license of those rights to AstraZeneca. AstraZeneca has exclusive worldwide rights to develop and commercialize AZD1222

Our proprietary platform comprises several components that, when combined, allow us to develop product candidates designed to induce high and durable levels of antigen-specific T cells and B cells to prevent and treat infectious diseases and cancer. The key elements of our platform include our proprietary modified simian adenoviral vectors, known as ChAdOx1 and ChAdOx2, as well as the well-validated modified vaccinia Ankara, or MVA, boost vector, both with demonstrable tolerability profiles and an inability to replicate in humans. We believe both ChAdOx1 and MVA have favorable tolerability profiles, based on extensive clinical testing performed by us and others. MVA has also been administered in commercial use and in multiple clinical trials to over 130,000 people without significant safety issues, including 120,000 of whom received it as a next-generation smallpox vaccine in Germany. The combination of a ChAdOx prime with MVA boost has consistently generated significantly higher magnitudes of CD8+ T cells as compared to other technologies and approaches. We have also developed proprietary enhancements for both our ChAdOx and MVA vectors to increase T cell induction and response, and we employ unique antigen design strategies to optimize *in vivo* immune presentation and maximize the desired type of immunogenicity while maintaining an optimal tolerability profile. In addition, our understanding and expertise in manufacturing optimization has allowed us to manipulate adenovirus genomes to enable rapid generation of recombinant adenoviral vectors at Good Manufacturing Practice, or GMP, standards at exceptional speed and significant scale.

We have several therapeutic programs in our pipeline focusing on infectious diseases and oncology. We designed VTP-300 to enable a functional cure for patients with CHB, a life-threatening disease that affects an estimated 257 million people worldwide. VTP-300 is a novel immunotherapy candidate that we intend to administer in combination with a low-dose anti-PD-1 antibody to overcome the immune suppression and T cell exhaustion that results from CHB. We are currently conducting a Phase 1 safety and immunogenicity clinical trial in healthy volunteers and CHB patients. Safety and immunogenicity data from both healthy volunteers and CHB patients is expected to read out in the third quarter of 2021. We are also conducting a Phase 1/2a clinical trial in CHB patients, for which we expect to receive interim data in the fourth quarter of 2021. We are developing VTP-200 as a potential curative treatment for persistent high-risk HPV infection and associated pre-cancerous lesions. An estimated 291 million women worldwide are carriers of HPV DNA, which can progress to pre-cancerous cervical lesions if untreated. We initiated our Phase 1/2a clinical trial of VTP-200 in March 2021 in Europe and the UK with interim results expected in the first quarter of 2022.

We are developing our next-generation immunotherapy candidate, VTP-850, as a treatment for castration resistant and metastatic prostate cancer. Prostate cancer is the fifth leading cause of cancer-related death in

men worldwide. VTP-850 builds on the positive data from a Phase 1/2a clinical trial of VTP-800, our first generation product candidate which encodes 5T4, an antigen expressed by most prostate cancers. VTP-800 has been administered to patients with prostate cancer in two clinical trials sponsored by the University of Oxford. We are developing VTP-850 with the goal of inducing a broader immune response by targeting 5T4 plus additional important antigens expressed by prostate cancer cells. We plan to start a Phase 1/2 clinical trial of VTP-850 in the first quarter of 2022. In addition, we are developing VTP-600, our immunotherapy candidate designed to encode the tumor-associated antigens MAGE-A3 and NY-ESO-1 initially for the treatment of NSCLC in combination with standard of care treatment, chemotherapy and pembroluzimab. Lung cancer is the most common cancer diagnosis and cause of cancer death worldwide, with 85% of cases classified as NSCLC. About 25% to 30% of NSCLC patients have squamous histology and the remainder have non-squamous histology. MAGE-A3 is expressed in 48% of squamous NSCLC and 24% of non-squamous NSCLC. NY-ESO-1 has been shown to have an expression rate of 27% across all NSCLC types. We plan to initiate a first-in-human Phase 1/2a trial in the second quarter of 2021, in collaboration with Cancer Research UK, or CRUK.

Beyond our therapeutic programs, we are also developing several prophylactic vaccine candidates. VTP-400 is our vaccine candidate in development to prevent shingles in adults aged 50 years and older. There are an estimated 140 million cases globally of shingles each year, which can result in significant post-infection pain, known as post-herpetic neuralgia, or even death. We plan to initiate a Phase 1 clinical trial of VTP-400 for shingles prevention in the UK in the first half of 2022. Our regional partner in China and Southeast Asia, CanSino, plans to initiate a Phase 1 clinical trial of VTP-400 for shingles prevention in China in the first half of 2022. We are seeking non-dilutive funding to initiate a parallel Phase 1 clinical trial to be conducted in the UK.

We believe our platform also positions us to develop vaccines rapidly to address epidemic and pandemic threats, as demonstrated by the ongoing clinical trials of AZD1222 for the prevention of COVID-19, which entered the clinic within three months from initial antigen design. As of April 26, 2021, AstraZeneca has announced that AZD1222 has been granted a conditional marketing authorization or emergency use authorization in more than 70 countries, including the United Kingdom, India and Brazil, and the Emergency Use Listing granted by the WHO in February 2021 will expand access to AZD1222 in up to 142 countries through the WHO's COVAX initiative.

In March and April 2021, several countries announced that they were either temporarily suspending the use of a particular batch of AZD1222 or the use of AZD1222 altogether following reports of thromboembolic events in people at varying times following vaccination. On April 7, 2021, the EMA and the MHRA issued updates confirming that the overall benefit-risk profile of AZD1222 remains positive, but requesting that unusual blood clots with low blood platelets be listed as very rare side effects of AZD1222. Several countries have announced their intentions to resume use of AZD1222, although some countries have limited its use in certain age groups. The EMA, MHRA, and WHO, along with individual EU Member States, will continue to assess available safety data as AZD1222 continues to be administered, and these recommendations may change.

In addition, on March 22, 2021, AstraZeneca announced high-level results from an interim analysis of the Phase 3 trial of AZD1222 in the United States using a cut-off date of February 17, 2021, which indicated 76% efficacy at preventing symptomatic COVID-19. However, published studies have indicated that AZD1222 has a lower efficacy against certain variants of COVID-19, including the B.1.351 variant of COVID-19, which was first observed predominantly in South Africa, and the B117 variant, which was first observed in the United Kingdom in late 2020, but have since spread to other geographies. As a result, the use of the AZD1222 vaccine has been stopped in South Africa.

We are developing VTP-500 as a vaccine product candidate to prevent infection and subsequent disease caused by the MERS coronavirus. Although human-to-human transmission appears to be rare, MERS coronavirus has the potential to cause epidemics, infecting hundreds of thousands of people and causing significant morbidity and mortality in 34% of infected individuals. Clinical efficacy trials to prevent MERS are challenging to execute due to the sporadic nature of infection, however studies have demonstrated positive Phase 1 safety and immunogenicity data. A second Phase 1 clinical trial is ongoing in Saudi Arabia with topline data expected in the second quarter of 2021.

Our History and Team

We were founded in May 2016 as a spin-out from a leading institution in the United Kingdom, the Jenner Institute at the University of Oxford, with the aim of developing and commercializing innovative immunotherapeutics and vaccines to treat and prevent infectious diseases and cancer. Our platform uses technologies that were developed at the Jenner Institute over 15 years and through clinical trials involving thousands of participants. Our scientific founders, Professor Adrian Hill and Professor Sarah Gilbert, are leaders in the fields of infectious diseases, immunology, vaccine development and viral vectors. Professor Hill is the founding Director of the Jenner Institute at the University of Oxford and is also the Lakshmi Mittal and Family Professor of Vaccinology at the University of Oxford. Professor Gilbert is Professor of Vaccinology at the University of Oxford and leads programmes on the development of vaccines against multiple emerging viral pathogens as well as research into vaccine manufacturing. She is the Oxford Project Lead for the Oxford/AstraZeneca Covid-19 vaccine project.

To date, we have raised $216 million from leading investors, including Future Planet Capital, Gilead Sciences, GV, Korean Investment Partners, Liontrust Asset Management, M&G Investment Management, Oxford Sciences Innovation, Sequoia Capital China and Tencent.

We have assembled a management team with extensive expertise in building and operating biopharmaceutical organizations that have discovered, developed and delivered innovative medicines to patients. Our management team has broad experience and successful track records in biopharmaceutical research, clinical development, regulatory affairs, manufacturing and commercialization, as well as in business, operations, and finance. Our management team's experience was gained at leading institutions that include Aeras, Agalimmune, Altimmune, Aptiv Solutions, Exscientia, GenVec, Goldman Sachs, Kite Pharma, Pfizer, Novartis, PsiOxus, UBS and Vical.

Our board of directors has extensive expertise in the fields of science, business and finance. Our scientific advisory board, or SAB, works with our management team in the planning and development of scientific, clinical, and research and development initiatives and strategies. The SAB is composed of scientific and clinical thought leaders in the fields of vaccine development, immunology, infectious diseases and oncology.

Our Strategy

We aim to discover, develop and commercialize novel immunotherapeutics and vaccines. We pursue this by using our proprietary platform and deep understanding of vaccinology, immunology and oncology. Key elements of our strategy include working to:

- **Capitalize on our proprietary platform to develop novel immunotherapeutic and vaccine product candidates that address major unmet medical needs in infectious diseases and cancer.** Since our founding in 2016, we and our collaborators have advanced a pipeline of eight development programs across infectious diseases and oncology indications, including five programs that are currently in clinical trials. We expect to generate potential proof-of-concept data from our HBV and HPV programs by the fourth quarter of 2021 and the first quarter of 2022, respectively, and have generated encouraging preliminary clinical data in our prostate cancer program. We assigned rights to our initial vaccine candidate for COVID-19 to OUI to facilitate the license of those rights by OUI to AstraZeneca, and we have secured multiple additional pipeline collaborations with leading institutions including CRUK and CanSino, our regional partner in China and Southeast Asia for our zoster vaccine candidate, VTP-400. We plan to apply the experience we have gained in developing our most advanced programs to drive the efficient development of our earlier stage product candidates.
- **Advance our infectious disease pipeline programs, including our lead HBV and HPV programs, through clinical development and regulatory approval.** Our platform allows us to develop product candidates designed to stimulate powerful T cell and antibody-based immune responses that we use to target challenging infectious disease pathogens, in both the therapeutic and prophylactic settings. Our lead therapeutic infectious disease programs, VTP-300 for HBV and VTP-200 for HPV, are currently in Phase 1/2a clinical trials, and we expect to generate potential proof-of-concept data for both programs by the first quarter of 2022. Our prophylactic infectious disease program is VTP-400 for the prevention of shingles. VTP-400 is currently in investigational

new drug application, or IND, enabling trials, and we expect to progress this program into a Phase 1 clinical trial by the first half of 2022. Our second prophylactic infectious disease program, VTP-500 for the prevention of MERS, is currently in a Phase 1 clinical trial in Saudi Arabia, following the successful completion of a Phase 1 clinical trial in the UK. We expect topline results from the Phase 1 clinical trial in Saudi Arabia to be reported by the second quarter of 2021. Our most advanced program for the treatment of COVID-19, AZD1222, formerly VTP-900, has been assigned to OUI. OUI out-licensed the rights to AstraZeneca.

- **Progress our lead oncology therapeutic programs in prostate cancer and lung cancer through clinical development and toward potential regulatory approval in combination with current standards of care**. Our platform allows us to develop product candidates designed to stimulate robust CD8+ T cell-driven immune responses to target tumor cells. We expect our lead oncology product candidate, VTP-850 for the treatment of prostate cancer, to enter a Phase 1/2 clinical trial in the first quarter of 2022. In this program, we have generated promising preliminary clinical data that supports our advancement into further clinical trials in combination with a checkpoint inhibitor. Our second oncology product candidate, VTP-600 for NSCLC, is expected to enter a Phase 1/2a clinical trial the second quarter of 2021 as part of our collaboration with CRUK. We intend to evaluate VTP-600's ability to improve patient outcomes when added to current standard of care for newly-diagnosed patients with NSCLC, a regimen of a checkpoint inhibitor in combination with chemotherapy. On the basis of the clinical data we generate with these product candidates in our initial indications, we may seek to expand development into additional indications and treatment settings.
- **Deploy our platform in order to respond rapidly to major new emerging diseases.** Using our platform, we have the capability to develop powerful targeted vaccines rapidly against epidemic and pandemic threats. This has been demonstrated in the ongoing development of AZD1222, our initial product candidate for the prevention of COVID-19 infection, which entered clinic trials within three months of initial antigen design. AZD1222 is being developed by AstraZeneca. We have an additional program that aims to prevent infectious disease, VTP-500, which is in Phase 1 clinical trials for prevention of MERS. It has been demonstrated that these vaccine candidates can be advanced through preclinical studies and clinical development rapidly and we believe we will be capable of production at sufficient scale, costs and supply chain logistical requirements to meet high global demand.
- **Invest in our platform in order to enable next-generation product candidates.** We plan to continue investing in our platform in order to develop next-generation technologies, including novel viral vectors, which we believe will keep us at the cutting edge of the immunotherapy and vaccine fields. We also intend to evaluate novel technologies that have the potential to augment the immune response profile of our current product candidates.
- **Expand on the value of our product candidates through partnerships.** We currently intend to maintain full ownership of our HBV, HPV and prostate cancer programs until we have data from Phase 2 clinical trials. Once we have established proof-of-concept in humans, we may evaluate potential collaborations or partnerships that could, for example, enhance the value of our programs for our shareholders through the expansion of the development plans and, ultimately, commercialization of these programs, if approved. We have selected collaborators and partners for a number of our pipeline programs. These include our initial vaccine candidate for COVID-19, which we assigned to OUI to facilitate that license of those rights by OUI to AstraZeneca, as well as our program for zoster, for which we have established a regional partnership with CanSino in China and Southeast Asia. To progress MERS, we licensed non-exclusive development rights to the University of Oxford, which has established subsequent collaborations with Janssen and the Coalition for Epidemic Preparedness Innovation, or CEPI. Furthermore, we intend to seek partners that are developing novel complementary therapeutic modalities in which the combination of one of our assets with another therapeutic could lead to potential synergistic improvements in patient care. Where appropriate in the future, however, we will retain control of our product candidates through to commercialization, if approved.
- **Leverage the expertise of our scientific founders, key advisors and employees to remain at the**

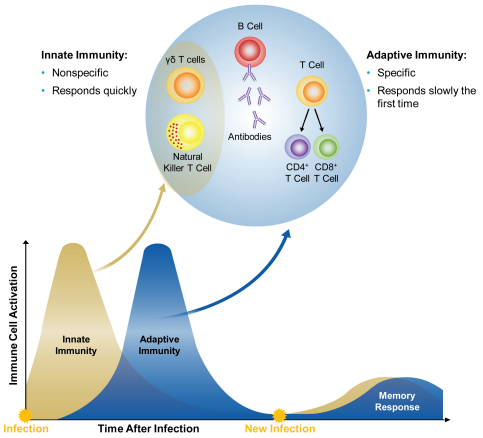
forefront of immunotherapy and vaccinology. We have built and will continue to expand our outstanding team of scientists, clinicians and network of advisors. We will use the collective expertise of this group, combined with the capabilities of our platform, to develop novel technology platforms and product candidates in order to maintain a leading role in the treatment and prevention of infectious diseases and cancer. Furthermore, we have a dedicated team that focuses on manufacturing optimization in order to reduce production times and costs.

The Immune System and the Role of B and T Cells

The immune system is a complex network of molecules, cells, tissues and organs that cooperate to help the body fight disease. The immune system is able to detect pathogens, such as viruses, bacteria, and parasites, and can distinguish abnormal cells, such as tumor cells, from healthy tissue. Lymphocytes are a central element in the immune system's defense against pathogens. Lymphocytes can secrete antibodies that target molecules on pathogens and abnormal cells, such as proteins. Lymphocytes can also directly eliminate infected or abnormal cells.

When exposed to pathogens or abnormal cells, the immune system is activated to defend against them. The first line of biological defense is a general response by the innate immune system. This system activates an immediate response network and triggers a more targeted response by the adaptive immune system. Through such adaptive immune responses, the body can develop long-term immunity, or immunologic memory, to specific pathogens. Immunologic memory leads among other things to the production of antibodies, B cells and T cells, all of which are directed to counteract specific antigens. The differences between the innate and adaptive immune responses are shown in the figure below.

Innate and Adaptive Immune Response



There are two main types of lymphocytes, B cells and T cells, which have the following key characteristics:

- **B cells:** B cells are primarily responsible for generating antibodies, which circulate in the blood and tissues to detect and bind to specific antigens to prevent pathogens from invading cells, as part of the humoral immune response. Once an antibody binds to its target antigen, it creates an antibody-antigen complex, which can then be cleared from the body through multiple mechanisms.

- **T cells:** T cells are responsible for reacting to abnormal or infected cells. There are two main types of T cells: (i) those that express a surface marker known as CD4, or CD4+ T cells, and (ii) those that express a surface marker known as CD8, or CD8+ T cells. CD4+ T cells are commonly referred to as T helper cells for their ability to regulate B cell activation and help coordinate other immune responses through signal molecules such as cytokines. CD8+ T cells are commonly referred to as cytotoxic T cells because they directly kill cells that they identify as

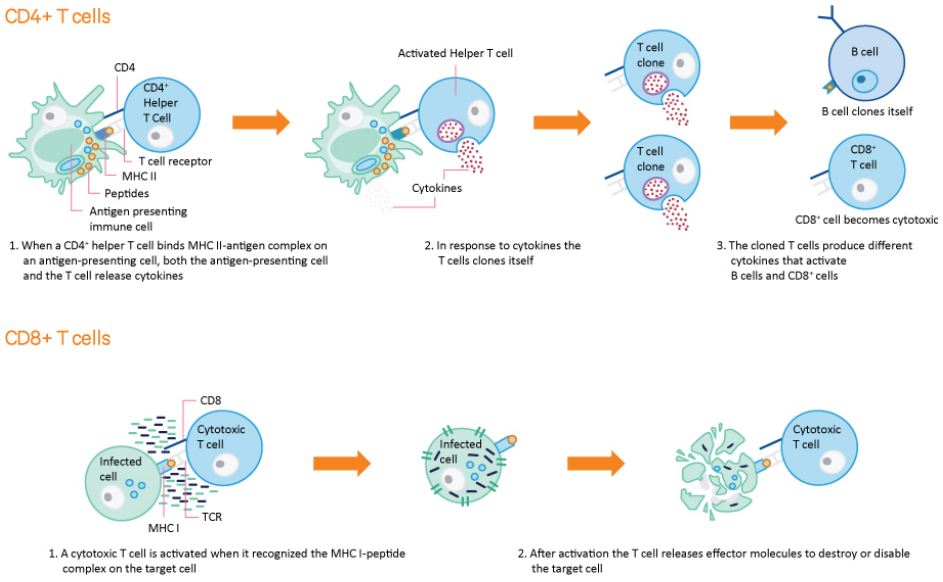
foreign. Cells are recognized as foreign because they are either infected or, in the case of cancer cells, are producing abnormal proteins. Together with other components of the immune system, CD4+ T cells and CD8+ T cells produce a focused response, known as cell-mediated, to abnormal cells.

Vaccines and immunotherapies are generally designed to induce B cells and T cells in order to prevent and treat disease.

T Cell Activation

CD4+ and CD8+ T cells are usually stimulated by peptide fragments of antigens, which are short sequences of amino acids presented on host molecules known as the major histocompatibility complex, or MHC. There are two primary classes of MHC molecules: MHC Class I and MHC Class II, which typically present peptides on the cell surface to CD8+ and CD4+ T cells, respectively, to trigger an immune response. Once activated, the CD4+ and CD8+ T cells assist in the initial clearance of acute infections and are involved in killing cells that could become cancerous. The figure below depicts the activation processes for CD4+ and CD8+ T cells.

CD4+ and CD8+ T Cell Activation



Immunogenicity is the ability of a substance to generate an immune response and can be measured by the magnitude, durability, functionality and breadth of the response generated. The magnitude of the immune response is generally measured by the number of B cells and respective antibodies or functions, and T cells or T cell effector molecules. Durability is the extent to which levels of the antibodies or cellular responses are maintained over time. Functionality refers to the quality of biological activity. Breadth refers to how broadly the immune response targets multiple antigens and/or multiple parts of each antigen.

To activate a T cell response, a number of additional molecules, known as co-stimulatory molecules, are needed to initiate and augment the correct T cell response. However, that response is regulated through the presence of immune checkpoints that control the extent and duration of the response to minimize damage to healthy tissue. Some cancers and infections can activate these checkpoints to weaken immune responses against themselves. Following the initial establishment of an infection or tumor, the responding T cells can become non-functional, or the activated checkpoints can block the required T cell activity. One example of a checkpoint is the suppression of T cell stimulation by the binding of programmed cell death-ligand 1, or

PD-L1, on the target cell to the programmed cell death-1, or PD-1, receptor on the T cell. This checkpoint activation can be overcome by using checkpoint inhibitor drugs, including a number of anti-PD-1 or anti-PD-L1 molecules. These drugs then allow the relevant T cells to function normally to eliminate cancerous cells.

Historical Approaches to Vaccination

As our understanding of immunology has developed, scientists have engaged the immune system to prevent and fight diseases using many approaches. Prophylactic vaccines have been in use since a smallpox vaccine was first developed in 1796 by Edward Jenner. The basic principle of prophylactic vaccines is to introduce a harmless form of all or part of the target pathogen into a healthy person. This stimulates an innate and adaptive immune response, enabling the creation of immunologic memory in advance of any exposure to the real pathogen. The vaccination of children shows the broad societal impact of vaccination. Most childhood vaccines are 90% to 99% effective, and these save the lives of 2.5 million children every year.

Early methods of vaccination that rely mainly on humoral, B cell driven antibody responses have proven effective against many infections, including infections that cause rabies, diphtheria, tetanus, measles, and polio. Other diseases likely need a robust T cell-mediated response for control, such as HIV, tuberculosis, malaria and cancer. Decades of research has demonstrated that different vaccine technologies induce different immune responses, because the immune system responds to each vaccine with a bespoke response. Only a few technologies have been shown to induce a broad adaptive immune response, comprising antibody, CD4+ and CD8+ T cell responses, and even fewer induce high levels of CD8+ T cells. The ability to induce a broad immune response including large populations of durable, functional CD8+ T cells opens the possibility of therapies to prevent, reduce or clear infections and cancers.

For decades, vaccine and immunotherapy trials have examined many approaches for their ability to stimulate CD8+ T cells to prevent or treat specific diseases, especially in HIV and oncology. These included early DNA vaccines, viral vectored vaccines (including various pox- and adenoviruses), adjuvanted proteins or synthetic peptides, messenger ribonucleic acid, virus-like particles, or VLPs, and others. These are given as multiple sequential administrations of the same vaccine, known as homologous boost, or as sequential administrations of combinations of different vectors or vaccine platforms, known as heterologous boost. Published trials have demonstrated that not all approaches are able to induce clinically significant CD8+ T cell responses.

Development Efforts by the Jenner Institute

Since 2000, groups at the Jenner Institute, led by Professor Adrian Hill, have evaluated many different approaches aimed at stimulating potent and durable CD8+ T cell responses. The Jenner Institute's research demonstrated that the approach that leads to the highest CD8+ T cell response in humans is to prime with an adenoviral vector to which the participant has not been previously exposed, and to boost this later with a pox virus vector carrying the same antigen. This heterologous prime-boost is superior to homologous viral vectors, DNA vaccines, and even heterologous DNA-vector approaches.

To overcome any pre-existing immunity caused by natural human adenoviral infection which would interfere with the vaccine response, the Jenner teams used simian adenoviruses to which humans had no prior exposure. The teams developed proprietary simian adenoviral vectors known as ChAdOx1 and ChAdOx2, for use as priming agents. The vectors were modified to be non-replicating, and for improved immunogenicity and increased antigen-carrying capacity. The pox-virus, MVA, was chosen as the boost vector, since it is replication deficient and provides an enhanced immune response compared to other boosts. We believe that this prime-boost combination, which induces a high magnitude, durable CD8+ T cell response, is ideal for targeting chronic infections such as CHB or HPV as well as the cancers that can be associated with these viruses. Additionally, these vectors generate sufficient T cell responses for use in potential cancer therapies by targeting tumor-associated antigens or neoantigens.

Our Approach to Inducing T Cells to Prevent and Treat Disease

Vaccines are believed to save more lives per year than any other medical intervention. However, some major diseases are resistant to prevention and treatment using classical antibody-inducing vaccine and immunotherapy technologies.

Our approach for the treatment or prevention of a disease with a known target antigen is to prime the immune system with an initial injection of a proprietary adenovirus vector encoding the target antigen. In the therapeutic setting, this is typically followed by a boost with a second, different viral vector that encodes the same antigen, which is known as a heterologous prime-boost approach. Our platform stimulates the production of very high levels of T cells, as well as antibodies against such antigens.

The Key Elements of Our Platform

Our proprietary platform comprises several components that, when combined, allow us to develop product candidates designed to induce high and durable levels of antigen-specific T cells and B cells to prevent and treat infectious diseases and cancer while maintaining the desired tolerability profile. Our platform generates excellent immunogenicity in terms of B cell and T cell responses and is differentiated by its ability to induce very high numbers of functional and durable CD8+ T cells. The key elements of our platform are:

- **Proprietary Simian Vectors:** ChAdOx1 and ChAdOx2 are modified simian adenoviral vectors which deliver target antigens into cells to generate a specific immune response. These viruses were originally isolated from chimpanzees to avoid pre-existing immunity issues affecting the use of human adenovirus vectors. Researchers at the Jenner Institute modified the ChAdOx viruses to be non-replicating and to have an increased antigen-carrying capacity. To date, we have developed several vaccine and immunotherapy candidates with the ChAdOx vectors, each carrying target antigens that are specific to desired pathogens and diseases. Adenoviral vectors have demonstrable safety profiles and are immunogenic in all age groups evaluated to date.
- **Well-Validated Boost Vector:** MVA is a highly attenuated vaccinia virus used to deliver target antigens into cells to generate or boost an immune response. MVA has a large antigen-carrying capacity and is especially immunogenic when used as a boosting vector in a heterologous prime-boost regimen. MVA is replication-deficient and has a well-documented safety profile in over 130,000 people.
- **Proprietary Promoters and Enhancers**: Promoters and molecular enhancers are genetic codes that influence antigen expression. For our adenoviral vectors, we use a proprietary promoter that is modified from cytomegalovirus. The use of this modified promoter has been shown to increase antigen expression and also the resulting immune response. For our MVA vector, we use a proprietary promoter to control expression of recombinant antigens and thereby enhance T cell induction levels. We use proprietary molecular adjuvants to enhance the CD8+ T cell response.
- **Antigen Selection and Design:** We select full-length and subunit antigenic sequences from target pathogens or cancers. We employ unique antigen design strategies to optimize *in vivo* immune presentation and maximize the desired type of immunogenicity while maintaining the desired tolerability profile. For example, some target diseases may require a greater T cell-mediated response, whereas others may require a more balanced T and B cell response. We use bioinformatics methods to design and optimize our antigen-encoding vectors. To select antigen targets for pathogens, we use databases to rank options based on factors including global distribution of genetic strains, evolutionary competitive advantage, known pathogenicity and sequence upload bias.
- **Rapid Vector Generation and Manufacturing:** We employ manipulation of adenovirus genomes to enable rapid generation of recombinant adenoviral vectors to meet GMP standards. We believe our sequencing techniques have the potential to result in safer, more stable, product candidates. Our adenovirus product candidates can be manufactured at exceptional speed and to significant scale, as it has been demonstrated with the COVID-19 vaccine candidate AZD1222. AZD1222, which is based on the ChAdOx1 vector, was designed, constructed and manufactured for human use within three months. Normal GMP production processes typically take six to ten months each for adenovirus and for MVA.

Strengths of Our Platform

We believe the following strengths of our platform technologies will allow us to make multiple safe, effective therapeutic or prophylactic treatments for infectious diseases and cancer:

Favorable tolerability profile

Our vectors have modified genomes, which makes them unable to replicate. As a result, our vectors are unable to disseminate or cause disease and are usually cleared within days of administration. Since replication-incompetent adenoviruses and MVA have a known safety profile, we believe that we can move our product candidates into clinical trials more quickly than many other vaccine platforms.

To date, the ChAdOx1 vector has been evaluated in eleven clinical trials, ranging from Phase 1 to 3, including the ongoing AZD1222 COVID-19 Phase 3 clinical trials. Based on these trials, related side effects so far have been mostly mild to moderate, such as fever and injection site reactions, which are common to most vaccines. AstraZeneca has reported that very rare events of neuroinflammatory disorders have been reported following vaccination with AZD1222. A causal relationship between AZD1222 and the adverse events has not been established. Since we are not involved in the clinical trials of AZD1222, we are only aware of safety data related to the clinical trials that AstraZeneca publishes publicly, and no assurance can be provided as to whether there may be other data related to clinical trials for AZD1222 that could be material with respect to any of our clinical trials or product candidates.

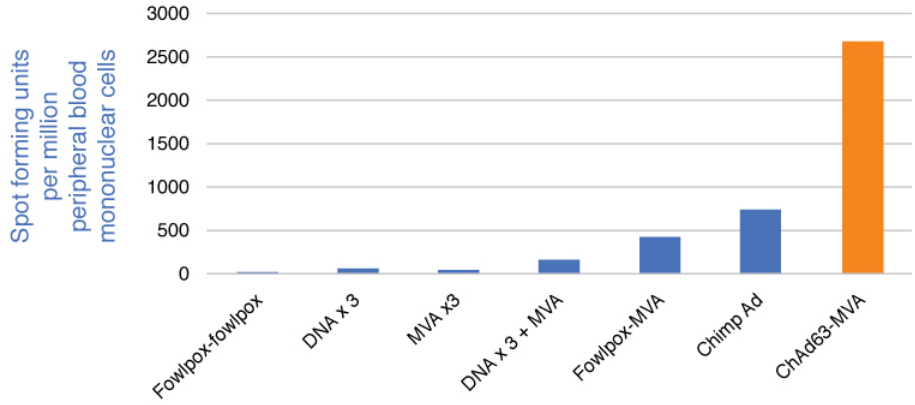
The MVA vector has been administered to over 130,000 people, 120,000 of whom received it as a next-generation smallpox vaccine in Germany. It has shown no significant safety issues in commercial use or in multiple clinical trials, and an MVA vaccine is being stockpiled by the US government in preparedness for a future smallpox outbreak.

Superior T cell immunogenicity

Our ChAdOx1-MVA prime-boost combination has consistently generated a significantly higher magnitude of CD8+ T cells compared to other published approaches to date. In a natural state, the induction of high levels of CD8+ T cells can play an important role in an immune-system-led clearance of chronic and novel infections, such as in HBV and HPV. In addition, ChAdOx1-MVA also induces high levels of CD4+ T cells, which allows for greater concentrations of relevant antibodies. By using our proprietary promoters to drive antigen expression, we can further enhance immunogenicity.

A clear demonstration of the ability of our heterologous prime-boost platform to induce high levels of T cells in humans is shown in the figure below. As depicted in the figure, the magnitude of the T cell responses to the same antigen, a malaria antigen known as ME-TRAP, expressed by different vaccine platforms such as DNA, chimpanzee adenovirus, MVA, and fowl pox is shown using a standard assay. While different assays were employed by different groups, the ChAd63-MVA combination in humans elicited the largest T cell response, and we have seen this repeated in later trials. ChAd63 is a chimpanzee adenovirus and has been shown to have similar levels of activity as ChAdOx1.

Comparative T Cell Immunogenicity of Different Vaccine Regimens



In human trials, we have reproducibly demonstrated across different age groups that the ChAd-MVA boost combination consistently induces high T cell populations against various foreign antigens in infectious diseases, as well as measurable T cell populations against self-antigens in tumor situations — both higher

than for other approaches. Triggering an immune response in infectious diseases is easier than inducing a response against self-antigens in oncology, because the body may already have eliminated a majority of the self-reactive T cells, which results in a level of immune tolerance. Our platform has shown the ability to overcome this tolerance against self-antigens, as demonstrated in the case of 5T4, a tumor self-antigen, in the Phase 1 VANCE clinical trial, producing T cell responses that were higher than for other approaches.

ChAdOx1 has also been shown to be a valuable stand-alone vaccine technology. The COVID-19 vaccine candidate AZD1222, formerly VTP-900, uses the ChAdOx1 nCoV vector which encodes the SARS-CoV-2 spike protein to induce high T cell immunogenicity and comparable B cell immunogenicity. A Phase 1 clinical trial of AZD1222 demonstrated that the product candidate had a favorable tolerability profile and also induced both humoral and cellular immune responses. In addition, homologous boosting increased the antibody responses. As of April 26, 2021, AstraZeneca has announced that AZD1222 has been granted a conditional marketing authorization or emergency use authorization in more than 70 countries, including the United Kingdom, India and Brazil, and the Emergency Use Listing granted by the WHO in February 2021 will expand access to AZD1222 in up to 142 countries through the WHO's COVAX initiative.

Low seroprevalence enables dose-sparing

Seroprevalence reflects the extent to which the immune system has previously been exposed to a virus. The general population has had natural exposure to most human adenoviruses, which results in an immune response against the virus itself when used as a vector. This acquired immunity to a vector often results in lower immunogenicity, as the existing immune response reduces the functional dose of the vector. Since ChAdOx1 is a simian adenovirus that was originally isolated from a chimpanzee and then modified, the general population has rarely been naturally exposed to it. Immunization with ChAdOx1 transiently raises seroprevalence to the vector. The seroprevalence is different from natural exposure and does not have a lasting effect on vaccine immunogenicity. Pre-existing anti-MVA immunity is also very rare. This provides us with an advantage over vaccines based on human adenovirus vectors targeting the same antigens. A stronger, more effective immune response at the same dose level has the potential to result in improved safety, tolerability and better outcomes.

Large antigen capacity of vectors enables multiple targets

The antigen-carrying capacity of our modified ChAdOx1 and MVA vectors is 6kb and 20kb, respectively, which compares favorably with the antigen-carrying capacity of other platforms.

This capacity is valuable as it allows us to insert large or multiple antigens into the vectors. A larger antigen cargo is able to induce an immune response of increased breadth, by targeting larger or more varied pathogen targets. Including multiple antigens in one vector also reduces risk of tumor escape and may increase durability of response in cancer. Moreover, it may also enable us to target multiple strains of a pathogen in infectious diseases, broadening the likely target population that could benefit from our product candidates.

Scalability of manufacturing

The ability to engineer our vectors accurately with necessary deletions and insertions to maximize efficacy and potency whilst still ensuring the resultant vector is as safe as possible, stable and easily scalable to mass production is also important. Both of our primary vectors, ChAdOx1 and MVA, have been successfully GMP-manufactured many times, supporting our belief that process development issues have largely been addressed. Our processes help us minimize timelines from identifying an antigen through to the clinic. For standalone ChAdOx1 programs, we have shown a best-case lead time of three months, enabling a rapid response to emerging pathogens.

In addition to speed, the scalability of our vector manufacture is also robust. For example, AstraZeneca has publicly announced that they expect their vaccine capacity in 2021 to be almost three billion doses. For our adenoviral vectors, we use a proprietary cell line that supports high yields in suspension culture. For MVA, we are developing our own manufacturing processes for scale based on one of the several commercially-available avian cell lines which have been used in the past to make batches of MVA vectors at the 200L and larger scale. The proven manufacturing processes and scalability enable a relatively low cost of goods per dose, which is a potential competitive advantage in the marketplace versus other technologies.

Self-adjuvanting nature of vectors enhances immunogenicity

Protein or virus-like particle vaccines usually require the addition of separate synthetic or natural product adjuvants along with the vaccine antigen. These can increase reactogenicity and manufacturing and regulatory complexity. Adenoviral and poxvirus vectors inherently contain foreign viral protein and nucleic acids, which induce immunogenicity. We refer to this characteristic as self-adjuvanting.

Flexibility of administration allows targeted delivery

Inducing a targeted immune response near the site of infection or tumor can increase efficacy and/or eliminate undesired off-target effects in other organs. Animal studies of our adenoviral vectors have shown that aerosol delivery induces greater lung mucosal immunity and comparable systemic immunity to intramuscular delivery. Most tumors and many infections are specific in their locations within the body and may benefit from targeted vector delivery. HBV, for example, is largely resident in the liver. Other infections are generally located in specific organs such as the lungs or the skin. Our platform has the advantage of flexible administration routes. For example, in addition to intramuscular injection, other chimpanzee adenoviruses have been given to humans by aerosol and intravenous routes, and MVA has been administered intradermally, subcutaneously, intravenously and by aerosol in clinical trials.

Thermostability facilitates distribution

At present, our product candidates are stored and transported in a frozen state at -80^{o}C. Long-term stability at this temperature has been recorded up to seven years for both ChAdOx1 and MVA. After shipping, the liquid formulation of these product candidates is stable for six months to two years at temperatures ranging from 4 to 8 degrees Celsius. Long-term stability at room temperature can be achieved through lyophilization, in which the product candidate is freeze-dried, resulting in a highly thermostable powder. Immediately before administration, the lyophilized product candidate is then resuspended in a liquid buffer solution. We are working to achieve specific long-term thermostable formulations of our ChAdOx1 and MVA products.

Ongoing Investments in our Platform

We plan to make ongoing investments in our platform in order to keep us at the forefront of immunotherapy and vaccine development for cancer and infectious diseases. We are also seeking ways to accelerate and scale manufacturing. The key focus areas for our platform investments include:

- **Next-Generation Technologies.** Our dedicated research team is composed of molecular virology, biology and immunology experts working at the cutting edge of the vaccine and immunotherapy field, to develop next-generation technologies that deliver enhanced immunogenicity. Our internal research team is capable of designing, building and *in vitro* testing new vectors to enable preclinical studies for further evaluation. This internal capability keeps control of critical early development timelines within our hands.

- **Manufacturing Optimization.** We have a dedicated process development team that is refining and developing new manufacturing processes in order to optimize and maximize vector product candidate yield and quality. We have developed a simplified downstream manufacturing process that requires fewer steps than traditional adenoviral harvesting and purification methods. We believe that this simplified process will allow a speedier purification of high-quality product candidate at greatly reduced cost.

- **Accelerated GMP construct generation.** Our process development team is also developing a technology that has the potential to reduce the time to produce GMP grade adenoviral vectored product candidates from 33-44 weeks to as little as under five weeks. The rapid deployment of adenoviral vectors for epidemic and pandemic response and other urgent needs has been hindered in the past by extensive GMP production timelines of up to 33-44 weeks for any given vector, and therefore our method, once fully developed, may offer the possibility to apply adenoviral vectors in more rapid response to infectious diseases and precision oncology.

Our Therapeutic Programs

Infectious Diseases

Infectious diseases are caused by pathogenic microorganisms, such as viruses, bacteria, fungi, and parasites and are a leading cause of death worldwide. Approximately 10 million people died from infectious diseases in 2016, accounting for 20% of global deaths. Fifteen percent of all global cancer diagnoses and up to 25% of diagnoses in low- and middle-income countries are attributable to viral infections such as HBV and HPV. The ability of viruses to spread between animal and human hosts is an epidemiological root for devastating emerging infectious diseases, including COVID-19 and MERS.

Our prime-boost platform is positioned to generate novel candidates which can treat chronic viral infectious disease. We are developing immunotherapeutic product candidates utilizing the heterologous prime-boost of ChAdOx and MVA to elicit a durable immune response that is characterized by the magnitude of virus specific CD8+ T cells generated to clear virally infected cells. These product candidates include VTP-300, our product candidate for the treatment of CHB, and VTP-200, our product candidate for the treatment of persistent high-risk HPV, with associated low-grade lesions.

VTP-300: An Immunotherapeutic Targeting Chronic HBV Infection

Overview

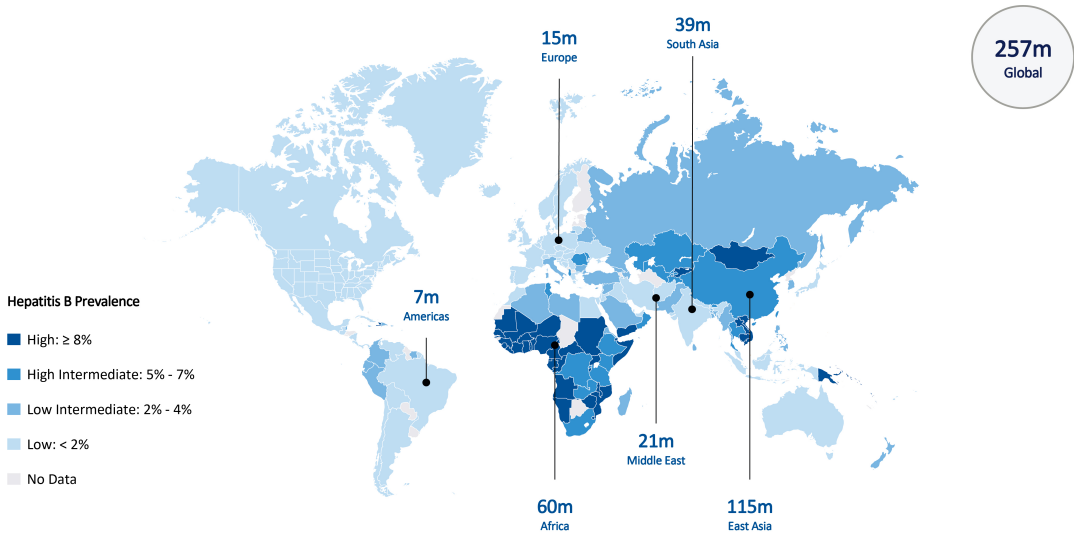
We are developing VTP-300 to enable a functional cure for patients with CHB, a life-threatening disease that affects an estimated 257 million people worldwide. VTP-300 is an immunotherapeutic agent that we intend to administer in combination with a low-dose anti-PD-1 antibody, to counterbalance the immune suppression and T cell exhaustion in the liver caused by CHB. We are currently conducting HBV001, our Phase 1 clinical trial of VTP-300 in healthy volunteers and CHB patients. We expect to report safety and immunogenicity data from HBV001 in healthy volunteers and CHB patients in the third quarter of 2021. We are currently conducting HBV002, our Phase 1/2a clinical trial in CHB patients, and we expect to receive interim data in the fourth quarter of 2021. The first patient in HBV002 was dosed in January 2021. In the HBV002 Phase 1/2a clinical trial, VTP-300 will be administered as a prime-boost in patients on stable antiviral therapy and in combination with an anti-PD-1 antibody.

Hepatitis B is a viral infection of the liver that is transmitted through blood and body fluids. It often is asymptomatic in adults, most of whom will successfully fight off the virus. If symptoms do develop, they tend to happen during the two to three month periods following exposure to the hepatitis B virus and are typically flu-like symptoms, including tiredness, a fever, and general aches and pains, jaundice and diarrhea. For such patients with acute hepatitis B, symptoms will usually resolve within one to three months, although occasionally the infection can last for six months or more and becomes chronic. In contrast, hepatitis B infection passed from mother to child becomes chronic in most cases. As a result, CHB affects around 90% of people infected with hepatitis B as infants, 20% of people infected as older children and 5-10% people infected as adults. CHB leads to potential life-threatening complications, including liver fibrosis, cirrhosis and/or hepatocellular carcinoma, or HCC. The burden of CHB is underscored by the fact that 20-30% of patients develop cirrhosis or liver cancer with CHB accounting for at least 50% of HCC cases.

Hepatitis B is considered a “silent epidemic” because most people are asymptomatic while chronically infected. Thus, they can unknowingly spread the virus to others and continue the spread of hepatitis B. Although asymptomatic, their liver is still being silently damaged.

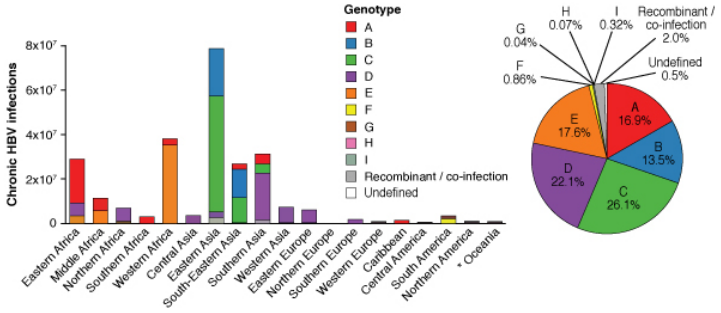
Globally it is estimated that there are 257 million people, including more than two million in the U.S. and 13 million in Europe, living with CHB infection. Prevalence is highest in East Asia and Africa as illustrated in the figure below. Approximately 880,000 people die each year from hepatitis B and related complications, such as liver cancer as a result of late stage diagnosis. Hepatitis B diagnosis rates remain low, and as of 2016, only an estimated 10% of all those infected were aware of their infection. As a result of low diagnosis rates and strict treatment eligibility guidelines, only an estimated 4.5 million of the people with CHB were on treatment. In recent years, screening has become more prevalent, particularly in East Asia where in some countries screening is a requirement for employment, which we believe will increase the addressable patient population.

Prevalence of Hepatitis B Around the World



Although there are numerous HBV genotypes that circulate in the world, the most common genotype, and that found in many regions of the Asia-Pacific, is genotype C, as illustrated in the figure below. Ninety-six percent of CHB infections worldwide are estimated to be caused by five of the nine genotypes: genotype C (26%), genotype D (22%), genotype E (18%), genotype A (17%) and genotype B (14%).

Distribution of HBV Genotypes by Region



An acute HBV infection is characterized by the presence of circulating Hepatitis B surface antigen, or HBsAg. A chronic hepatitis B infection is characterized by the persistence of circulating HBsAg and hepatitis B DNA for at least six months. Many of these patients with CHB require antiviral therapy for viral suppression, but clearance of the virus, as measured by loss of seroconversion to HBsAg, is still rare. As a result, patients require prolonged or life-long treatments, with frequent flares when antiviral therapy is halted. When the CHB infection persists, patients run the risk of developing chronic liver disease and HCC later in life. Ongoing viral production in the liver is due to covalently closed circular DNA, or cccDNA, a source of new HBV virus particles. HBsAg is presently used as the surrogate for the quantity of cccDNA activity.

Current Treatment Options and Limitations

The ultimate goal for CHB treatment is functional cure, which is defined as the sustained clearance of HBsAg after discontinuing antiviral therapy. Currently, pegylated α-interferon is considered to be the most effective therapy. However, pegylated α-interferon only leads to functional cure in less than 10 percent of

patients, is often poorly tolerated, cannot be used in cirrhotic patients and is rarely employed in the US or Europe. In most treated patients, the goal is suppression of circulating viral DNA using antiviral therapy, as functional cure is very rarely achieved. First generation antiviral treatments included lamivudine, adefovir, and telbivudine, but responses were often sub-optimal and resistance emergence was frequently observed. These antiviral therapies have been replaced with either entecavir, tenofovir disoproxil or tenofovir alafenamide, in most settings, which have superior DNA viral load response and rare emergence of resistance. However, these second-generation antiviral therapies almost never lead to a functional cure and development of HCC remains a risk. Discontinuation of these antivirals, even after years of use, commonly leads to viral rebound, although some increase in the rate of functional cure has been seen with discontinuation, varying from 2% to 10% of responses in different trials.

Safe and effective prophylactic HBV vaccines comprise subunits derived from the HBsAg and confer immunity primarily through antibody mediated protection. These vaccines offer nearly 100% preventative protection over a long period, and, since their introduction, there has been a dramatic fall in new HBV infections globally. Most of the people living with the chronic disease were born before the vaccine became widely available in 1990s.

Competition

Multiple companies are attempting to address CHB by taking advantage of different aspects of the immune system. We believe it will likely take a combination approach, including antiviral agents and immune recovery, to achieve a functional cure. Some companies are attempting to directly decrease cccDNA levels, based on the hypothesis that the T cell exhaustion will then recover and control viral replication. Such approaches include siRNA, CRISPR editing, capsid inhibitors, novel entry inhibitors or other small molecules. Other companies are attempting to up-regulate the innate immune system by using pathway agonists of the STING or TLR 7/8 systems and yet others are attempting to overcome checkpoint blockade through a number of novel compounds including anti-PD-1 or anti-PD-L1 antibodies. While many companies have product candidates in various stages of preclinical and clinical development, there are currently no approved products that provide a functional cure for CHB.

Current Development Status

We are developing our therapeutic CHB product candidate, VTP-300, using ChAdOx1-HBV viral vector as a prime and MVA-HBV viral vector as a boost.

We designed VTP-300 to enable a potential functional cure of CHB. Natural clearance of infection, or that induced by treatments such as pegylated α-interferon, is associated with the development of a robust hepatitis B-specific CD8+ T cell response. However, following chronic infection, both the CD4+ and the CD8+ T cell response becomes exhausted, and are lower than levels seen during earlier stages of infection. VTP-300 is designed to deliver highly immunogenic HBV antigens in combination with low dose anti-PD-1 antibody to generate a functional T cell response capable of eliminating circulating HBsAg in patients with CHB.

We have used genotype C HBV antigen sequences in our VTP-300 vectors to target the most prevalent CHB genotype. However, we believe VTP-300 may induce cross-reactive T cell responses with other prevalent genotypes. We will assess the degree of cross-reactivity of the T cells induced by our vaccine in the HBV001 Phase 1 clinical trial by stimulating T cells from ChAdOx1-HBV immunized healthy volunteers and CHB patients with peptides representing genotype D antigens. The results from these assays may inform potential next-generation product candidate design.

Preclinical Studies

Preclinical studies were conducted for VTP-300, often comparing VTP-300 with relevant controls, with resulting data showing that:

- VTP-300 was immunogenic in inbred, outbred and transgenic mice; and
- VTP-300 was well tolerated in preclinical toxicology studies.

VTP-300 is currently being assessed in a biodistribution study, and preliminary data indicate that there has been no shedding of the virus in urine and feces.

Immunogenic in Inbred, Outbred and Transgenic Mice

The ability of the VTP-300 vectors to induce an immune response was assessed in three mouse strains. When given alone, the ChAdOx1 vector generated HBV-specific T cell responses in an inbred mouse strain. An MVA-boost vaccination after a ChAdOx1 prime further enhanced the magnitude and breadth of the T cell response. To demonstrate a T cell response against the core antigen, which was absent in these inbred mice, VTP-300 was also assessed in a transgenic mouse strain expressing human HLA-A2 and a response to the core antigen was shown. Taken together, these data demonstrate that all major HBV antigens were able to elicit a T cell response in mice. Intra-cellular cytokine staining was also performed and showed that HBV specific CD8+ and CD4+ T cells were polyfunctional and produced combinations of cytokines, including IFN, TNF-α, and IL-2. Anti-HBsAg antibodies were also detected in some mice, with variable titers.

Well Tolerated in Preclinical Toxicology Studies

We conducted a good laboratory practices, or GLP, compliant study to assess the toxicity of ChAdOx1-HBV following intramuscular administration to inbred mice. These mice were administered a dose level of 0 (vehicle) or 2.5×10^{10} vp of ChAdOx1-HBV.

We assessed mortality, clinical observations, body weight, food consumption, body temperature, hematology, clinical chemistry, immune response in splenocytes (IFN-γ secretion), organ weight and gross and microscopic pathology at day 17 of the study. At the anticipated therapeutic dose, we observed ChAdOx1-HBV to be well tolerated, with an immune response that was sustained for two weeks following dosing, with no adverse effects.

Biodistribution Study

We are currently assessing VTP-300 vectors in a biodistribution and shedding study in inbred mice. The objective of the study is to quantify the VTP-300 vectors in mouse tissues and various liquid matrices obtained from mice following intramuscular injections. Preliminary data indicates that there has been no shedding of the virus in urine and feces.

Clinical Development

We are currently conducting our HBV001 Phase 1 clinical trial in the United Kingdom in two groups: healthy participants and participants with CHB infection whose infection has been suppressed with oral antiviral medication therapies. The primary objective of the HBV001 trial is to evaluate the safety and tolerability of different doses of a single vaccination of ChAdOx1-HBV. In addition, the secondary objectives are to determine the immunogenicity of ChAdOx1-HBV and to determine the effect of ChAdOx1-HBV on the level of HBsAg in the participants with CHB infection.

The first two cohorts of ten healthy volunteers have now all received a single dose of ChAdOx1-HBV at either a low or high dose, 2.5×10^9 vp or 2.5×10^{10} vp, respectively. The first CHB patient received a low dose of ChAdOx1-HBV in October 2020 and a further five CHB patients will be enrolled in the low dose cohort followed by six CHB patients in the high dose cohort. Nine healthy volunteers have now completed their day 84 trial visit post dose. We intend to enroll 12 additional CHB patients in the trial and enrollment is ongoing. As of April 21, 2021, no severe adverse events have been reported in the ongoing trial. Final trial results are expected in the fourth quarter of 2021.

We also aim to determine if the T cell responses induced by the ChAdOx1-HBV viral vector used in this trial can potentially cross-react with other common HBV genotypes. The criteria for CHB patients to be enrolled in this trial are (i) infection that has been suppressed with oral antiviral medication (HBV DNA < 40 copies/mL) and (ii) relatively low levels of cccDNA markers (HBsAg < 10,000 IU/ml). As higher levels of CD8+ T cell induction are likely to occur in healthy controls, these samples will be utilized to map the responses induced by VTP-300, to reactivity with peptides, representing consensus sequences from genotypes B and D, which are more common in both the United States and Europe.

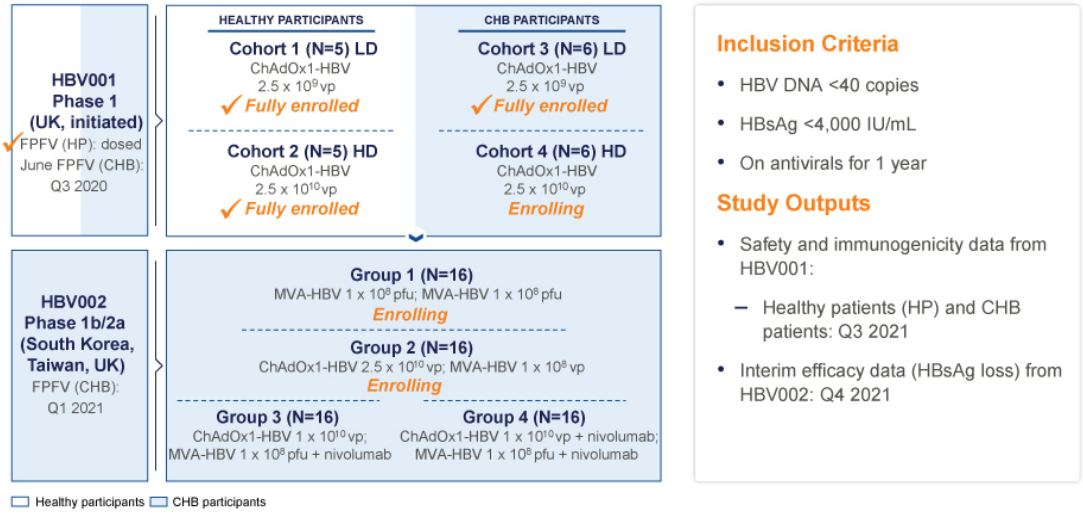
In addition, we are conducting a Phase 1/2a clinical trial, HBV002, to evaluate the safety and reactogenicity of VTP-300 with or without an anti-PD-1 in CHB patients whose infection has been suppressed with oral antiviral medication. We intend to enroll 64 CHB patients in this portion of the trial and expect to receive interim efficacy data in the fourth quarter of 2021. The first patient in HBV002 was dosed in January 2021.

Based on the available results from the ongoing HBV001 trial, the planned dose to be administered to CHB patients in the HBV002 Phase 1/2a clinical trial is a high dose of ChAdOx1-HBV, 2.5 x 10^{10} vp. The primary objective of this trial is to determine the safety and reactogenicity of the following in participants with CHB infection and virally suppressed with oral antiviral medication: 1. MVA-HBV (prime-boost); 2 . ChAdOx1-HBV and MVA-HBV (prime-boost); 3. ChAdOx1-HBV and MVA-HBV and nivolumab (prime-boost + anti-PD-1). The secondary objectives are: immunogenicity, anti-PD-1 blockade timing, and the effect on the levels of hepatitis B markers, including HBsAg, hepatitis B surface antibody seroconversion, hepatitis B DNA, HBeAg, in CHB patients. In the HBV002 trial, we plan to enroll a total of 64 CHB patients in four groups of 16 and follow the patients for a 10-month period. The majority of the patients will be recruited in Taiwan and South Korea due to the high prevalence of HBV genotype C virus in Asia. We will also open enrollment in the United Kingdom.

In participants already immunologically primed by prior infection, it is possible that natural priming may eliminate the need for the prime-boost regimen, as was noted in human trials using the ChAdOx1 and MVA vector for influenza, in which all participants had pre-existing T cell responses induced by natural infection. Hence, group one of the HBV002 trial will compare MVA-HBV given twice, with the ChAdOx1-HBV plus MVA-HBV heterologous approach used in group 2. We expect that group two will be more immunogenic and plan to further explore this group two regimen in groups three and four. The dosing regimen will be ChAdOx1-HBV (day 0) and MVA-HBV and low-dose nivolumab (day 28) for group three and ChAdOx1-HBV and low-dose nivolumab (day 0) and MVA-HBV and low-dose nivolumab (day 28) for group 4.

In the cancer field, the use of the anti-PD-1 prior to vaccination has resulted in diminished T cell responses as compared to later administration. Whether the anti-PD-1 can be given simultaneously with the priming dose, or should follow it, is yet to be determined. Thus, in this protocol, we are planning to evaluate both regimens. Group three employs the low dose nivolumab given only at the boost, whereas group four administers the nivolumab at both the prime and the boost dose. Nivolumab has been used safely in earlier immunotherapy trials at 1/10 the licensed dose for oncology indications and has been shown to give full peripheral blood T cell receptor occupancy for up to one month.

The results of the interim analysis of HBV002 are intended to provide the basis for a decision to proceed to planning and execution of the next trial, a Phase 2b clinical trial. The schematic below shows the trial design for the HBV001 Phase 1 clinical trial and the HBV002 Phase 1/2a clinical trial.



Future Development

We believe that the interim analysis from the HBV002 Phase 1/2a will indicate whether a functional cure from VTP-300 is attainable. If sufficient HBsAg reduction is observed in HBV002, we plan to commence a Phase 2b clinical trial in a wider patient population who have higher levels of HBV DNA and hepatitis B surface antigen than the population enrolled in HBV002. Although VTP-300 encodes genotype C antigens, some of these are also expressed by other HBV genotypes. If data indicate that VTP-300 may be capable of clearing additional genotypes of HBV, then we will aim to demonstrate activity against non-genotype C infected patients. If the interim analysis from the HBV002 trial shows signs of a functional cure, we will also plan to evaluate additional combination regimens, such as next-generation antiviral modalities including RNA interference molecules and may evaluate potential collaboration partnerships. We may also evaluate VTP-300 in a trial in mainland China.

VTP-200: Developing a Potential Non-Invasive Treatment for Persistent High-Risk HPV

Overview

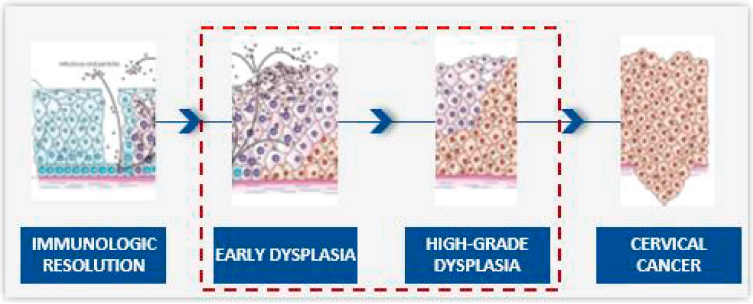
We are developing our therapeutic HPV product candidate, VTP-200, as a potential non-invasive treatment for persistent high-risk HPV, or hrHPV, infections, and associated pre-cancerous lesions. It is estimated that approximately 291 million women worldwide are carriers of HPV DNA. Persistent genital HPV infection is responsible for almost all cases of cervical pre-cancerous lesions, which can lead to cervical carcinoma. Treatment of high-grade cervical lesions requires invasive interventions, such as Loop Electrosurgical Excision Procedure, or LEEP, or cryoablation, which are associated with potentially dangerous complications. Thus, there is an unmet need for non-invasive therapeutic options to treat existing HPV infections and prevent cervical cancer. Persistent hrHPV also results in debilitating and difficult to treat vulval intraepithelial neoplasia, or VIN, and anal intraepithelial neoplasia, or AIN, as well as many vaginal and oropharyngeal cancers and some penile cancers. VTP-200 is an immunotherapeutic agent that we intend to initially develop as a monotherapy. Our initial clinical development efforts are focused on patients with low-grade cervical lesions and over time we intend to target patients with all HPV-related pre-cancerous lesions. The first patient in our HPV001 Phase 1/2a clinical trial was dosed in March 2021, with interim efficacy results expected in the first quarter of 2022. This will be a dose-finding trial in women with persistent hrHPV infection and low-grade cervical lesions.

There are over 200 types of HPV, which are split into two groups: low risk and high risk. Most HPV types are considered low risk, although some cause genital and hand and feet warts. The virus infects the skin and mucosal membranes and it is usually passed on through sexual contact. About 80% of sexually active people globally will be infected with HPV at some point in their life. Nearly all cases of cervical cancer are caused by infection with hrHPV. There are at least 14 hrHPV types that are considered oncogenic, and two of these, HPV type 16 and type 18, are responsible for up to 75% of all cervical cancers.

Following hrHPV infection of the basal epithelium layer of cells on the cervix, the virus replicates and disrupts normal cell-cycle control. The infection promotes uncontrolled cell division and genetic damage, which lead to the growth of pre-cancerous lesions and may progress to cervical cancer. HPV produces two important oncogenic proteins, E6 and E7, which together promote cell growth, prolong cell-cycle progression and prevent apoptosis, a type of cell death.

Most cases of HPV infection tend to be cleared by the immune system without intervention within one to two years post-exposure. For those cases that are not cleared naturally by the immune system, persistent infection is believed to be caused by a lack of HPV-specific T cell immunity. Studies show that HPV-induced diseases correlate with a weak HPV-specific CD4+ and CD8+ T cell response. The progression of hrHPV infection is shown in the figure below.

Progression of hrHPV Infection



Cervical cancer was the fourth most common cancer in women in 2018, with approximately 570,000 cases and 311,000 deaths from the disease worldwide. The American Cancer Society predicts that, in 2020, about 13,800 new cases of invasive cervical cancer will be diagnosed in the US with over 4,000 women dying from the disease. Over 99% of cervical cancers are caused by HPV infection. Cervical cancer results from progression of pre-cancerous lesions. These lesions are categorized by their severity; based on the extent of the cervical intraepithelial neoplasia, or CIN, which is graded by the depth of the abnormal cells in the epithelial layer of the cervix. The first grade, CIN 1, represents one third of the depth of the epithelium; the second grade, CIN 2, represents two thirds of the epithelium and the third grade, CIN 3, represents the whole depth of the epithelium. CIN 1 and early CIN 2 lesions are characterized as low-grade squamous intraepithelial lesions, or LSIL, whereas more severe CIN 2 and CIN 3 are characterized as high-grade squamous intraepithelial lesions, or HSIL.

During active cervical HPV infection, low-grade cytological abnormalities may be clinically detectable in screening, but are usually transient. However, carcinogenic HPV infections that persist beyond 12 months increase the likelihood of precancerous or cancerous lesions. In the United States, the median age of cytologically detected precancerous cervical lesions occurs approximately 10 years after the median age of initial sexual activity. It is estimated that there are at least 7 million new cases of high-risk HPV in the US each year. Around 1.7 million cases of CIN 1, CIN 2 and CIN 3 occur in the US each year, of which 70% to 90% are associated with hrHPV infection, resulting in a target population of approximately 8.2 million to 8.5 million patients in the US. There is a similar number of patients in the EU.

hrHPV also causes VIN and AIN. hrHPV is believed to cause 69% of vulval cancers and 91% of anal cancers. In total over 35,000 cancers, cervical, head and neck, penile, vaginal, anal and vulvar are attributed to hrHPV in the US per year, which cause thousands of deaths.

Current Treatment Options and Limitations

HPV infections remain extremely common globally, representing a significant public health burden. Prevention of hrHPV-related cancers is targeted in two ways: prophylactic vaccination and screening for pre-cancerous lesions and cancer. Prophylactic HPV vaccination programs began in 2006. Despite their potency in providing protection against HPV infection, HPV prophylactic vaccines have no effect on pre-existing HPV infections. Additionally, only 49% to 60% of eligible females in the US receive the prophylactic multivalent HPV vaccines each year, while in countries such as France, only 21% to 30% of females receive prophylactic vaccines. Further, most women born before 1991 will not directly benefit from the vaccination programs due to the age groups targeted at the onset of vaccination programs and are predicted to remain at a relatively high risk of cervical cancer over the next two decades, with current screening coverage. There are also significant worldwide vaccination program gaps, especially in Africa and Asia.

Historically, cervical screening mainly referred women to colposcopy cervical examinations based on liquid cytology-based PAP smears. However, cervical cancer screening in the US and many EU countries is now driven by primary hrHPV screening through *in vitro* diagnostic testing, a more sensitive method of testing compared to PAP smear cytology. Thus, millions more women in these countries are being diagnosed with hrHPV infections each year.

The current standard of care for early stage CIN is watchful waiting, while later stage CIN is treated with invasive ablative techniques. Disease progression to high grade lesions leads to the requirement for invasive interventions such as LEEP, or cryoablation, which excise, or destroy the affected cells via freezing, respectively. These invasive procedures can damage local tissue and are associated with possible complications, such as the narrowing and hardening of the cervix, or cervical stenosis, and obstetric complications, which can lead to fetal morbidity and mortality.

Where employed, prophylactic measures and population-based screening can positively impact HPV-related cancer incidence. In countries where vaccine adoption is low, infection continues to be problematic. More than 80% of cervical cancer related deaths occur in low- and middle-income countries. An increasing number of women are also being diagnosed with persistent hrHPV infection where there are currently no treatment options and so they can only be followed until either disease progression or HPV clearance and regression of any associated low-grade lesions.

Competition

There are no pharmacological agents approved for the treatment of CIN. There are a number of companies actively developing treatments for CIN and other HPV-related pre-cancers and cancers, including a number of immunotherapies. We believe the most advanced immunotherapeutic candidate is VGX-3100, which is being developed by Inovio to target CIN 2/3 and is currently in a Phase 3 clinical trial. To date, VGX-3100's ability to clear CIN 2/3 has been associated with the induction of an antigen-specific CD8+ T cell response. We believe that our approach of induction of high-magnitude, durable, and polyfunctional antigen-specific CD8+ T cells is well suited to this indication. While VGX-3100 has been successful in establishing proof of mechanism, it faces a number of limitations, including significant patient acceptability issues driven by the need for delivery by electroporation of multiple doses, which some recipients have found uncomfortable.

Current Development Status

The first target indication for VTP-200 is hrHPV infection and associated precancerous lesions. Our initial objective is to demonstrate proof-of-concept in CIN 1, before expanding the target indications to include CIN2 and CIN 3 as well as anal and vulval hrHPV infection and associated lesions.

We have designed VTP-200 to strengthen HPV T cell adaptive immunity, unlike prophylactic vaccines which rely on inducing specific antibodies and memory B cells. We believe that VTP-200 may strengthen HPV T cell adaptive immunity through priming naïve T cells to produce cytotoxic T lymphocytes that target HPV-infected cells, generating CD4+ and CD8+ T cells that have the appropriate functionality. VTP-200 uses our proprietary ChAdOx1 and MVA heterologous prime-boost vectors to induce an immune response against conserved regions of HPV, specifically VTP-200 contains 59 amino acid fragments, covering six early proteins, from the five most prevalent hrHPV strains. The first patient in our HPV001 Phase 1/2a clinical trial was dosed in March 2021.

Preclinical Studies

Extensive preclinical studies were conducted using VTP-200, with resulting data showing that:

- VTP-200 was well tolerated in preclinical toxicology studies; and
- VTP-200 is highly immunogenic in inbred and outbred mice.

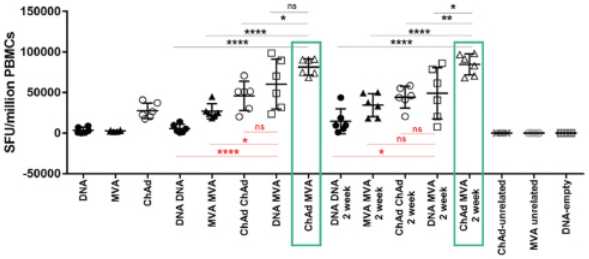
Toxicology Studies

In a GLP-compliant toxicology study, outbred mice were dosed with ChAdOx1-HPV and MVA-HPV at dose levels approximating the maximum anticipated clinical dose. Dosing resulted in an immune response, but with no significant toxicology findings.

Immunogenicity Studies

In preclinical immunogenicity studies, the HPV antigen was delivered by plasmid DNA, ChAdOx1 and MVA vectors in prime-boost regimens to inbred and outbred mice. ChAdOx1-HPV prime followed by MVA-HPV boost was shown to induce higher magnitude and more durable HPV-specific T cell responses than other regimens, as shown in the figure below. VTP-200-induced T cells were polyfunctional and persisted at high frequencies for at least six weeks.

Heterologous and Homologous Prime Boost Regimens in Inbred and Outbred Mice



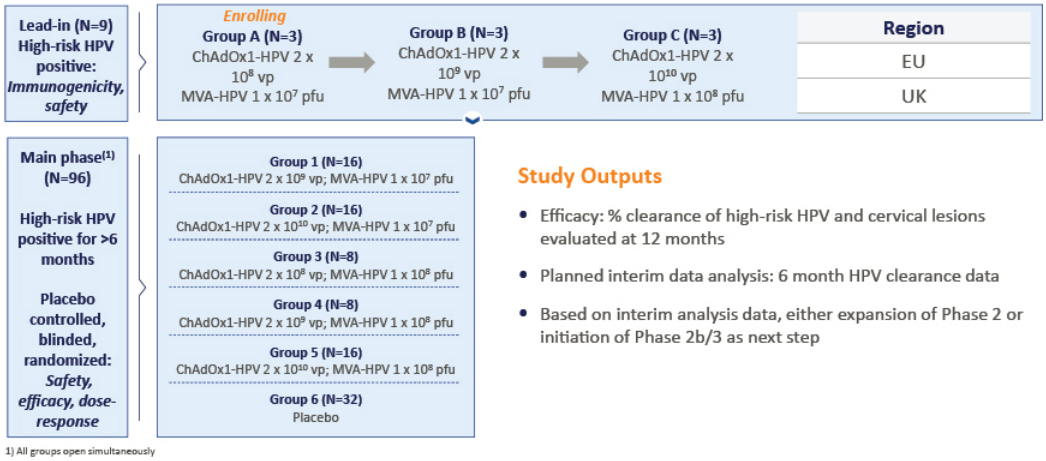
*Mice were primed on day 0 with DNA-5GHPV3, MVA-5GHPV3 or ChAdOx1-5GHPV3 and boosted two weeks later with a homologous or heterologous vaccine. A tail vein bleed was performed at 2 weeks post prime and 1 and 2 weeks post boost. Single vaccinations (DNA only / MVA only / ChAd only) were tested in parallel. PBMCs were used in an IFNγ ELISPOT assay with peptides spanning the entire immunogen sequence. Data expressed as spot farming units/million PBMCs. *p≤0.05, **p≤0.01, ***p≤0.001, ****p≤0.0001*

In the preclinical immunogenicity studies, HPV-specific effector CD8+ T cells were detected in the cervix following systemic administration of ChAdOx1-HPV prime and followed by MVA-HPV boost and increased in frequency over time, indicating continued trafficking of T cells to the cervix. Finally, T cells specific for the HPV-encoded antigens were detected in women with current or past hrHPV infections, confirming the presence of immunogens relevant to natural immune control.

The MVA vector assessed in initial studies contains the HPV antigen at the thymidine kinase locus under the control of the p7.5 promoter. However, a more immunogenic MVA vector, which contains the HPV antigen under the control of the endogenous F11 promoter, was constructed. We determined that the T cell immunogenicity of the more immunogenic MVA promoter was superior to the MVA vector assessed in the initial preclinical studies and decided to use the next-generation vector in our clinical trials.

Clinical Development

Our planned HPV001 Phase 1/2a clinical trial of VTP-200 is designed to assess the safety and efficacy of VTP-200 and determine the optimal immunotherapeutic dose regimen. We plan to enroll 105 healthy women with low grade lesions who have had persistent hrHPV for at least six months. Patients with HSIL or early cancer will be excluded. The trial will run in the UK and EU, and the first patient in our HPV001 Phase 1/2a clinical trial was dosed in March 2021. We expect the initial data in the first quarter of 2022 when 60 of the patients in the main phase of the trial have reached the six-month evaluation timepoint. The diagram below provides an overview of the Phase 1/2a clinical trial design.



The HPV001 Phase 1/2a clinical trial is designed to identify an efficacious dose based on a joint response index of CD8+ T cell magnitude, CD4+T cell magnitude and CD4+ T cell avidity. The primary objective of the trial is to determine the safety and tolerability of ChAdOx1-HPV plus MVA-HPV when administered in

a prime-boost regimen. The secondary objectives of the trial are to determine the optimal dose and to determine the efficacy on the clearance of hrHPV infection and on CIN.

Future Development

Following the HPV001 Phase 1/2a clinical trial, if successful, we intend to initiate further clinical trials of VTP-200, such as an expansion trial in patients with early grade CIN (LSIL) indication and additional trials in patients with more advanced CIN, AIN and VIN. We are in the early stages of collaborating on an NIH-funded trial to be conducted by the University of California San Francisco in more advanced CIN and AIN in HIV positive patients, to be recruited in Mexico and Puerto Rico. Although our program focuses on the treatment of pre-cancerous lesions, we believe that VTP-200 could also be used in combination with checkpoint inhibitors in HPV-associated cancers, such as cervical, head-and-neck and anal malignancies.

Oncology

We are developing immunotherapeutics for the treatment of selected cancers, including prostate cancer and NSCLC. Cancers develop various strategies to avoid being attacked by the immune system. One such strategy is to create an environment around the tumor cells in which T cells cannot be stimulated effectively. Cancer cells also trigger the PD-1 pathway, which leads to downregulation of T cell responses. Using this mechanism, tumors can turn off activated T cells that enter the tumor microenvironment. Drugs that block the ability of tumor cells to trigger the PD-1 pathway, amongst others, in T cells can induce dramatic, long-lived regressions in established tumors. These drugs, known as checkpoint inhibitors, have also been shown to improve survival in multiple tumor types and settings and are considered a major breakthrough in cancer therapy. However, in most settings, they induce responses in only a minority of patients. Our therapeutic cancer immunotherapy platform comprises a heterologous prime-boost of ChAdOx plus MVA in order to introduce the immune system to cancer antigens outside of the suppressive environment of the tumor, so that T cells can be induced without interference by the tumor. We plan to combine our immunotherapeutics with approved PD-1 inhibitors to prevent downregulation of the activated T cells once they enter the tumor. Our goal is to expand the number of cancer patients who can benefit from immunotherapy.

VTP-850: Our Next-Generation Immunotherapeutic Candidate for Prostate Cancer

Overview

We are developing our prostate cancer immunotherapy candidate, VTP-850, for castration resistant and metastatic prostate cancer. The product candidate will build upon the positive data from a Phase 1/2 clinical trial of VTP-800, an earlier version of the product, sponsored by the University of Oxford. VTP-800 is composed of a heterologous prime-boost regimen with ChAdOx1 prime and MVA boost; both components encode 5T4, an antigen expressed by most prostate cancers. VTP-800 has been administered to patients with prostate cancer in two clinical trials sponsored by the University of Oxford. We are developing VTP-850 as our next-generation prostate cancer immunotherapeutic, with the goal of inducing a broader response by targeting additional antigens expressed by prostate cancer cells.

Prostate cancer is the second most frequent cancer diagnosis in men and the fifth leading cause of cancer-related death in men worldwide. In 2018, approximately 1.2 million new cases were diagnosed, and approximately 360,000 deaths occurred. The incidence and mortality of prostate cancer increase with age, with the average age of diagnosis being 66 years. Furthermore, the incidence of prostate cancer is expected to increase due to longer life expectancy and lifestyle factors.

Prostate cancer begins in the prostate gland, which is part of the male reproductive system. Prostate cells produce prostate specific antigen, or PSA, which is released into the blood. The blood level of PSA is usually elevated in men with prostate cancer and is used to monitor the progression of prostate cancer in men who have already been diagnosed with the disease. If prostate cancer spreads to other parts of the body, it is most likely to go to the bones first. Bone metastases can be painful and can lead to broken bones and other problems such as compression of the spinal cord. Prostate cancer that has spread outside the prostate or that has become castration-resistant is not currently considered curable.

Current Treatment Options and Limitations

About 76% of prostate cancer patients have localized or regional disease at the time of diagnosis. Localized or regional prostate cancer can be treated with radiation or surgical removal of the prostate. These localized therapies can be curative, but the cancer recurs in approximately 20% to 50% of patients. Patients with localized prostate cancer may also receive drugs to stop production of male hormones, or androgens, in the testicles, as these hormones stimulate the growth of prostate cancer cells. If a patient has evidence that their cancer is progressing despite androgen depletion therapy, such as increasing PSA in their blood or new bone metastases, it signifies that their disease is castration resistant.

Once the disease becomes metastatic, it is currently considered incurable. The prognosis for patients with metastatic castration resistant prostate cancer remains poor, with five-year survival rates for a patient diagnosed with metastatic disease at approximately 30%. Current treatment options for metastatic prostate cancer include androgen receptor inhibitors, such as enzalutamide and abiraterone; chemotherapy including docetaxel and cabazitaxel; a radioactive isotope Radium 223; and sipuleucel-T, a patient-specific immunotherapeutic. All of these treatments have been shown to improve survival, but once the cancer is castration resistant, the median overall survival is typically less than three years, in spite of these therapies.

Recent Phase 3 clinical trials have shown that drugs such as enzalutamide, apalutamide, abiraterone, and docetaxel can provide a survival advantage when used earlier in a patient's course of treatment, but the optimal sequence for the different treatment types has yet to be determined. It is expected that a significant number of patients with metastatic castration-resistant prostate cancer, or mCRPC, will become refractory to their existing options during their course of therapy.

Sipuleucel-T was approved for prostate cancer in the US based on an improvement in duration of survival of about four months. Sipuleucel-T is a personalized immunotherapy made from a patient's own white blood cells that have been activated with a prostate antigen, prostatic acid phosphatase, or PAP, which is fused to GM-CSF, an immune-cell activator.

Furthermore, in May 2020, the FDA approved two drugs from the poly (ADP-ribose) polymerase inhibitor class for patients with mCRPC, known as PARP inhibitors. Rucaparib was approved for patients with a deleterious BRCA mutation-associated mCRPC who have been previously treated with androgen receptor-directed therapy and a taxane-based chemotherapy. Olaparib was approved for the treatment of adult patients with certain rare gene alterations, and was recently shown to improve overall survival in this population. The target population for both rucaparib and olaparib is the 12 to 25% of mCRPC patients who have BRCA or other specific mutations.

Prostate cancers are rarely responsive to currently approved checkpoint inhibitors, such as anti-PD-(L)1 and anti-CTLA4 antibodies. In a recent trial, the tumor response rate to pembrolizumab, an anti-PD-1 antibody, was 5% in patients whose tumors expressed PD-L1 and 3% in patients whose tumors did not express PD-L1.

Competition

The treatment landscape for prostate cancer is constantly evolving with advances in biological T cell therapies. There are multiple immunotherapies in early stages of development for the treatment of prostate cancer, such as those in development by Inovio and Hookipa. Furthermore, there are multiple chimeric antigen receptor therapies, which are personalized cell-based therapies, directed at PSMA or other antigens that are in early clinical trials in prostate cancer. AMG160 is a bispecific T cell engager which binds to CD3, a part of the T cell receptor that is the same on all T cells, and also to PSMA, an antigen on the surface of prostate cells. The effect is to engage T cells, regardless of their specificity, and redirect them to kill cells with PSMA on their surface. PSA reduction and tumor responses have been reported in a Phase 1 clinical trial of AMG160.

Current Development Status

We are developing VTP-850, our next-generation prostate cancer product candidate, to improve upon VTP-800. Both VTP-800 and VTP-850 are composed of a heterologous prime-boost regimen with ChAdOx1 prime and MVA boost; however, VTP-800 encodes only one antigen while VTP-850 encodes four

antigens, including 5T4. We designed VTP-850 to induce a broader immune response by encoding multiple antigens to reduce the ability of cancer cells to evade the immune response by mutating or losing expression of any one antigen. The antigens we encode in VTP-850 are expressed in most prostate cancers but have very little or no expression on other tissues.

VTP-850 is at an early stage of development, and no preclinical studies or clinical trials have been performed to date. However, there are preclinical data and clinical data from our first-generation prostate cancer immunotherapy, VTP-800, which we believe are informative for the development of VTP-850 as it contains the same 5T4 antigen encoded in VTP-850. We plan to start a Phase 1/2 clinical trial of VTP-850 in the first quarter of 2022.

Preclinical Studies

Preclinical studies were conducted using VTP-800, with resulting data demonstrating that:

- VTP-800 was generally well tolerated in preclinical toxicology studies; and
- VTP-800 delayed tumor growth in inbred mice.

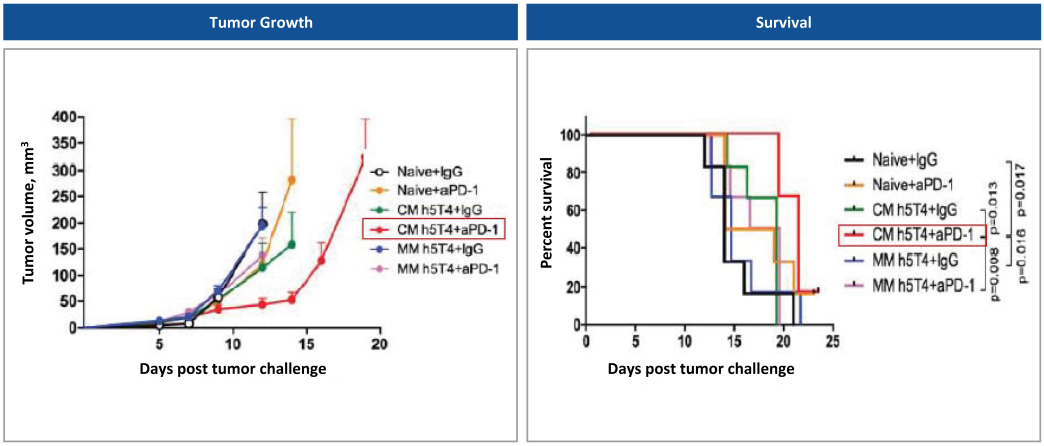
Toxicology

Toxicology studies of ChAdOx1-5T4 and an earlier version of the MVA-5T4 component, the components of VTP-800, were conducted in mice and no signs of toxicity were observed.

Effect on Tumor Growth and Survival

Our partners at the University of Oxford conducted a study in six groups of inbred mice where we demonstrated that the mice receiving an anti-PD-1 antibody and a heterologous prime-boost with ChAdOx1 and MVA vectors expressing human 5T4 (shown as CM h5T4+aPD-1 in the charts below), which were later challenged with mouse melanoma tumors expressing human 5T4, achieved a greater delay in tumor growth and longer survival than mice that received either approach alone, as shown in the figure below.

Tumor Growth and Survival in Inbred Mice



Clinical Development

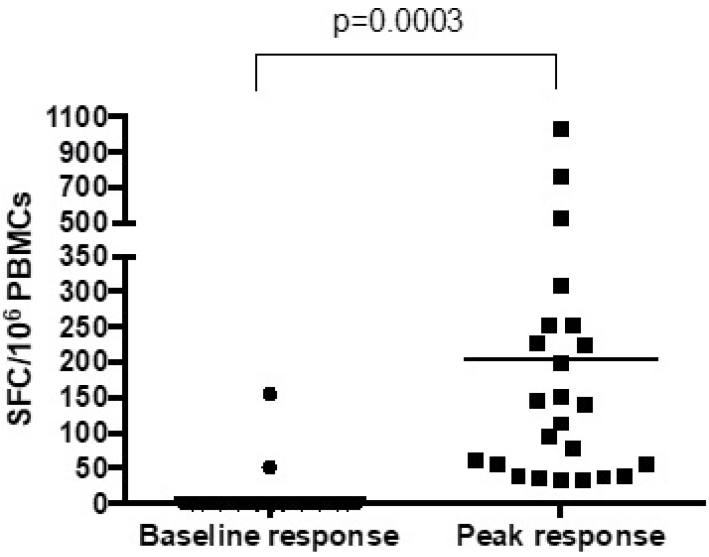
Two Phase 1/2a clinical trials of VTP-800 were sponsored and conducted by the University of Oxford in the United Kingdom. VANCE01 was a first-in-human, open-label, randomized, Phase 1 clinical trial designed to evaluate the safety and immunogenicity of heterologous prime-boost ChAdOx1-MVA administration as compared with homologous prime-boost with MVA alone, with and without low dose cyclophosphamide in localized prostate cancer. Thirty-nine patients with early stage localized, castration-sensitive prostate cancer were treated. Thirty-three patients received heterologous prime-boost with ChAdOx1-5T4 and MVA-5T4,

while six patients received homologous prime-boost with MVA-5T4 alone. Patients received both regimens alone or with cyclophosphamide preconditioning. VTP-800 was generally well tolerated, with side effects of local injection site reaction and myalgia, which are consistent with those observed for these vectors in other clinical trials. There were no reported treatment-related serious adverse events.

It was also observed that 59% of participants had no detectable T cell response at baseline and developed a new 5T4-specific T cell response, as measured by an *ex vivo* gamma interferon ELISpot. Two patients had a baseline response, and the frequency of 5T4-specific T cells was increased following administration. The mean peak response of the 5T4-specific T cells in the responders was 198 cells per one million PBMCs, which is notable given that the 5T4 is a self-antigen. T cell infiltration into the resected prostate was also observed.

The figure below shows the 5T4-specific T cell responses to VTP-800. The peak response, expressed as the number of 5T4-specific T cells secreting IFN-γ per one million PBMCs, in each patient who mounted a 5T4-specific T cell response following administration was compared to the 5T4 response detected prior to the first dose. The bars represent medians.

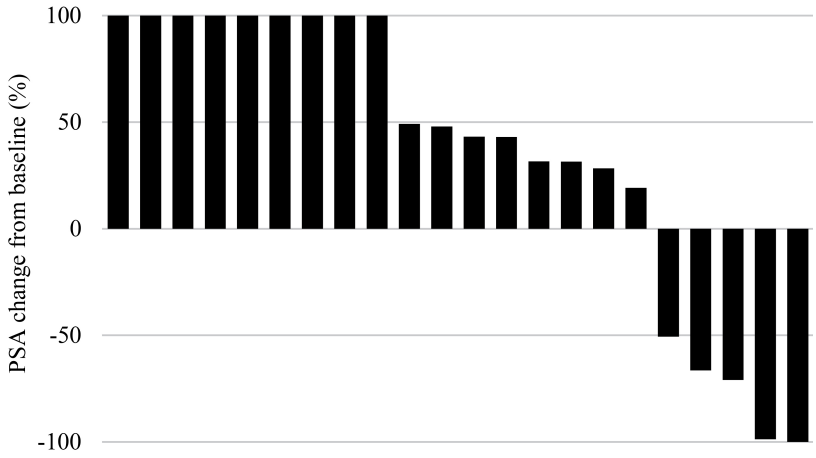
T Cell Response in Patients



ADVANCE was an open label, non-randomized Phase 1/2 clinical trial of VTP-800 in combination with anti-PD-1 checkpoint inhibitor, nivolumab, in 23 patients with metastatic prostate cancer. The primary objectives of the ADVANCE trial were to assess the safety and response rate of VTP-800 when administered in combination with nivolumab. The secondary objectives were to assess the immune responses in peripheral blood and to evaluate radiographic progression-free survival and overall survival. Patients received ChAdOx1-5T4 prime and MVA-5T4 boost one month later. Nivolumab was administered at months one, two and three. In most patients, VTP-800 was also given at months three and four. All patients received 2.5 x 10^{10} vp of ChAdOx1-5T4, 2.0 x 10^{10} pfu of MVA.5T4 and 480mg of nivolumab.

VTP-800 was generally well tolerated. The most common treatment emergent adverse events were bone pain, injection site pain, muscle pain, stomatitis, and constipation, and most were mild and grade 1 or 2. The only grade 3 adverse event was a chest infection, which was not related to study drug. There were no grade 4 or 5 treatment-related adverse events. Three of eight patients with measurable disease had partial tumor responses. Five of 23, or 22%, of patients had greater than 50% reduction of PSA at any timepoint, as shown in the figure below.

PSA Reduction in Patients



Future Development

We are planning a Phase 1/2 open-label clinical trial of VTP-850 in patients with minimally symptomatic or asymptomatic mCRPC to begin in the first quarter of 2022. We are finalizing the clinical trial sites for VTP-850 but plan to conduct the trial in several countries, including the United States and the United Kingdom. The trial will involve a Phase 1 dose escalation stage with boost dose administered either intramuscularly or intravenously to determine the Phase 2 recommended dose and route of administration, followed by an expansion phase of VTP-850, in combination with a checkpoint inhibitor, to evaluate immunogenicity and anti-tumor activity of the immunotherapeutic regimen. We believe that using VTP-850 in combination with checkpoint inhibitors may provide enhanced therapeutic benefits, as indicated by data from the ADVANCE trial.

VTP-600: Our Immunotherapeutic Candidate Targeting MAGE-A3 and NY-ESO-1 Antigens

Overview

VTP-600 is a heterologous prime-boost product candidate with ChAdOx1 and MVA components encoding tumor-associated antigens MAGE-A3 and NY-ESO-1. The table below shows the broad tumor expression of MAGE-A3 and NY-ESO-1, in several tumor types, including metastatic melanoma, lung carcinoma, colorectal carcinoma, breast carcinoma and prostate carcinoma. We are initially developing VTP-600 for non-small cell lung cancer in combination with standard of care treatment. We plan to initiate a first-in-human Phase 1/2a trial in the second quarter of 2021, in collaboration with CRUK, a leading cancer research institution.

MAGE-A3 and NY-ESO-1 Expression in Tumors (%)

	MAGE-A3	NY-ESO-1
Metastatic Melanoma	74	35
Lung Carcinoma	47	27
Colorectal Carcinoma	17	0
Breast Carcinoma	13	23
Prostate Carcinoma	18	27

Lung cancer is the most frequent cancer diagnosis and cause of cancer death worldwide. In 2018, approximately 2.1 million new cases were diagnosed and 1.8 million deaths occurred. Approximately 85% of lung cancers are cases classified as NSCLC. The most important histological distinction is squamous versus non-squamous, as it impacts selection of systemic therapy. About 25% to 30% of patients have tumors with

squamous histology, which is associated with a worse prognosis and a worse response to chemotherapy. A small proportion of patients with non-squamous NSCLC have specific mutations, including epidermal growth factor receptor, or EGFR, anaplastic lymphoma kinase, or ALK and ROS1, for which there are targeted therapies available and often used first line.

MAGE-A3 and NY-ESO-1 are believed to be important target antigens for NSCLC as well as other tumors. MAGE-A3 and NY-ESO-1 are cancer/testis antigens, which are frequently expressed on cancer cells but have limited expression in normal tissues. MAGE-A3 is expressed in 48% of squamous NSCLC and 24% of non-squamous NSCLC. NY-ESO-1 has been shown to have an expression rate of 27% across all NSCLC types.

Current Treatment Options and Limitations

Treatment for lung cancer depends on the stage of the cancer, patient performance status (which is a measure of how frail the patient is on a scale of zero to five) and the histological and molecular characteristics of the cancer cell. Common treatment modalities include surgery, chemotherapy, radiation therapy, targeted therapy, angiogenesis inhibitors, and immunotherapy.

Surgical resection provides the best chance to cure NSCLC but is usually not an option for patients whose cancer has become metastatic. Chemotherapy is usually given as combinations of two agents with or without radiation. Platinum-based chemotherapy regimens prolong survival, improve symptom control, and yield superior quality of life compared to best supportive care. However, platinum-based doublet chemotherapy is toxic and causes significant side effects and is therefore restricted to patients with performance status of zero or one and does not cure metastatic lung cancer.

There are several approved targeted drugs that inhibit specific mutations found in NSCLC such as the receptor for EGFR, ALK, and ROS1. Mutation incidence for EGFR can be high, for example up to 50% in Asian populations and 10% to 15% in Western populations. Incidence of ALK and ROS1 is lower, occurring in less than 10% of NSCLC cases. These targeted agents are associated with very high response rates, but they are not considered curative. A class of drugs called angiogenesis inhibitors block formation of tumor blood vessels. These drugs are sometimes used in combination with chemotherapy to treat the 70% of NSCLC patients with non-squamous histology.

There are several immunotherapy products that are used for metastatic NSCLC. These agents block specific mechanisms, such as the PD-1 pathway, which cancers exploit in order to weaken the immune response against themselves. These therapies help the immune system to recognize and destroy abnormal cancer cells. They can be used alone as first-line treatment or after chemotherapy or in combination regimens which may include chemotherapy. Immunotherapy can induce very prolonged tumor responses that can last for many years, even after stopping therapy, but only in a minority of patients.

Competition

While no products that induce an immune response to MAGE-A3 and NY-ESO-1 have been approved to date, these antigens have been widely studied in clinical trials. For example, GSK, Kite Pharma and the National Cancer Institute have all conducted clinical trials of T cell therapies targeting either MAGE-A3 or NY-ESO-1.

Current Development Status

VTP-600 is composed of three components: one prime component and two boost components. The prime component is a ChAdOx1 vector that expresses both MAGE-A3 and NY-ESO-1. The boost components are an MVA vector that expresses MAGE-A3 and another MVA vector that expresses NY-ESO-1. NY-ESO-1 is a more immunogenic antigen than MAGE-A3, and the two vectors are administered at different sites to prevent potential interference when the two antigens are presented on the same antigen presenting cell.

Preclinical Studies

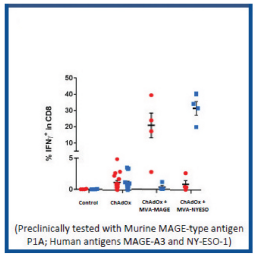
We are developing VTP-600 in conjunction with CRUK, a leading cancer research institution. The Ludwig Institute conducted preclinical studies for VTP-600, with resulting data showing that:

- VTP-600 was immunogenic in mice; and
- VTP-600 showed effects on tumors in murine tumor models.

Immunogenicity

We conducted experiments to assess immunogenicity of VTP-600 in inbred mice in which the animals were treated with the three VTP-600 vectors. The mice received the ChAdOx1-MAGEA3-NYESO prime followed by either MVA-MAGEA3, or MVA-NYESO, and robust CD8+ T cell immune responses were included in the majority of mice following prime-boost administration. As shown in the figure below, immunogenicity responses were substantially higher after the boost than after the prime dose alone.

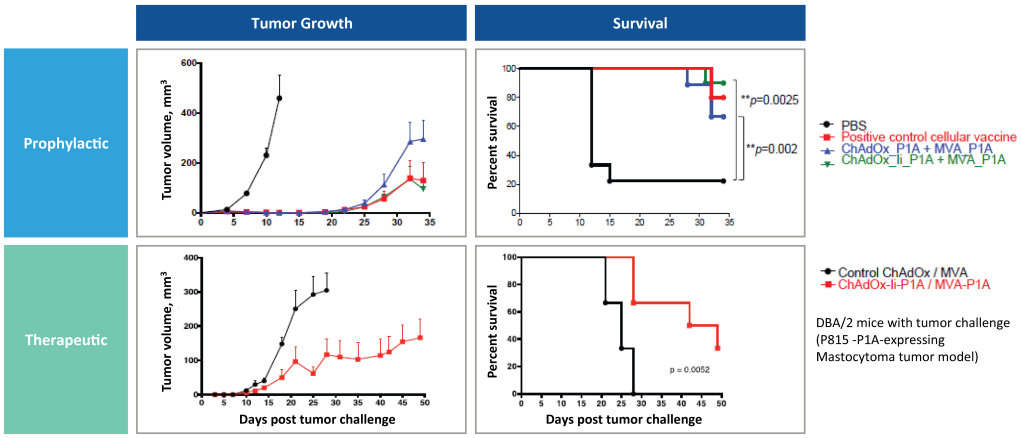
Induction of CD8+ T Cells Against MAGE/NY-ESO-1



Activity in Murine Tumor Models

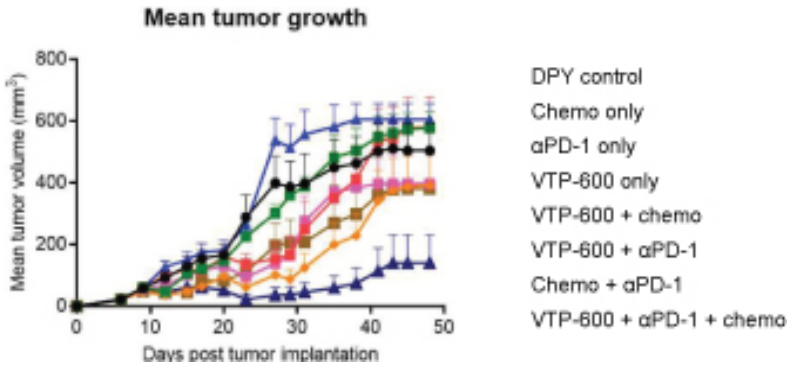
We conducted experiments to determine whether prophylactic prime-boost vaccination could cause inbred mice to reject tumors. To prevent a cross-species immune response, a murine MAGE homologue, P1A, was used instead of MAGE in the vector components. Mice were challenged with tumor cells that express P1A 14 days after receiving the MVA boost. The figure below shows that the immunotherapy regimen slowed the growth of the tumor and increased the survival of the mice.

Tumor Growth and Survival in Murine Tumor Models



We also explored the efficacy of regimens that combine ChAdOx1/MVA prime-boost doses with chemotherapy and checkpoint inhibitors in experiments using the P1A model. The figure below shows that the triplet combination regimen was able to control tumor growth better than any of the therapies alone or as doublets. This study supports the rationale for the combination of prime-boost vaccination with chemotherapy and pembrolizumab in the upcoming first in human trial.

Tumor Growth in Murine Tumor Models



Future Development

The first in human trial of VTP-600, CRUKD/20/001, will initially enroll patients with previously untreated NSCLC. We expect the trial will be conducted by CRUK in the United Kingdom and we expect it to begin in the second quarter of 2021. The primary objective of the trial is to assess the safety and tolerability of VTP-600 in combination with chemotherapy and pembrolizumab. Secondary objectives are to determine the efficacy and immunogenicity of VTP-600 given in combination with chemotherapy and pembrolizumab. After a six patient safety lead-in, eighty patients with NSCLC will be randomized on a one to one ratio with or without VTP-600 in addition to their standard of care treatment consisting of pembrolizumab and chemotherapy.

Prophylactic Vaccines and Epidemic and Pandemic Preparedness

Animal-derived coronaviruses that spread to humans remain a deadly threat, as shown by the emergence of three novel coronavirus infections in humans over the past two decades. In 2003, severe acute respiratory syndrome coronavirus, or SARS-CoV-1, infected over 8,000 people globally, with a 10% fatality rate. As of December 10, 2020, the ongoing outbreak of SARS-CoV-2, the virus that causes COVID-19, has led to over 1.5 million deaths worldwide. The ChAdOx1 and ChAdOx2 vectors are capable of inducing antibody and T cell responses after a single dose. Immunogenicity using this vector has been demonstrated in animal models of MERS, COVID-19, Lassa fever, Nipah, and Chikungunya virus. Human trials of Zika, MERS, SARS-CoV-2, and influenza have shown the immunogenicity of the vector when used as either one or two immunizations in a homologous approach. In addition, speed to the clinic has also been demonstrated by the AZD1222 vaccine candidate being advanced by AstraZeneca, which entered the clinic within three months from initial antigen design.

VTP-400: A Prophylactic Vaccine Product Candidate for Shingles

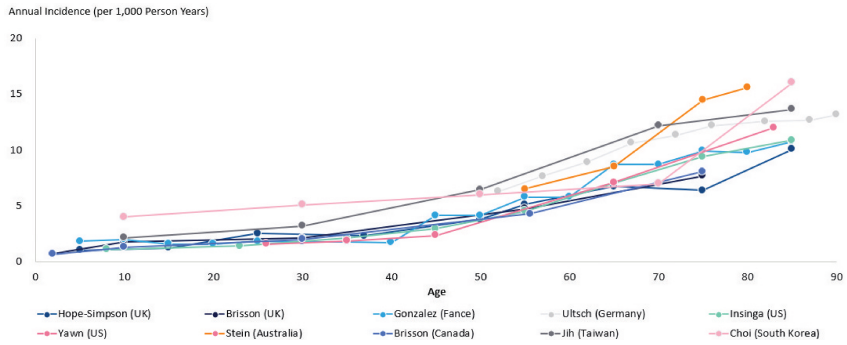
Overview

We are developing VTP-400, a next-generation shingles prophylactic product candidate, to prevent shingles in adults aged 50 years and older. The vaccine candidate is based on one or two doses of ChAdOx1 encoding the validated varicella zoster virus glycoprotein E antigen. It is estimated that more than 99% of adults over 40 years of age are latently infected with varicella zoster virus, which is responsible for causing both varicella/chickenpox and shingles. We hold global commercial rights to the vaccine candidate outside China (including Taiwan, Hong Kong and Macao), Malaysia, Thailand, Myanmar, Indonesia, Laos, Vietnam, and the Philippines, while these territories are licensed to our regional partner in China and Southeast Asia, CanSino. CanSino is planning to start GMP manufacturing the second quarter of 2021.

Shingles is the local recurrence of previous chickenpox infection and causes extreme morbidity throughout the world. Due to a natural decline in cell-mediated immunity with increasing age, approximately 80% of the 140 million global annual shingles cases occur in individuals over the age of 50, and

immunocompromised patients, who together experience seven to 25 deaths per 100,000 cases. The most devastating consequence of shingles is the occurrence of localized pain at the site of recurrence, known as post-herpetic neuralgia, which increases with age and can be debilitating to the point of requiring opioid-based analgesia.

Age-specific Zoster Incidence Rates Around the World



Shingles also occurs in 9% of treatment naïve, HIV-positive patients in low- and middle-income countries. Analyses from the US, Europe and Asia-Pacific indicate that shingles incidence is broadly similar across the different countries, as shown in the figure above. The lifetime risk is between 25% and 30%, and the average national incidence of 3-5 per 1000 person-years in those under age 80 (and more than 11 per 1000 person-years after age 80) continues to rise. Direct costs in Thailand are estimated at 1.1% of annual income *per capita*, comparable to those recorded in more developed countries, supporting the case for broad, international adoption of vaccines for shingles.

Current Treatment and Vaccination Options and Limitations

Currently, shingles cases are treated using antivirals such as acyclovir or similar class compounds, and glucocorticoids under specific conditions. Treatment of post-herpetic neuralgia consist of pain relief, and occasionally requires nerve ablation. The first licensed zoster vaccine, Zostavax, is a live-attenuated virus vaccine which comprises a 14-fold higher dose of the childhood chickenpox vaccine. Its main limitations are lower efficacy in the elderly, limited durability, and contraindication in immunosuppressed individuals. Sales in the U.S. are expected to cease within the next 12 months as an alternative, protein-in-adjuvant vaccine, Shingrix, has been commercially available since 2017 and provides over 90% efficacy and lasting effectiveness. However, Shingrix has been limited to date by supply issues, high cost, and relatively severe reactogenicity; with post-vaccination reactions observed as being severe enough to prevent normal activities for two to three days.

A definitive correlate of immunity has not emerged for either product, but a combination of antibodies and CD4+ T cell responses have been postulated. In preclinical studies, we have observed that CD8+ T cell responses, which are believed to play a role in protection against zoster, are superior after VTP-400 administration compared to Shingrix.

Current Development Status

VTP-400 is based on the ChAdOx1 vector encoding the surface glycoprotein E of the varicella zoster virus (Oka strain). The vaccine candidate is intended for intramuscular administration at 2.5 x 10^{10} vp per dose.

Extensive preclinical studies have been performed by us and our partners, the University of Oxford and CanSino, our regional partner in China and Southeast Asia, in which the immune response after immunization with VTP-400 has been analysed in detail. We examined the likely immune correlates of protection (antibodies and CD4+ T cells) and importantly also demonstrated the induction of a CD8+ T cell response, which is known to be relevant in the course of natural VZV disease.

Preclinical Studies

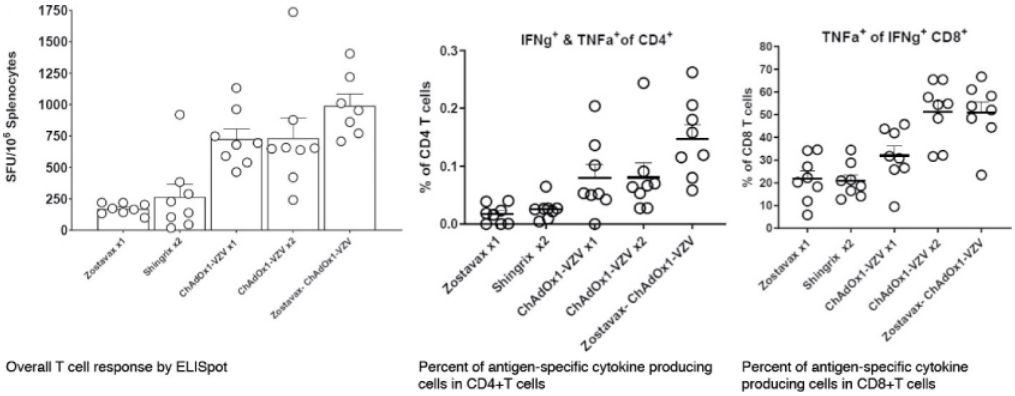
Preclinical studies have been conducted for VTP-400, with resulting data showing that:

- VTP-400 generated a superior T cell response in outbred mice as compared to Shingrix; and
- VTP-400 generated a similar antibody response in both young and aged mice.

T Cell Responses in Outbred Mice

Groups of outbred mice were vaccinated intramuscularly with 1 x 10^7 IU of ChAdOx1-VZV, 1ug Shingrix or 1.3 x 10^3 pfu Zostavax and splenocytes were collected 26 days after final immunization and the cellular immune response was measured by ELISpot. As shown in the figure on the right below, a single immunization with ChAdOx1-VZV induced a significantly higher T cell response when compared with two doses of Shingrix, and also when compared with one dose of Zostavax. Multifunctional CD4+ T cells are thought to play an important role in protective immunity in shingles and these were robustly induced with ChAdOx1-VZV regimens, as shown in the figure in the middle below. The T cell response after a single immunization with ChAdOx1-VZV was higher than that measured after single immunization with Shingrix across three doses in further experiments. Two immunizations with ChAdOx1-VZV also induced a significantly higher percentage of multifunctional CD8+ T cells when compared with two immunizations of Shingrix and when compared with one dose of Zostavax, as shown in the figure on the right below.

T Cell Responses in Outbred Mice



Overall T cell response by ELISpot

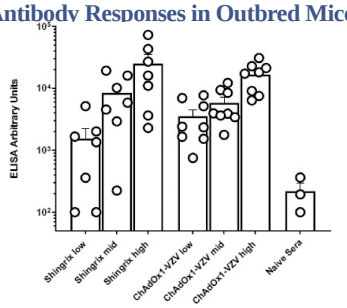
Percent of antigen-specific cytokine producing cells in CD4+T cells

Percent of antigen-specific cytokine producing cells in CD8+T cells

Antibody Responses in Outbred Mice

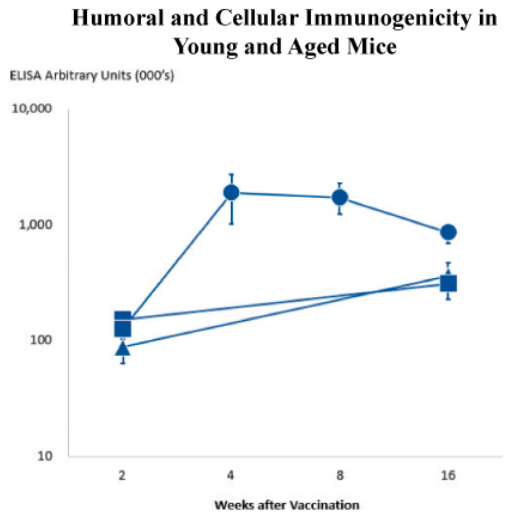
Groups of outbred mice were vaccinated with either ChAdOx1-VZV or Shingrix, at doses indicated. As shown in the figure below, the antibody response four weeks after single immunization with ChAdOx1-VZV was also comparable with that measured after single immunization with Shingrix. The antibody response after two immunizations with ChAdOx1-VZV was lower, but not statistically significantly thus comparable to the two immunizations with Shingrix.

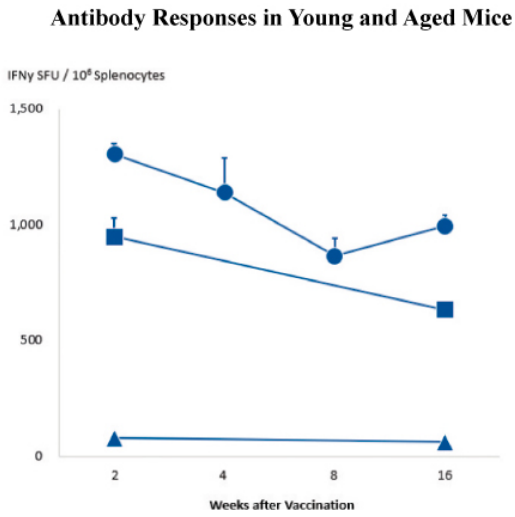
Antibody Responses in Outbred Mice



Responses in Young and Aged Mice

Antibody responses induced in aged, inbred mice were comparable to the level measured in young mice after single immunization with ChAdOx1-VZV. Both humoral and cellular immunogenicity after single immunization with ChAdOx1-VZV were higher than that measured after single immunization with Zostavax in young and aged mice, as shown in the figures on the left and right below, respectively, and were sustained.





Future Development

CanSino, our regional partner in China and Southeast Asia, is planning a Phase 1 clinical trial in China, using GMP material manufactured at its Tianjin, China facility. We plan to conduct a parallel clinical trial using the CanSino-produced material in the UK in order to show regulatory acceptability of the drug product. Phase 2b and Phase 3 clinical trials of zoster prevention, even using a placebo control, require large number of elderly participants, which we aim to accomplish by accessing both the large Chinese population, as well as by using other key global populations. China and Southeast Asia clinical development will be funded by CanSino.

VTP-500: A Vaccine Candidate to Prevent MERS

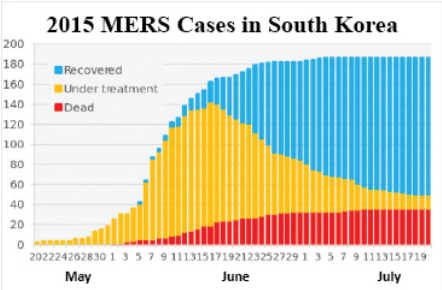
Overview

We are developing VTP-500, our prophylactic vaccine product candidate, to prevent infection and subsequent disease caused by MERS-CoV. VTP-500 is based on the use of one or two doses of ChAdOx1 encoding the spike glycoprotein of MERS-CoV and was developed at the University of Oxford. MERS is a viral respiratory illness that is new to humans, caused by MERS-CoV. MERS-CoV was first detected in humans in 2012 and has infected more than 2,400 people globally, with a 34.4% mortality rate. Preclinical activity in transgenic mice, camels and monkeys, along with positive data from a human Phase 1 safety and immunogenicity clinical trial funded by the UK government, led to further grant awards in 2018 to the University of Oxford, with Janssen as a partner, by the CEPI. To enable the CEPI-Janssen non-profit collaboration, we licensed non-exclusive development rights to the University of Oxford.

The CEPI funding award to the University of Oxford and Janssen is sufficient to conduct a Phase 2 clinical trial and establish a limited stockpile of the vaccine candidate for emergency use in outbreaks. A second Phase 1 clinical trial is being conducted in Saudi Arabia at the King Abdullah International Medical Research Center and is expected to report topline data in the second quarter of 2021. A Phase 1b extension clinical trial to evaluate two doses versus a single dose is open in the UK, but recruitment is on hold at present due to the COVID-19 pandemic. The next step in development towards submission of an application for marketing authorization will be a Phase 2 clinical trial and manufacturing scale up.

As with disease caused by other coronaviruses, MERS varies from asymptomatic infection to a respiratory illness, including fever, cough, and shortness of breath, and in some patients, severe respiratory disease and death. Although human-to-human transmission appears to be rare and cases have been historically limited to the Middle East, the below figure highlights the impact of a single traveler from the Middle East, who caused an outbreak in South Korea involving 186 diagnosed individuals and 36 fatalities, in 2015. The

Asian outbreak lasted from May to July, and 16,752 people were isolated with MERS-like symptoms. This outbreak in South Korea demonstrates the potential of MERS to cause epidemics outside of the Middle East, and ongoing transmission from the camel host to humans continues.



To date, 61 MERS-CoV cases have been reported in 2020. Fifty-seven of these cases were in the Saudi Kingdom, where there were 20 fatalities. The past outbreaks in the human population, along with new MERS cases and the COVID-19 pandemic have highlighted and reinforced the need for a MERS vaccine.

Competition

There is no approved antiviral therapy or prophylactic vaccine for MERS. Randomized clinical controlled trials are difficult to execute due to the sporadic incidence of cases of MERS. Individuals with MERS often receive supportive medical care to help relieve symptoms.

The vaccine design approaches currently under investigation are based on various platforms including DNA, viral-vectors, inactivated, live-attenuated, protein-based and virus-like particles. Six vaccines based on these approaches are in various stages of clinical development — five viral vectored-vaccines and one DNA vaccine. Three, including VTP-500, have completed Phase 1 clinical trials, where each has demonstrated immunogenicity and has generally been well tolerated. Most vaccines in development focus on the MERS-CoV spike protein. In addition to human vaccine development, a MERS vaccine for camels to block transmission to humans is also under development.

MERS vaccines have entered into Phase 1 clinical trials, but no Phase 2 data have been reported. This includes an electroporated DNA vaccine from Inovio and an MVA-based vaccine developed by German academic investigators. Antigen-specific antibody titers following a single immunization of ChAdOx1 compare favorably to multiple doses of MVA or DNA.

Current Development Status

We have designed VTP-500 as a prophylactic MERS vaccine product candidate using the ChAdOx1 vector. The antigen encoded in the vector comprises the full-length spike (S) glycoprotein from MERS-CoV to induce both B and T cell responses. In order to enhance immunogenicity further, the spike antigen is linked to the tissue plasminogen activator leader sequence, a genetic adjuvant that was shown to increase the magnitude of antibodies to the spike protein in mouse studies.

Preclinical Studies

Preclinical studies have been conducted for VTP-500, with resulting data showing that:

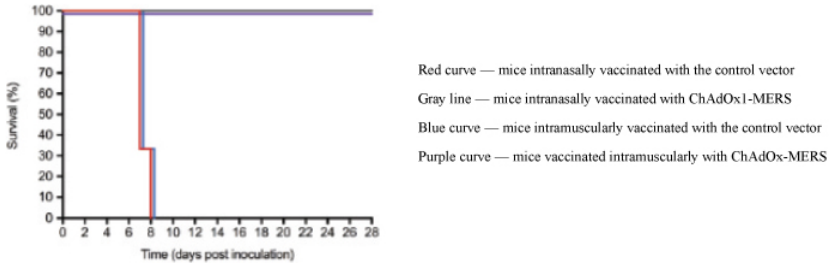
- VTP-500 was well tolerated, immunogenic and biologically active in mice;
- VTP-500 was well tolerated and biologically active in camels; and
- VTP-500 was well tolerated, immunogenic and biologically active in non-human primates.

Activity and Tolerability in Murine Models

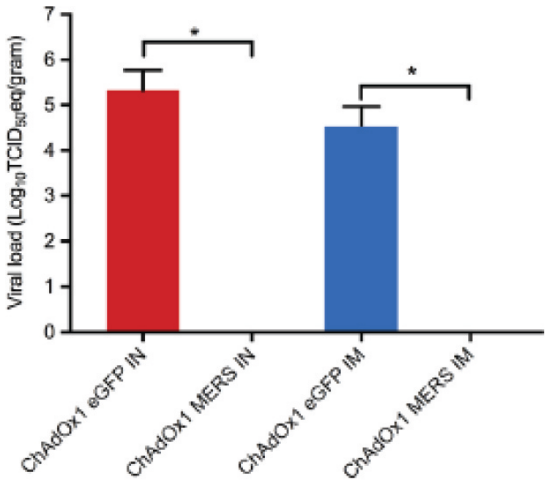
The ChAdOx1-MERS vaccine candidate, which we now refer to as VTP-500, was shown to be immunogenic and well tolerated in mouse studies, eliciting both cellular immune responses and neutralizing antibodies. The vaccine candidate was then studied in transgenic mice, which support MERS-CoV infection

and replication, and was shown to protect against viral replication and lethal disease. Groups of six transgenic mice were vaccinated with 10^8 Infectious Units of control vector or ChAdOx1-MERS via the intranasal or intramuscular route and challenged with MERS-CoV four weeks after vaccination. The length of survival of the mice following administration is shown in top figure below and the effect of the ChAdOx1-MERS vaccine candidate on viral replication is shown in the bottom figure below.

Survival of Vaccinated Transgenic Mice Post-Challenge



Effect of ChAdOx1-MERS on Viral Replication Post-Challenge



Tolerability and Biological Activity in Camels

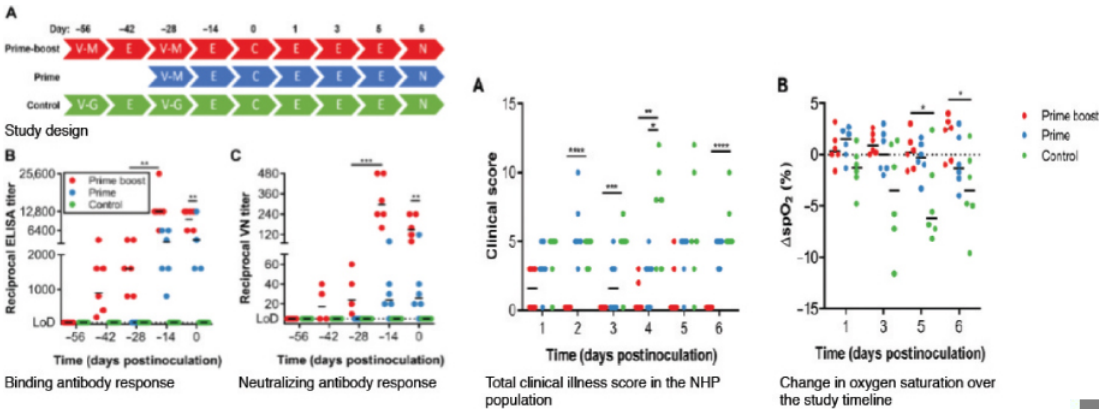
ChAdOx1-MERS was further evaluated in both MERS-CoV seropositive and seronegative camels that were exposed to MERS-CoV through co-housing with naturally infected camels. A single dose of ChAdOx1-MERS given intramuscularly into the thigh muscle was shown to be immunogenic and decreased nasal viral shedding of MERS-CoV in seropositive camels.

Tolerability, Immunogenicity and Activity in Non-Human Primates

In non-human primate studies, a single dose of ChAdOx1-MERS elicited high levels of T cells and antibodies, the latter of which could be boosted by a second dose. Importantly, antibodies induced by ChAdOx1-MERS immunization were able to neutralize a panel of six different MERS-CoV isolates, indicating the candidate's ability to target divergent viral strains.

In the context of MERS-CoV challenge, an improvement in symptoms, lung pathology and oxygenation and decreased viral replication were demonstrated in immunized animals, as shown in the figure below. In addition, no pulmonary immunopathology was found to be associated with ChAdOx1-MERS immunization and subsequent challenge with MERS-CoV. Such immunopathology had previously been seen with a SARS-CoV-1 vaccine candidate and has therefore been a concern with coronavirus vaccines in general.

Virological Effects in Non-Human Primates Following Administration of ChAdOx1-MERS



Clinical Development

ChAdOx1-MERS was evaluated in a Phase 1 clinical trial at the Clinical Centre for Vaccinology and Tropical Medicine at the University of Oxford, which assessed three different doses of a single intramuscular injection of the vaccine candidate. The trial was designed as an open-label, dose escalation trial. Three escalating dose levels of ChAdOx1-MERS administered by intramuscular injection were tested in 24 healthy adult volunteers. Six participants received 1.5×10^9 vp of ChAdOx1-MERSin Group 1, nine participants received 2.5×10^{10}; vp of ChAdOx1-MERS in group two and nine participants received 5×10^{10}; vp of ChAdOx1-MERS in Group 3.

ChAdOx1-MERS was shown to be well tolerated and to elicit high levels of MERS-CoV spike binding antibodies (as shown in Figure A below), neutralization of wild type MERS-CoV in a stringent neutralization assay, especially at the highest dose, as shown in Figure C below, and robust cellular immune responses, as shown in Figure B below. In addition, *in vitro* neutralization activity against varying geographic isolates of MERS-CoV was demonstrated.

Humoral Responses to ChAdOx1-MERS

Figure A: Individual IgG titres at each dose group

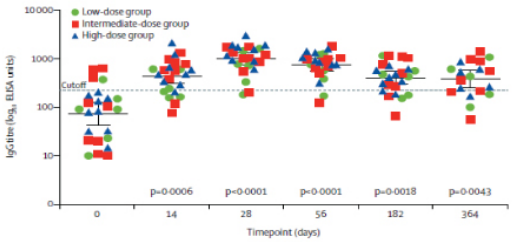


Figure B: IQRs for IgG titres in each group

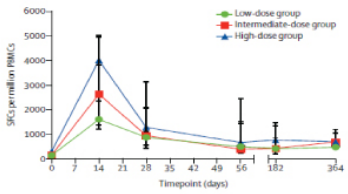
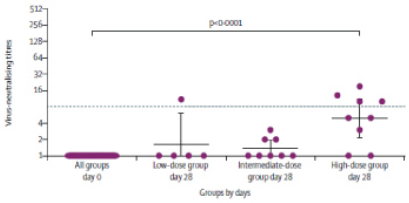


Figure C: Virus-neutralizing titres at day 0 and day 28 for each group



The clinical trial was amended in 2019 to include additional evaluation of boosting doses at 4 and 26 weeks (groups 4 and 5).

The clinical trial will continue with groups four and five to evaluate the boost doses when the COVID-19 epidemic allows. Discussions of the Phase 2 clinical trial with CEPI are ongoing but are currently limited due to CEPI's primary focus on COVID-19 vaccine candidate production and roll out.

A second Phase 1 clinical trial sponsored by the University of Oxford is being conducted in Saudi Arabia at a single site that mirrors the University of Oxford-based trial in doses and patient number. As of April 21, 2021, no serious adverse events have been publicly reported. Data is expected in the second quarter of 2021.

Future Development

The University of Oxford has received grant funding from the CEPI of up to $63 million to work with Janssen Vaccines to manufacture a stockpile of up to 100,000 doses of VTP-500 and to conduct a Phase 2 clinical trial. The University of Oxford and CEPI have development rights following the completion of the Phase 2 clinical trial, limited rights to sell licensed products to public sector agencies and non-commercial rights to create a stockpile, however, we retain all commercial rights. We are currently exploring options for additional collaborations to progress the development of VTP-500.

Prophylactic Vaccine Candidates for the Prevention of COVID-19 Infection

Overview

SARS-CoV-2 is a coronavirus, which is an enveloped virus with a positive-sense single-stranded RNA genome. There are currently seven coronaviruses known to infect humans, with four responsible for mild-to-moderate upper respiratory tract infections. In vulnerable groups, such as infants and older age groups, infection can lead to more severe lower respiratory tract infections. To date, no vaccines have been approved for preventing any of the seven identified coronavirus infections.

SARS-CoV-2 is structurally similar to two other life-threatening coronaviruses: SARS-CoV-1 and MERS-CoV. SARS-CoV-2 impairs respiratory function and spreads primarily from person to person via respiratory droplets among close contacts. Symptoms include fever, cough, shortness of breath and fatigue, with symptoms generally appearing two to 12 days after exposure. Severe complications include pneumonia, multi-organ failure, and death.

SARS-CoV-2 has caused a worldwide pandemic of respiratory illness, commonly referred to as COVID-19. As of April 26, 2021, more than 145 million confirmed cases of COVID-19 have been reported worldwide, with more than 31 million cases and over 564,000 deaths from COVID-19 in the United States. This rate of mortality has COVID-19 on track to become one of the deadliest pandemics of the century.

COVID-19 has caused a global public health and economic crisis. Without a sustained level of immunity in the majority of the population, there will always be a risk that new outbreaks of the disease will emerge and continue to be responsible for significant morbidity and mortality. Current estimates suggest only 2-3% of the population could currently be immune to COVID-19. One fast and safe way to introduce widespread COVID-19 immunity in the population includes the use of effective prophylactic vaccination to induce a durable immune response. Several countries, including the US, UK, Japan and the EU, have already started pre-ordering over two billion doses of coronavirus vaccines in order to boost immunity rates and lower infection rates and overcome the major disruption caused thus far.

In partnership with the University of Oxford's Jenner Institute, we co-invented and jointly developed our first-generation COVID-19 vaccine candidate VTP-900, now AZD1222, which we assigned to OUI to facilitate the licensing of those rights by OUI to AstraZeneca. AZD1222, which is currently in Phase 3 clinical trials, uses our first-generation vector, ChAdOx1, and encodes the SARS-CoV-2 spike protein. As of April 26, 2021, AstraZeneca has announced that AZD1222 has been granted a conditional marketing authorization or emergency use authorization in more than 70 countries, including the United Kingdom, India and Brazil, and the Emergency Use Listing granted by the WHO in February 2021 will expand access to AZD1222 in up to 142 countries through the WHO's COVAX initiative.

There are currently 10 vaccines in Phase 3 development utilizing a variety of different mechanisms to induce an immune response. We believe AZD1222 has several advantages over its competitors that could result in broader uptake, including manufacturing speed and capacity, increased T cell response and an ability to

induce an immune response in older age groups and well-known safety from prior use of ChAdOx1 vector in over 20,000 individuals. However, widespread adoption of AZD1222 could be limited due to concerns about the classification of AZD1222 as a genetically modified organism and the initial Phase 3 clinical efficacy results announced by AstraZeneca in November 2020, in which efficacy rates were lower than those reported for vaccines developed using messenger ribonucleic acid technology. AstraZeneca has publicly announced that they expect their vaccine capacity in 2021 to be almost three billion doses.

In March and April 2021, several countries announced that they were either temporarily suspending the use of a particular batch of AZD1222 or the use of AZD1222 altogether following reports of thromboembolic events in people at varying times following vaccination. On April 7, 2021, the EMA and the MHRA issued updates confirming that the overall benefit-risk profile of AZD1222 remains positive, but requesting that unusual blood clots with low blood platelets be listed as very rare side effects of AZD1222. Several countries have announced their intentions to resume use of AZD1222, although some countries have limited its use in certain age groups. The EMA, MHRA, and WHO, along with individual EU Member States, will continue to assess available safety data as AZD1222 continues to be administered, and these recommendations may change.

In addition, on March 22, 2021, AstraZeneca announced high-level results from an interim analysis of the Phase 3 trial of AZD1222 in the United States using a cut-off date of February 17, 2021, which indicated 76% efficacy at preventing symptomatic COVID-19. However, published studies have indicated that AZD1222 has a lower efficacy against certain variants of COVID-19, including the B.1.351 variant of COVID-19, which was first observed predominantly in South Africa, and the B117 variant, which was first observed in the United Kingdom in late 2020, but have since spread to other geographies. As a result, the use of the AZD1222 vaccine has been stopped in South Africa.

We are eligible to receive a share of royalties and other revenue received by OUI pursuant to its agreement with AstraZeneca for AZD1222.

Our Collaboration and License Agreements

2016 License Agreement with OUI

In March 2016, we entered into a license agreement, or the 2016 OUI License Agreement (as amended in January 2019 and April 2020), with OUI (previously known as Isis Innovation Limited) for the development and commercialization of vaccines for influenza, cancer (including therapeutic and prophylactic vaccines and including cancer associated with viral infections), varicella zoster and MERS. We refer to these areas together as the “Field.”

Pursuant to the 2016 OUI License Agreement, OUI granted us a worldwide license under certain patent rights of OUI, including rights related to the use of ChAdOx1, ChAdOx2, adenoviral and MVA promoters and influenza product candidates, among other rights, or the Licensed Technology, to develop, manufacture, use and commercialize licensed products. The rights are exclusive in certain fields and non-exclusive in others. Our license to certain patents and applications relating to certain adenoviral vectors encoding a pathogen or tumor antigen and certain pox virus expression systems is exclusive within the Field, non-exclusive in all other fields, and excludes veterinary applications. Our license to certain patents and applications relating to certain compositions and methods is exclusive in all fields, and excludes veterinary applications. Our license for the use of the ChAdOx1 vector under certain patents and applications relating to certain simian adenovirus and hybrid adenoviral vectors is exclusive in the Field, non-exclusive in all other fields, and excludes veterinary applications (apart from MERS) and certain specified indications. Furthermore, our license with respect to the use of the ChAdOx2 vector under certain patents and applications relating to certain adenoviral vectors is exclusive in certain vaccine-related fields, non-exclusive in all other fields, and excludes all veterinary applications (apart from MERS) and certain other specified indications. In addition, we also obtained a license to certain clinical data generated from OUI projects and related confidential know-how to develop, manufacture, use and commercialize licensed products, and such license is exclusive in the Field, other than with respect to know-how related to ChAdOx2, which is licensed non-exclusively. The Licensed Technology is sublicensable subject to obtaining OUI’s prior written consent (such consent not to be unreasonably withheld, conditioned or delayed) and inclusion in any sublicense agreement of restrictions on further sub-licensing, among other terms and conditions.

Pursuant to the 2016 OUI License Agreement, all intellectual property rights resulting from improvements made prior to the second anniversary of the agreement (i) to the licensed patent rights by the inventor belong to OUI, and (ii) to the Licensed Technology by us belong to us. OUI retains the right for the University of Oxford and any person who works or has worked on the Licensed Technology to use the Licensed Technology, as well as any improvements that we made to that technology during the first two years of the license, for education, research and limited clinical patient care. Furthermore, the University of Oxford may publish the Licensed Technology and those improvements without our consent provided that they have first given us advance notice and delayed the publication if necessary for us to obtain patent protection. In addition, OUI retains the right to grant academic and research licenses to any third parties under the Licensed Technology to encourage basic research for education and limited clinical patient care but may not grant licenses for commercialization of the Licensed Technology that is exclusively licensed to us, nor for development or marketing or products or services that are produced or supplied using the Licensed Technology.

Upon execution of the 2016 OUI License Agreement, we paid OUI a one-time upfront fee of £100,000. We are obligated to pay OUI a low single-digit royalty (that varies based on the indication) on net sales of any product or process produced by or using the Licensed Technology. If we sublicense the Licensed Technology, we will be required to pay OUI a mid-single-digit royalty on any royalties paid to us by the sublicensee and a high single-digit royalty on non-royalty sublicensing income (excluding milestone payment income overlapping with milestone payments paid to OUI and income used to fund research and development). As of April 26, 2021, we had paid OUI £18,750 in royalties under the 2016 OUI License Agreement. In the event that the royalties (excluding the royalty on sublicensing income) owed to OUI do not amount to a specified minimum ranging from the mid five figures to low six figures based on the license year in each year following March 2020, we must also pay OUI the difference between the royalty paid and the applicable minimum sum payable. In addition, we are required to pay OUI milestone payments of up to an aggregate of £14.8 million upon the achievement of specified development, regulatory and commercial milestones.

Unless earlier terminated, the 2016 OUI License Agreement will continue until the later of the expiration of the last claim of a licensed patent or 20 years from the date of the agreement. The last patent under the 2016 OUI License Agreement, if granted, is expected to expire in November 2039, without giving effect to any potential patent term extensions or patent term adjustments. Either party may terminate for the uncured breach of the other party. We may terminate the agreement at any time upon three months' prior written notice. OUI may terminate the agreement upon us filing for bankruptcy or in the event of liquidation or receivership proceedings, or upon 30 days' prior written notice upon the occurrence of certain other events. Upon termination of the 2016 OUI License Agreement, we are required to, among other things, grant to OUI an irrevocable, transferable, non-exclusive license to develop, make and use any improvements to the Licensed Technology which we made prior to the second anniversary of the date of the agreement.

2017 License Agreement with OUI

In September 2017, we entered into a further license agreement with OUI, or the 2017 OUI License Agreement, for the development and commercialization of vaccines for HBV and HPV.

Pursuant to the 2017 OUI License Agreement, we acquired a worldwide license under certain additional patent rights of OUI, including rights related to the use of HBV vaccine product candidates, HPV vaccine product candidates and shark invariant chain polypeptides, among other rights, or the 2017 Licensed Technology, to develop, manufacture, use and commercialize licensed products. The rights are exclusive in some fields and non-exclusive in others. Our license to certain patents and applications relating to certain HBV and HPV vaccines is exclusive in all fields. Our license to certain patents and applications relating to molecular adjuvants is non-exclusive in the field of HBV. Our license to certain patents and applications relating to certain simian and hybrid adenoviral vectors is exclusive in the fields of HPV associated diseases and HBV. Further, our license to certain patents and applications relating to certain other vectors is exclusive in the field of HBV.

Pursuant to the 2017 OUI License Agreement, we also obtained a non-exclusive license under related know-how to develop, manufacture, use and commercialize licensed products in all fields. The 2017

Licensed Technology is sublicensable subject to obtaining OUI's prior written consent (such consent not to be unreasonably withheld, conditioned or delayed) and inclusion in any sublicense agreement of restrictions on further sub-licensing, among other terms.

Pursuant to the 2017 OUI License Agreement, all intellectual property rights resulting from improvements made prior to the second anniversary of the agreement (i) to the licensed patent rights by the inventor belong to OUI, and (ii) to the 2017 Licensed Technology by us belong to us. OUI retains the right for the University of Oxford and any person who works or has worked on the 2017 Licensed Technology to use the 2017 Licensed Technology, as well as any improvements that we made to that technology during the first two years of the license, for education, research and limited clinical patient care. Furthermore, the University of Oxford may publish the 2017 Licensed Technology and those improvements without our consent provided that they have first given us advance notice and delayed the publication if necessary for us to obtain patent protection. In addition, OUI retains the right to grant academic and research licenses to any third parties under the 2017 Licensed Technology to encourage basic research for education and limited clinical patient care but may not grant licenses for commercialization of the 2017 Licensed Technology that is exclusively licensed to us, nor for development or marketing or products or services that are produced or supplied using the 2017 Licensed Technology.

Upon execution of the 2017 OUI License Agreement, we paid OUI a one-time upfront fee of £50,000. We are obligated to pay OUI a low single-digit royalty (that varies based on the indication) on net sales made by us or our sublicensees of any product or process produced by or using the 2017 Licensed Technology. In the event that such sales royalties owed to OUI do not amount to a specified minimum ranging from the mid five figures to low six figures based on the license year in each year following September 2020, we must also pay OUI the difference between the royalty paid and the applicable minimum sum payable. If we sublicense the 2017 Licensed Technology, we will be required to pay OUI a mid-single-digit royalty on non-royalty sublicensing income (excluding milestone payment income overlapping with milestone payments paid to OUI and income used to fund research and development). In addition, we are required to pay OUI milestone payments of up to an aggregate of £9.85 million upon the achievement of specified development, regulatory and commercial milestones.

Unless earlier terminated, the 2017 OUI License Agreement will continue until the later of the expiration of the last claim of a licensed patent or 20 years from the date of the agreement. The last patent under the 2017 OUI License Agreement, if granted, is expected to expire in August 2038, without giving effect to any potential patent term extensions or patent term adjustments. Either party may terminate for the uncured breach of the other party. We may terminate the agreement at any time upon three months' prior written notice. OUI may terminate the agreement upon us filing for bankruptcy or in the event of liquidation or receivership proceedings, or upon 30 days' prior written notice upon the occurrence of certain other events. Upon termination of the 2017 OUI License Agreement, we are required to, among other things, grant to OUI an irrevocable, transferable, non-exclusive license to develop, make and use any improvements to the Licensed Technology which we made prior to the second anniversary of the date of the agreement.

2019 License Agreement with OUI

In January 2019, we entered into an additional license agreement with OUI, or the 2019 OUI License Agreement. Pursuant to the 2019 OUI License Agreement, OUI granted us a worldwide, license under an additional patent application of OUI related to the rapid production of recombinant adenovirus constructs, to be used as personalized cancer vaccines or emerging pathogen vaccines, and related confidential know-how, or the 2019 Licensed Technology, to develop, manufacture, use and commercialize licensed products. The license is exclusive in the field of personalized cancer vaccines for therapeutic use in humans, non-exclusive in in all other fields and excludes veterinary applications (apart from MERS) and certain other specified indications. The license is sublicensable subject to obtaining OUI's prior written consent (such consent not to be unreasonably withheld, conditioned or delayed) and inclusion in any sublicense agreement of restrictions on further sub-licensing, among other terms.

Pursuant to the 2019 OUI License Agreement, all intellectual property rights resulting from improvements made prior to the second anniversary of the agreement (i) to the licensed patent rights by the inventor belong to OUI, and (ii) to the 2019 Licensed Technology by us belong to us. OUI retains the right for the University of Oxford and any person who works or has worked on the Licensed Technology to use the 2019

Licensed Technology, as well as any improvements that we make to that technology during the first two years of the license, for education, research and limited clinical patient care. Furthermore, the University of Oxford may publish the 2019 Licensed Technology and those improvements without our consent provided that they have first given us advance notice and delayed the publication if necessary for us to obtain patent protection. In addition, OUI retains the right to grant academic and research licenses to any third parties under the 2019 Licensed Technology to encourage basic research for education and limited clinical patient care but may not grant licenses for commercialization of the 2019 Licensed Technology that is exclusively licensed to us, nor for development or marketing or products or services that are produced or supplied using the 2019 Licensed Technology.

Upon execution of the 2019 OUI License Agreement, we paid OUI a nominal upfront fee. We are required to pay OUI a variable low single-digit royalty on net sales of products we develop using the 2019 Licensed Technology, which varies depending on whether the sales are within or outside of the field of personalized cancer vaccines for therapeutic use in humans. While we are continuing to develop the 2019 Licensed Technology, no product candidate that we are currently developing incorporates this technology. If we sublicense the 2019 Licensed Technology, we will be required to pay OUI a 15% or 7% royalty (for licensed products within the field and outside the field respectively) on any royalties paid to us by the sublicensee and 15% or 7.5% of non-royalty sublicensing income (for sublicenses granted before or after three years after the date of the agreement respectively). In the event that the aforementioned royalties (excluding the royalty on non-royalty sublicensing income) owed to OUI do not amount to a specified minimum ranging from the mid five figures to low six figures based on the license year in each year following January 2022, we must also pay to OUI the difference between the royalty paid and the applicable minimum sum payable. In addition, if we develop at least two products in the Field, we are required to pay OUI milestone payments of up to an aggregate of £1.9 million upon the achievement of specified development, regulatory and commercial milestones.

Subject to earlier termination, the 2019 OUI License Agreement will continue until the later of the expiration of the last claim of a licensed patent or 20 years from the date of the agreement. The last patent under the 2019 OUI License Agreement, if granted, is expected to expire in August 2039, without giving effect to any potential patent term extensions or patent term adjustments. Either party may terminate for the uncured breach of the other party. At any time after the third anniversary of the agreement, we may terminate the agreement at any time upon three months' prior written notice. OUI may terminate the agreement upon us filing for bankruptcy or in the event of liquidation or receivership proceedings, or upon 30 days' prior written notice upon the occurrence of certain other events. Upon termination of the 2019 OUI License Agreement, we are required to, among other things, grant to OUI an irrevocable, transferable, non-exclusive license to develop, make and use any improvements (to the technology embodied by the relevant licensed patent and know-how) which we made prior to the second anniversary of the date of the agreement.

2018 License Agreement with OUI and Oxford

In September 2018, we entered into a license agreement, or the 2018 License Agreement, with The Chancellor, Masters and Scholars of the University of Oxford, or Oxford, and OUI. Pursuant to the 2016 OUI License Agreement, OUI had granted us certain exclusive rights related to the Licensed Technology, as defined in the 2016 OUI License Agreement, in the field of diagnosis, prevention and treatment of MERS. The 2018 License Agreement enables Oxford to grant a further sublicense to CEPI in the field of MERS, or the Field, and to enable Oxford to conduct related activities.

Pursuant to the 2018 License Agreement, we agreed to grant to Oxford a fully-paid-up, worldwide, non-exclusive license under the Licensed Technology, as defined in the 2016 OUI License Agreement, and developments and improvements to such technology controlled by us during the term of the 2016 OUI License Agreement, or the MERS Technology, in the Field solely for the purpose of enabling Oxford to develop any product or process which uses or is within the scope of the MERS Technology, or Licensed Product. This license includes the right to generate investigational stockpiles, but excludes any commercial use or sale of Licensed Products and is sublicensable by Oxford solely to its collaborators under the framework agreement entered into on or about the same date as the 2018 License Agreement between Oxford, CEPI and Janssen Vaccines & Prevention B.V. Furthermore, we agreed that the rights retained by

OUI under the 2016 OUI License Agreement include the right to allow Oxford to use the MERS Technology to carry out research activities (including in collaboration with other parties) up to and including the performance of Phase 1/2 clinical trials and related activities, and the generation of Licensed Product for research use (but excluding any commercial use or sale of such Licensed Product).

In addition, we agreed to grant to Oxford a fully-paid-up, worldwide, non-exclusive license under the MERS Technology in the Field solely for the purpose of enabling Oxford to grant a sublicense to CEPI in order to address (i) circumstances in which CEPI determines there to be a heightened need for the Licensed Product and that steps should be taken to prepare for such need; and/or (ii) material increases in the number of cases of people infected with MERS in particular geographical areas that are declared a public health emergency. Oxford is permitted to grant CEPI a fully-paid-up, worldwide, non-exclusive sublicense under the MERS Technology to develop, manufacture and commercialize the Licensed Product in the Field anywhere in the world, provided that all end users (i) are in a relevant affected territory, or (ii) are healthcare workers going to an affected territory under the direction of one or more governments or recognized not-for-profit organizations, or Public Sector Agencies, in order to help address a public healthcare issue. However, the sublicense must exclude the right for CEPI to (i) apply for or obtain any marketing approval or conduct any post-marketing activities, (ii) sell Licensed Product other than to Public Sector Agencies on a “cost plus” basis, where “cost plus” means the cost of manufacturing and supply plus a margin of 10% percent on such cost, or (iii) further sublicense its rights other than to its affiliates and/or to Public Sector Agencies and their appointees for the sole purpose of accelerating epidemic preparedness for public health applications.

Pursuant to the 2018 License Agreement, OUI agreed that, notwithstanding our payment obligations under the 2016 OUI License Agreement, we are not obligated to make any payment to OUI in connection with the 2018 License Agreement.

Unless earlier terminated, the 2018 License Agreement shall remain in full force until the expiry or termination of the 2016 OUI License Agreement. We may terminate the 2018 License Agreement immediately upon notice to Oxford in the event of Oxford’s uncured material breach. In the event of termination of the 2018 License Agreement, provided that CEPI is not in breach of the terms of its sublicense, we shall at CEPI’s request grant it a sublicense under the MERS Technology in the Field solely of the scope outlined above and on materially the same terms, to the extent that we are able to do so.

OUI License Agreement Amendment

In April 2020, we entered into an amendment, assignment and revenue share agreement, or the OUI License Agreement Amendment, with OUI to amend the 2016 OUI License Agreement. Pursuant to the 2016 OUI License Agreement and among other rights and obligations, OUI granted to us a non-exclusive license to certain patent applications relating to its ChAdOx1 and ChAdOx2 vaccine vectors and the adenovirus long promoter for use in certain fields, or the Field, including SARS-CoV2, which is the virus known to cause COVID-19. The OUI License Agreement Amendment was entered into to enable a single exclusive license agreement for a COVID-19 vaccine co-developed by us and the University of Oxford’s Jenner Institute to be negotiated with a suitable pharmaceutical partner.

Under the OUI License Agreement Amendment, we agreed to exclude SARS-CoV2 from the Field and to cease use of the ChAdOx1 vector, ChAdOx2 vector and the adenovirus long promoter in SARS-CoV2. In addition, we assigned to OUI our rights to a jointly owned U.K. patent application relating to the composition of matter related to a ChAdOx1 vector-based or a ChAdOx2 vector-based vaccine to prevent COVID-19, or the Assigned Patent Application, as well as certain other intellectual property rights related to any ChAdOx1 vector-based or ChAdOx2 vector-based COVID-19 vaccine covered by the Assigned Patent Application and its manufacture, including rights to the variations, improvements and modifications thereof, whether existing at or arising after the date of the OUI License Agreement Amendment. In consideration of the rights granted by us, OUI agreed to pay us approximately 24% of payments, including royalties and milestones, received by OUI in connection with the commercialization of any ChAdOx1 vector-based or ChAdOx2 vector-based vaccine in the field of SARS-CoV2 covered by or disclosed in the assigned patent application. The last patent under the OUI License Agreement Amendment, which is owned by OUI, if granted, is expected to expire in March 2041, without giving effect to any potential patent term extensions or patent term adjustments.

Impact of OUI's Agreement with AstraZeneca

OUI has entered into an exclusive research collaboration and worldwide license agreement, or the AstraZeneca License Agreement, with AstraZeneca UK Limited, or AstraZeneca. The following description of the impact of AstraZeneca License Agreement with respect to our rights under the OUI License Agreement Amendment is based solely on an extract of the AstraZeneca License Agreement provided by the parties to that agreement. We are not a party to the AstraZeneca License Agreement and do not have access to a copy of that agreement to verify the accuracy of such extract. In addition, no party to the AstraZeneca License Agreement has confirmed that there are no material terms in that agreement that are not included in the description below that could adversely impact the economic and other terms of the AstraZeneca License Agreement described below. Moreover, there can be no assurance that the AstraZeneca License Agreement is an enforceable agreement, that the parties thereto will comply with their obligations under that agreement (including any obligations of AstraZeneca to make milestone or royalty payments to OUI), or that the terms of that agreement (including royalty rates and other economic terms) will not be modified by the parties in the future. Accordingly, these and other factors could cause amounts received by OUI pursuant to the AstraZeneca License Agreement to differ from those described below, and any such differences could be material.

The AstraZeneca License Agreement allows AstraZeneca to pursue, among other things, the commercialization of a vaccine product candidate for the prevention of COVID-19 containing one or more of the ChAdOx1 or ChAdOx2 vectors or their derivatives. AstraZeneca has announced that as of April 26, 2021, the Oxford/Vaccitech COVID-19 vaccine developed using those vectors, now known as AZD1222, has been granted a conditional marketing authorization or emergency use authorization in more than 70 countries, including the United Kingdom, India and Brazil, and the Emergency Use Listing granted by the WHO in February 2021 will expand access to AZD1222 in up to 142 countries through the WHO's COVAX initiative.

Pursuant to the OUI License Agreement Amendment, we received $2.4 million in July 2020 as our share of the upfront fee paid by AstraZeneca. We are also entitled to receive a share of certain regulatory and sales milestones and royalties on net sales of AZD1222, as well as a portion of any sublicensing income payable by AstraZeneca. Our share of the royalties on net sales of AZD1222 is approximately 1.4%.

Our understanding is that we will not be entitled to receive any royalties or payments from sub-licensees from the commercialization of AZD1222 until after the pandemic period, which period will end on July 1, 2021 (or such later date when AstraZeneca, in good faith, determines that the COVID-19 pandemic is over). However, our understanding is that we will be entitled to receive our share of any regulatory milestone payments during the pandemic period.

The royalty term for net sales of AZD1222 shall commence once the pandemic period has ended and continue, on a country-by-country basis, until the later of (i) the date upon which the vaccine is no longer subject to patent protection in such country, (ii) expiration of regulatory exclusivity for the vaccine in such country or (iii) ten years from the first commercial sale of the vaccine in such country.

Master Collaboration Agreement with CanSino Biologics Inc.

In September 2018, we entered into a master collaboration agreement, or the CanSino Agreement, with CanSino Biologics Inc., or CanSino. The CanSino Agreement provides a framework under which we can agree with CanSino (in separate project agreements) the details of one or more collaborative projects for the development and commercialization of certain products, and carry out those projects under the terms of the CanSino Agreement and the respective project agreements in our respective territories. Under the CanSino Agreement, the CanSino Territory includes China (including Taiwan, Hong Kong and Macao), Malaysia, Thailand, Myanmar, Indonesia, Laos, Vietnam, and the Philippines, while our territory, or the Vaccitech Territory, includes the rest of the world.

Under the CanSino Agreement, each party grants to the other party a royalty-free, non-exclusive license to use its relevant background intellectual property rights, or Background IPR, solely to perform the project in the other party's territory, together with a right to sub-license to any agreed-upon subcontractor performing services for and on behalf of the other party. For any collaborative project, each party is obliged to provide to the other party all applicable materials specified in that project agreement and to grant to the other party

a non-exclusive license to use such materials solely for the purpose of that project. In addition, each party grants to the other party a non-exclusive license to use its Background IPR and an exclusive license to any new intellectual property created in the course of activities performed by such party in relation to a project or otherwise under the CanSino Agreement, or New IPR, to the extent necessary to commercialize and exploit collaboration products in the other party's territory. Such commercialization licenses are sublicensable (without further right to sub-license) and subject to the payment of royalties and milestones as set out in the relevant project agreement. CanSino is permitted to commercialize such products only in the CanSino Territory and we are entitled to commercialize such products in the Vaccitech Territory. Both parties are under obligations to use commercially reasonable efforts to maximize sales of products that are the subject of collaboration.

During the term of any project agreement entered into as contemplated by the CanSino Agreement and for three months thereafter, neither party is permitted to enter into discussions, collaborations or similar arrangements with any third parties regarding matters or products which are materially the same as set forth in the project agreement or related to the project that is the subject of the project agreement, unless such party reasonably believes such an arrangement with such third party would not be detrimental to the relevant project or project arrangement. Furthermore, unless agreed otherwise in a project agreement, for any product which we collaboratively develop, CanSino has the exclusive and sub-licensable right to manufacture and supply all master virus seed and clinical adenoviral material necessary for the development and sale of any products by either party in their respective territories. CanSino will supply any such material to be used by us for the manufacture of products to be sold by us (or our sub-licensees) at the price of 15% to 30% over cost of goods sold, or COGS. COGS is equal to the reasonable COGS for equivalent material manufactured by CanSino or its subcontractors for sale by CanSino or its sub-licensees.

Unless agreed otherwise in a project agreement: (i) any improvements of a party's Background IPR will be owned by the party with rights to such Background IPR, and will be treated as Background IPR; and (ii) New IPR will be owned by one or both parties in accordance with the respective inventive contribution of each party as determined by the principles of United Kingdom patent law. Where any New IPR is wholly owned by a party, that party is obliged to endeavor to file patent applications to the extent required to provide reasonable protection for the relevant product. Where any New IPR is jointly owned by the parties, we are obliged to endeavor to file patent applications to the extent required to provide reasonable protection for the relevant product, in consultation with CanSino, with costs shared between the parties. Before we abandon a jointly-owned patent claiming any New IPR, we must give CanSino at least three months' notice, and CanSino can request assignment of our rights on terms to be agreed. We are obliged to discuss with CanSino the enforcement of jointly owned patent rights but are entitled to enforce such patent rights outside the CanSino Territory.

Unless earlier terminated, the CanSino Agreement will continue for ten years from the date of the agreement. Either party can terminate by written notice for the uncured material breach or persistent breaches of the other party. Either party may terminate by written notice if the other party cannot pay its debts, takes any step in connection with entering administration, liquidation, or other arrangement with creditors (other than a solvent arrangement), or suspends all or part of its business; or suffers a force majeure event that continues for 60 days. Furthermore, a project agreement entered into pursuant to the CanSino Agreement shall automatically terminate if the 2016 OUI License Agreement or the 2017 OUI License Agreement terminates or expires, Background IPR licensed from OUI is necessary under such project agreement and the parties are unable to agree to a modification of the project or relevant collaboration product that would not require use of such Background IPR.

2018 ChAdOx Zoster Project Agreement (under the CanSino Agreement)

Pursuant to the CanSino Agreement, we entered into a project agreement in September 2018 with CanSino, or the ChAdOx Zoster Project Agreement, with the goal of developing a Zoster vaccine to become a competitor to Shingrix.

Under the ChAdOx Zoster Project Agreement, we are responsible for funding and undertaking various development tasks, including (subject to availability of funding) conducting a Phase 1 clinical trial in the UK. CanSino is responsible for funding and undertaking various development tasks, including conducting a Phase 1 clinical trial in China. The parties' rights and responsibilities in relation to Phase 2 and 3 clinical

trials are pending, subject to further negotiation. In addition, the parties agreed to use all reasonable efforts to enter into a separate supply agreement pursuant to which CanSino will manufacture all product necessary for clinical trials and commercialization under the project agreement. If the parties cannot agree upon such supply agreement, they must follow a specified dispute resolution process set forth in the CanSino Agreement. For all products manufactured by CanSino under a supply agreement that we wish to sell in the Vaccitech Territory, we have agreed to pay the costs incurred by CanSino to manufacture the products plus 20% of such costs.

We received an upfront payment of £50,000 under this project agreement. We will also receive milestone payments of up to an aggregate of £1.125 million based on successful conduct of clinical trials and commercialization of the product. We will receive mid-single-digit royalties on the net sales of the product by or on behalf of CanSino or its sub-licensees in the CanSino Territory. If CanSino sublicense their rights in the product to a non-affiliate third party, we are also entitled to receive a mid-teens royalty on the transaction value (excluding royalties). We must pay to CanSino mid-single-digit royalties on the net sales of the product by or on behalf of us or our sub-licensees in the Vaccitech Territory. A party will benefit from a reduction of its royalties (in the low single digits) where it requires a license from a third party to sell the product in its territory.

Unless earlier terminated, the term of the ChAdOx Zoster Project Agreement will expire upon the later of expiry of all registered patents in the New IP developed under the project, or ten years from first commercial sale of the product. The last patent under the ChAdOx Zoster Project Agreement, if granted, is expected to expire in November 2039, without giving effect to any potential patent term extensions or patent term adjustments. A party may terminate the ChAdOx Zoster Project Agreement by written notice if the other party unreasonably delays the performance of its obligations. Upon the expiration of the term, we agreed to grant CanSino a royalty-free, perpetual, sub-licensable, non-exclusive license to use our Background IPR and our New IPR used to develop, incorporated in, or referenced in any products that are the subject of the project agreement to the extent necessary for CanSino to undertake research, develop, manufacture and commercialize such products in the CanSino Territory. Pursuant to the CanSino Agreement , upon the expiration or earlier termination of the project agreement, except for termination by CanSino for our breach, CanSino agreed to grant us a royalty-free, perpetual, sub-licensable, non-exclusive license to use their Background IPR and New IPR used to develop, incorporated in, or referenced in any products that are the subject of the project agreement to the extent necessary for us to undertake research, develop, manufacture and commercialize such products in the Vaccitech Territory. Unless we terminate the project agreement early for CanSino's breach, upon early termination after completion of a Phase 1 trial, we will continue to pay CanSino a low single-digit royalty on net sales of the product by us or our sub-licensees in the Vaccitech Territory, for the remainder of the Term. If such early termination is after completion of a Phase 2 trial, the royalty we must pay rises to mid-single-digit.

Clinical Trial and Option Agreement with Cancer Research UK

In December 2019, Vaccitech Oncology Limited, or VOLT, entered into a clinical trial and option agreement, or the Clinical Trial Agreement, with CRUK and CRUK's subsidiary, Cancer Research Technology Limited, or CRT, relating to the conduct of a Phase 1/2a clinical trial of VOLT's VTP-600 immunotherapy product in patients with non-small cell lung cancer, or the Clinical Trial. The trial is anticipated to begin in the second quarter of 2021 across multiple clinical sites in the UK.

VOLT is our oncology focused strategic collaboration with the Ludwig Institute for Cancer Research, an international non-profit organization that conducts innovative cancer research and is looking to enable the clinical development of new treatments that induce and harness CD8+ T cells of the immune system to fight cancer. VOLT has a license to our proprietary CD8+ T cell induction platform and research by Benoit Van den Eynde's group at the Ludwig Oxford Branch.

Pursuant to the Clinical Trial Agreement, CRUK is responsible for, among other things, designing, preparing, carrying out and sponsoring the Clinical Trial, at its cost, and VOLT has granted to CRUK a license under its intellectual property to enable CRUK to perform such activities. VOLT is responsible for supplying agreed quantities of its VTP-600 immunotherapy product. VOLT retains the right to continue the development of the product during the Clinical Trial, provided that the parties have first agreed appropriate terms for sharing of safety data. CRUK owns all results, including all intellectual property therein,

generated in the performance of the Clinical Trial. Upon the completion of the Clinical Trial, VOLT has the option to obtain a license to use such results, or the VTP-600 License. The terms of the VTP-600 License have been pre-agreed and are set out in the Clinical Trial Agreement.

If VOLT exercises the option to take the VTP-600 License, CRT agrees to grant VOLT an exclusive license under the results of the Clinical Trial that exclusively relate to the VTP-600 immunotherapy product, or the Exclusive Results, and a non-exclusive license under any results that are not Exclusive Results, in each case, to develop and commercialize any product which makes use of the results of the Clinical Trial in an application for regulatory authorization, contains the relevant active ingredients, or is covered by the patent application PCT/EP2019/070555, or the Product. The rights under the VTP-600 License are sublicensable (except to a tobacco company). The exclusive rights granted under the VTP-600 License are subject to the right of certain third-party contributors associated with the Clinical Trial, CRUK and scientists funded or employed by CRUK to use the Exclusive Results for non-commercial scientific or clinical research purposes and to publish the Exclusive Results and the results of non-commercial research performed using the Exclusive Results (subject to the publication process set out in the Clinical Trial Agreement). Upon exercise of the option, VOLT is required to pay a one-time upfront fee of an amount in pounds Sterling in the high six-digits. VOLT is also obligated to make future milestone payments upon the achievement of development, regulatory and commercial milestones, with an aggregate total value of £40,750,000. VOLT is required to pay to CRT a low single-digit royalty on net sales of Products sold by VOLT or its sublicensees. If VOLT sublicenses the right to sell Products, VOLT will also be required to pay to CRT a royalty of between 5% and 20% on non-royalty amounts due to VOLT from a sublicensee, with the precise rate depending on the stage in development at which such sublicense was granted. VOLT is obligated to use commercially reasonable efforts to meet certain development, regulatory and commercialization obligations, including commencement of a Phase 2 clinical trial of a Product in an oncology indication before the second anniversary of the date of the VTP-600 License. CRT may terminate the VTP-600 License in respect of any given Product if VOLT is not actively developing it or fails to launch it after receiving marketing authorization. CRT may also terminate the VTP-600 License as a whole if no Product is being actively developed or commercialized.

If VOLT does not exercise the option to take the VTP-600 License, or if the VTP-600 License or Clinical Trial Agreement is subsequently terminated by CRUK (as described below) VOLT will enter into a step-in agreement with CRT, or the Step-In Agreement. Pursuant to the Step-In Agreement, the terms of which have been pre-agreed and are set out in the Clinical Trial Agreement, VOLT will assign to CRT certain know-how and materials owned or controlled by VOLT. In addition, we agreed to grant to CRT an exclusive sub-license to a third-party patent family relating to viral vectors and methods for the prevention or treatment of cancer and non-exclusive sub-licenses to the HEK293 TetR Cell Line as well as certain third party patents and patent applications relating to certain adenovirus vectors and poxvirus expression systems, in each case, to develop and commercialize the Products on a revenue sharing basis. VOLT will receive a share of between 55% and 80% of the net revenue received by CRT for commercialization of the Product, with the precise share depending on the stage in development at which such Step-In Agreement is entered into.

The term of the Clinical Trial Agreement continues until it is otherwise terminated by the parties or, if the option is not exercised, upon the execution of the Step-In Agreement. The Clinical Trial Agreement can be terminated by either party upon an insolvency event in respect of the other party, for material breach of the other party, or upon a change of control of the other party (if the new controlling entity generates its revenue from the sale of tobacco products). If the Clinical Trial Agreement is terminated by CRUK for such causes prior to VOLT's exercise of its option, VOLT will reimburse CRUK for all costs incurred or committed in connection with the Clinical Trial. In addition, CRUK may terminate the Clinical Trial Agreement at any time before the last cycle of treatment under the Clinical Trial is complete, in which case, upon VOLT's request, CRT will grant the VTP-600 License to VOLT with appropriately reduced payments, to reflect the stage of the Clinical Trial at the date of termination. If the Clinical Trial Agreement is terminated for any reason after VOLT's exercise of its option, VOLT may for three months following such termination continue to manufacture Products to the extent necessary to satisfy orders for Products accepted before such termination, and sell, use or otherwise dispose of Product inventory.

VOLT License Agreement

In November 2018, we entered into a license agreement, or the VOLT License Agreement, with VOLT. Pursuant to the VOLT License Agreement, we granted to VOLT a non-exclusive worldwide license under certain patent rights, know-how and materials related to the use of ChAdOx1, ChAdOx2, adenoviral and MVA promoters, and the TR293 Tet-Repressed Cell Line, or the VOLT Licensed Technology, to manufacture, use and commercialize any product which uses or is within the scope of the VOLT Licensed Technology, or VOLT Licensed Product. In part, the rights granted are a sublicense of rights granted to us by OUI under the 2016 OUI License Agreement. The license is sublicensable subject to obtaining OUI's prior consent with respect to sublicensing of any of the VOLT Licensed Technology licensed to us by OUI (with such consent not to be unreasonably withheld).

Pursuant to the VOLT License Agreement, we are required to make available to VOLT such further know-how relating to the manufacture of VOLT Licensed Products as we consider to be reasonably necessary or useful. We are also required to notify VOLT on a confidential basis of any improvements to the VOLT Licensed Technology that we develop or acquire rights in, and such improvements will be included within the scope of the license.

Unless earlier terminated, the VOLT License Agreement will continue until the later of the expiration of all patents included in the VOLT Licensed Technology or the know-how included in the VOLT Licensed Technology ceasing to be secret and substantial. The last patent under the VOLT License Agreement, if granted, is expected to expire in July 2039, without giving effect to any potential patent term extensions or patent term adjustments. Either party may terminate for the uncured material breach or insolvency of the other party. In the event of termination of the 2016 OUI License Agreement, we may terminate the VOLT License Agreement in respect of any of the VOLT Licensed Technology that is licensed to us by OUI, and VOLT and OUI shall enter into a direct license containing the same obligations and liabilities as set forth in the VOLT License Agreement.

The VOLT License Agreement was subsequently amended in July 2019 by two separate agreements for the research, development, and commercialization of cancer vaccines targeting MAGE-A3 and NY-ESO-1 for the treatment of various forms of cancer under the VOLT Licensed Technology. Such amendments further elaborated on the parties' respective rights and obligations, including with respect to VOLT's payment obligations to us.

Intellectual Property

Our success depends, in part, on our ability to obtain and maintain intellectual property protection for our product candidates, technology and know-how, to defend and enforce our intellectual property rights, in particular, our patent rights, to preserve the confidentiality of our know-how and trade secrets, and to operate without infringing the proprietary rights of others. We seek to protect our product candidates and technologies by, among other methods, filing U.S. and foreign patent applications related to our proprietary technology, inventions and improvements that are important to the development of our business. We also rely on trade secrets, know-how, continuing technological innovation and in-licensing of third-party intellectual property to develop and maintain our proprietary position. We, or our collaborators and licensors, file patent applications directed to our key product candidates in an effort to establish intellectual property positions to protect our product candidates as well as uses of our product candidates for the prevention and/or treatment of diseases.

As of January 29, 2021, we own a pending patent application filed in the United Kingdom relating to our *novel simian expression vector*. In addition, we have in-licensed certain patent families relating to our key technology platforms and product candidates, including seven issued U.S. patents, three pending U.S. patent applications, ten issued foreign patents, 39 pending foreign patent applications and four pending Patent Cooperation Treaty, or PCT, patent applications.

Universal Vector Technology Platforms

ChAdOx-1 Expression Vector

As of January 29, 2021, with regard to our *ChAdOx-1 expression vector*, we in-license from OUI a patent family that includes two issued U.S. patents with claims directed to the composition of matter of the

ChAdOx-1 adenovirus vector and methods of using such a vector, and 5 foreign patents granted in such jurisdictions as Australia, China, Europe (validated in 12 countries including Denmark, France, Germany, Italy, Spain, and Great Britain) and Japan. This patent family also includes a pending U.S. patent application and 4 pending foreign patent applications. The granted patents and pending applications, if issued, are expected to expire in 2032, without giving effect to any potential patent term extensions and patent term adjustments and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

Novel Simian Expression Vector

As of January 29, 2021, with regard to our *novel simian expression vector* technology, we own a pending patent application filed in the United Kingdom with claims directed to our *novel simian expression vector*. If a patent were to issue from a patent application claiming the benefit of this United Kingdom patent application, such a patent would be expected to expire in 2041 without giving effect to any potential patent term extensions and patent term adjustments and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

Adenoviral Promoter

Certain of our *ChAdOx-1 vectors* incorporate a proprietary *adenoviral promoter*, which is covered by a patent family that we in-license from OUI. As of January 29, 2021, the patent family includes two issued U.S. patents and one granted patent in Europe (validated in 7 countries including France, Germany, Italy, Spain, and Great Britain). The patents in this family are expected to expire in 2028, without giving effect to any potential patent term extensions and patent term adjustments and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

MVA-poxvirus Promoter

Our MVA vector incorporates a proprietary poxvirus promoter, or *MVA-poxvirus promoter*, which is covered by a patent family that we in-license from OUI. As of January 29, 2021, the patent family includes two issued U.S. patents and one granted European patent (validated in 9 countries including Denmark, France, Germany, Italy, Spain, and Great Britain) that are expected to expire in 2031, without giving effect to any potential patent term extensions and patent term adjustments and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

Product Candidates

Our VTP-200 product candidate comprises a ChAdOx1-HPV vector and a MVA-HPV vector, where each vector incorporates an engineered HPV antigen. We in-license from OUI a patent family directed to the HPV antigen with claims directed to a nucleic acid encoding a polypeptide comprising certain peptide sequences based on certain HPV proteins. As of January 29, 2021, the patent family includes a pending U.S. patent application and 9 foreign patent applications pending in jurisdictions including Europe, Australia, Canada, China, and Japan. If patents were to issue from such patent applications, they would be expected to expire in 2038, without giving effect to any potential patent term extensions or patent term adjustments and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees. In addition, we also rely on patent protection afforded by the patent family directed to the *ChAdOx-1 expression vector,* which is expected to expire in 2032, and the patent family directed to our *MVA-poxvirus promoter,* which is expected to expire in 2031, as discussed above.

Our VTP-300 product candidate comprises a ChAdOx1-HBV vector and a MVA-HBV vector, where each vector incorporates an engineered HBV antigen. As of January 29, 2021, we in-license from OUI a patent family with claims directed to a multi-HBV immunogen viral vector vaccine that includes a pending U.S. patent application and 16 foreign patent applications pending in jurisdictions including Europe, Australia, Canada, China, and Japan. If patents were to issue from such patent applications they would be expected to expire in 2038, without giving effect to any potential patent term extensions or patent term adjustments and assuming payment of all appropriate maintenance, renewal, annuity or other governmental

fees. In addition, we also rely on patent protection afforded by the patent family directed to the *ChAdOx-1 expression vector*, which is expected to expire in 2032, and the patent family directed to our *MVA-poxvirus promoter*, which is expected to expire in 2031, as discussed above.

Our VTP-600 product candidate comprises a ChAdOx1-MAGE-NYESO vector, a MVA-MAGE vector, and a MVA-NYESO vector. We in-license from Ludwig Institute a patent family with claims directed to a chimpanzee adenovirus vector encapsidating a nucleic acid molecule encoding a MAGE antigen, a NY-ESO-1 antigen or both a MAGE antigen and a NY-ESO-1 antigen. As of January 29, 2021, the patent family includes a pending PCT application. If a patent were to issue from a patent application claiming the benefit of this PCT application, such a patent would be expected to expire in 2039, without giving effect to any potential patent term extensions or patent term adjustments and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees. In addition, we also rely on patent protection afforded by the patent family directed to the *ChAdOx-1 expression vector*, which is expected to expire in 2032, the patent family directed to our *adenoviral promotor*, which is expected to expire in 2028, and the patent family directed to our *MVA-poxvirus promoter*, which is expected to expire in 2031, as discussed above.

Our VTP-800 product candidate comprises a ChAdOx1-5T4 vector and a MVA-5T4 vector, where each vector incorporates an engineered 5T4 antigen. We in-license from OUI a patent family with claims directed to a composition for inducing a T Cell response comprising a MVA vector expressing the 5T4 antigen polypeptide. As of January 29, 2021, the patent family includes a pending PCT application. If a patent were to issue from a patent application claiming the benefit of this PCT application, such a patent would be expected to expire in 2039, without giving effect to any potential patent term extensions or patent term adjustments and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees. In addition, we also rely on patent protection afforded by the patent family directed to the *ChAdOx-1 expression vector*, which is expected to expire in 2032, the patent family directed to our *adenoviral promotor*, which is expected to expire in 2028, and the patent family directed to our *MVA-poxvirus promoter*, which is expected to expire in 2031, as discussed above.

Our VTP-500 product candidate comprises a ChAdOx1-MERS vector that incorporates an engineered MERS antigen. We rely on patent protection afforded by the patent family directed to the *ChAdOx-1 expression vector*, which is expected to expire in 2032 and the patent family directed to our *adenoviral promotor*, which is expected to expire in 2028, as discussed above.

Our VTP-400 product candidate comprises a ChAdOx1-VZVgE vector that incorporates an engineered VZVgE antigen. We in-license from OUI a patent family with claims directed to an adenoviral vector comprising a nucleic acid encoding the varicella-zoster virus antigen. As of January 29, 2021, the patent family includes a pending PCT application. If a patent were to issue from a patent application claiming the benefit of this PCT application, such a patent would be expected to expire in 2039, without giving effect to any potential patent term extensions or patent term adjustments and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees. We also rely on patent protection afforded by the patent family directed to the *ChAdOx-1 expression vector*, which is expected to expire in 2032 and the patent family directed to our *adenoviral promotor*, which is expected to expire in 2028, as discussed above.

Individual patents have terms for varying periods depending on the date of filing of the patent application or the date of patent issuance and the legal term of patents in the countries in which they are obtained. Generally, utility patents issued for applications filed in the United States are granted a term of 20 years from the earliest effective filing date of a non-provisional patent application. The duration of foreign patents varies in accordance with provisions of applicable local law, but typically is also 20 years from the earliest effective filing date. All taxes, annuities or maintenance fees for a patent, as required by the USPTO and certain foreign jurisdictions, must be timely paid in order for the patent to remain in force during this period of time.

The actual protection afforded by a patent may vary on a product by product basis, from country to country and can depend upon many factors, including the type of patent, the scope of its coverage, the availability of regulatory-related extensions and the availability of legal remedies in a particular country and the validity and enforceability of the patent. Our patents and patent applications may be subject to

procedural or legal challenges by others. We may be unable to obtain, maintain and protect the intellectual property rights necessary to conduct our business, and we may be subject to claims that we infringe or otherwise violate the intellectual property rights of others, which could materially harm our business. For more information about the risks associated with our efforts to obtain adequate intellectual property protection for our product candidates, and the enforcement of such intellectual property rights, as well as the risks associated with third party intellectual property rights, see the section titled "Risk Factors — Risks Related to Our Intellectual Property." With regard to our VTP-300 product candidate, we are aware of third-party patents in the United States with claims which may be relevant to this product candidate. See "Risk Factors — Risks Related to Intellectual Property — The intellectual property landscape around immunotherapeutics and viral-vector based vaccines is crowded and dynamic, and third parties may initiate legal proceedings alleging that we are infringing, misappropriating or otherwise violating their intellectual property rights and such claims may be costly and time-consuming and may prevent or delay our product discovery and development efforts."

Government Regulation

In the United States, biological products are subject to regulation under the Federal Food, Drug, and Cosmetic Act (the "FD&C Act"), and the Public Health Service Act (the "PHS Act"), and other federal, state, local and foreign statutes and regulations. Both the FD&C Act and the PHS Act and their corresponding regulations govern, among other things, the research, development, clinical trial, testing, manufacturing, quality control, approval, safety, efficacy, labeling, packaging, storage, record keeping, distribution, reporting, marketing, promotion, export and import, advertising, post-approval monitoring, and post-approval reporting involving biological products. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources and we may not be able to obtain the required regulatory approvals.

Further, even if we obtain the required regulatory approvals for our products, pharmaceutical companies are subject to myriad federal, state, and foreign healthcare laws, rules, and regulations governing all aspects of our operations, including, but not limited to, our relationships with healthcare professionals, healthcare institutions, distributors of our products, and sales and marketing personnel; governmental and other third-party payor coverage and reimbursement of our products; and data privacy and security. Such laws, rules, and regulations are complex, continuously evolving, and, in many cases, have not been subject to extensive interpretation by applicable regulatory agencies or the courts. We are required to invest significant time and financial resources in policies, procedures, processes, and systems to ensure compliance with these laws, rules, and regulations, and our failure to do so may result in the imposition of substantial monetary or other penalties by federal or state regulatory agencies, give rise to reputational harm, or otherwise have a material adverse effect on our results of operations and financial condition.

U.S. Biological Products Development Process

The process required by the FDA before a biological product may be marketed in the United States generally involves the following:

- completion of nonclinical laboratory tests and animal studies according to GLPs and applicable requirements for the humane use of laboratory animals or other applicable regulations;
- submission to the FDA of an application for an IND which must become effective before human clinical trials may begin;
- approval of the protocol and related documentation by an independent institutional review board, or IRB, or ethics committee at each clinical trial site before each trial may be initiated;
- performance of adequate and well-controlled human clinical trials according to the FDA's regulations commonly referred to as good clinical practices, or GCPs, and any additional requirements for the protection of human research subjects and their health information, to establish the safety and efficacy of the proposed biological product for its intended use;

- preparation of and submission to the FDA of a biologics license application, or BLA, for marketing approval that includes sufficient evidence of establishing the safety, purity, and potency of the proposed biological product for its intended indication, including from results of nonclinical testing and clinical trials;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the biological product is produced to assess compliance with current good manufacturing practices, or cGMPs, to assure that the facilities, methods and controls are adequate to preserve the biological product's identity, strength, quality and purity;
- potential FDA audit of the nonclinical study and clinical trial sites that generated the data in support of the BLA;
- review of the product candidate by an FDA advisory committee, where appropriate and if applicable;
- payment of user fees for FDA review of the BLA (unless a fee waiver applies); and
- FDA review and approval of the BLA, resulting in the licensure of the biological product for commercial marketing.

Before testing any biological product candidate, in humans, the product candidate enters the preclinical testing stage. Preclinical tests, also referred to as nonclinical studies, include laboratory evaluations of the product's biological characteristics, chemistry, toxicity and formulation, as well as animal studies to assess the potential safety and activity of the product candidate. The conduct of the preclinical tests must comply with federal regulations and requirements including GLPs.

Prior to commencing an initial clinical trial in humans with a product candidate in the United States, an IND must be submitted to the FDA and the FDA must allow the IND to proceed. An IND is an exemption from the FD&C Act that allows an unapproved product candidate to be shipped in interstate commerce for use in an investigational clinical trial and a request for FDA allowance that such investigational product may be administered to humans in connection with such trial. Such authorization must be secured prior to interstate shipment and administration. In support of a request for an IND, applicants must submit a protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. In addition, the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature to support the use of the biological product and plans for clinical trials, among other things, must be submitted to the FDA as part of an IND. An IND must become effective before human clinical trials may begin. Once submitted, the IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, raises safety concerns or questions about the proposed clinical trial. In such a case, the IND may be placed on clinical hold or partial clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before clinical trials can begin. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial.

Clinical trials involve the administration of the biological product candidate to healthy volunteers or patients under the supervision of qualified investigators which generally are physicians not employed by, or under the control of, the trial sponsor. Clinical trials are conducted under written trial protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria and the parameters and criteria to be used to monitor subject safety, including stopping rules that assure a clinical trial will be stopped if certain adverse events should occur.

An IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct continuing review and reapprove the trial at least annually. The IRB must review and approve, among other things, the trial protocol and informed consent information to be provided to trial subjects. An IRB must operate in compliance with FDA regulations. An IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product candidate has been associated with unexpected serious harm to patients.

Some trials are overseen by an independent group of qualified experts organized by the trial sponsor, known as a data safety monitoring board or committee. This group provides authorization as to whether or not a trial may move forward at designated check points based on access that only the group maintains to available data from the trial and may recommend halting the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy.

Certain information about certain clinical trials must also be submitted within specific timeframes to the NIH for public dissemination on its ClinicalTrials.gov website.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- Phase 1. The investigational product is initially introduced into healthy human subjects and tested for safety. In the case of some products for severe or life-threatening diseases, the initial human testing is often conducted in patients.

- Phase 2. The investigational product is evaluated in a limited patient population to identify possible adverse side effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance, optimal dosage and dosing schedule. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning larger and more expensive Phase 3 clinical trials.

- Phase 3. The investigational product is administered to an expanded patient population to further evaluate dosage, clinical efficacy, potency, and safety in an expanded patient population at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the investigational product and provide an adequate basis for approval and product labeling.

In some cases, FDA may require, or firms may voluntarily pursue, post-approval clinical trials, sometimes referred to as Phase 4 clinical trials, after initial marketing approval. These clinical trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow-up. During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data, and clinical trial investigators. Annual progress reports detailing the results of the clinical trials must be submitted to the FDA. Written IND safety reports must be promptly submitted to the FDA and the investigators for serious and unexpected adverse events, any findings from other studies, tests in laboratory animals or *in vitro* testing that suggest a significant risk for human subjects, or any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor's initial receipt of the information. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor, acting on its own or based on a recommendation from the sponsor's data safety monitoring board may suspend a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the biological product has been associated with unexpected serious harm to patients.

Concurrent with clinical trials, companies usually complete additional animal studies and also must develop additional information about the chemistry and physical characteristics of the biological product and finalize a process for manufacturing the product in commercial quantities in accordance with cGMP. To help reduce the risk of the introduction of adventitious agents with use of biological products, the PHS Act emphasizes the importance of manufacturing control for products whose attributes cannot be precisely defined. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the sponsor must develop methods for testing the identity, strength, quality, potency and purity of the final biological product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the biological product candidate does not undergo unacceptable deterioration over its shelf life.

U.S. Review and Approval Processes

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, the results of product development, nonclinical studies and clinical trials are submitted to the FDA as part of a BLA requesting approval to market the product for one or more indications. The BLA must include results of product development, laboratory and animal studies, human trials, information on the manufacture and composition of the product, proposed labeling and other relevant information.

Within 60 days following submission of the application, the FDA reviews a BLA submitted to determine if it is substantially complete before the FDA accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. The resubmitted application also is subject to review to determine if it is substantially complete before the FDA accepts it for filing. In most cases, the submission of a BLA is subject to a substantial application user fee, although the fee may be waived under certain circumstances. Under the performance goals and policies implemented by the FDA under the Prescription Drug User Fee Act, or PDUFA, for original BLAs, the FDA targets ten months from the filing date in which to complete its initial review of a standard application and respond to the applicant, and six months from the filing date for an application with priority review. The FDA does not always meet its PDUFA goal dates, and the review process is often significantly extended by FDA requests for additional information or clarification.

Once the submission is accepted for filing, the FDA begins an in-depth substantive review of the BLA. The FDA reviews the BLA to determine, among other things, whether the proposed product is safe, pure and potent for its intended use, and whether the product is being manufactured in accordance with cGMP to ensure its continued safety, purity and potency. The FDA may refer applications for novel biological products or biological products that present difficult or novel questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. During the biological product approval process, the FDA also will determine whether a Risk Evaluation and Mitigation Strategy, or REMS, is necessary to assure the safe use of the biological product. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS; the FDA will not approve the BLA without a REMS, if required.

Before approving a BLA, the FDA typically will inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure that the clinical trials were conducted in compliance with IND trial requirements and GCP requirements. To assure cGMP and GCP compliance, an applicant must incur significant expenditure of time, money and effort in the areas of training, record keeping, production and quality control.

Under the Pediatric Research Equity Act, or PREA, a BLA or supplement to a BLA for a novel product (*e.g.*, new active ingredient, new indication, etc.) must contain data to assess the safety and effectiveness of the biological product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers. Unless otherwise required by regulation, PREA does not apply to any biological product for an indication for which orphan designation has been granted.

After the FDA evaluates a BLA and conducts inspections of manufacturing facilities where the investigational product and/or its drug substance will be produced, the FDA may issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A Complete Response Letter will describe all of the deficiencies that the FDA has identified in the BLA, except that where the FDA determines that the data supporting the application are inadequate to support approval, the FDA may issue the Complete Response Letter without first conducting required inspections, testing submitted product lots, and/or reviewing

proposed labeling. In issuing the Complete Response Letter, the FDA may recommend actions that the applicant might take to place the BLA in condition for approval, including requests for additional information or clarification. The FDA may delay or refuse approval of a BLA if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product.

If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, including to subpopulations of patients, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings, precautions or interactions be included in the product labeling. The FDA may impose restrictions and conditions on product distribution, prescribing, or dispensing in the form of a REMS, or otherwise limit the scope of any approval. The FDA also may condition approval on, among other things, changes to proposed labeling or the development of adequate controls and specifications. Once approved, the FDA may withdraw the product approval if compliance with pre- and post-marketing requirements is not maintained or if problems occur after the product reaches the marketplace. The FDA may require one or more Phase 4 post-market trials and surveillance to further assess and monitor the product's safety and effectiveness after commercialization, and may limit further marketing of the product based on the results of these post-marketing trials. In addition, new government requirements, including those resulting from new legislation, may be established, or the FDA's policies may change, which could impact the timeline for regulatory approval or otherwise impact ongoing development programs.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biological product intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or 200,000 or more individuals in the United States and for which there is no reasonable expectation that the cost of developing and making a drug or biological product available in the United States for this type of disease or condition will be recovered from sales of the product. Orphan product designation must be requested before submitting a BLA. After the FDA grants orphan product designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan product designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for a particular active ingredient for the disease for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications, including a full BLA, to market the same biologic for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or if the FDA finds that the holder of the orphan drug exclusivity has not shown that it can assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the drug was designated. Orphan drug exclusivity does not prevent the FDA from approving a different drug or biologic for the same disease or condition, or the same drug or biologic for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the BLA application user fee.

A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or, as noted above, if the second applicant demonstrates that its product is clinically superior to the approved product with orphan exclusivity or the manufacturer of the approved product is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Orphan drug designation may also entitle a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers.

Expedited Development and Review Programs

The FDA has various programs, including fast track designation, breakthrough therapy designation, accelerated approval and priority review, that are intended to expedite or simplify the process for the

development and FDA review of drugs and biologics that are intended for the treatment of serious or life-threatening diseases or conditions. To be eligible for fast track designation, new drugs and biological product candidates must be intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a new drug or biologic may request the FDA to designate the drug or biologic as a fast track product at any time during the clinical development of the product. One benefit of fast track designation, for example, is that the FDA may consider for review sections of the marketing application on a rolling basis before the complete application is submitted if certain conditions are satisfied, including an agreement with the FDA on the proposed schedule for submission of portions of the application and the payment of applicable user fees before the FDA may initiate a review.

Under the FDA's breakthrough therapy program, a sponsor may seek FDA designation of its product candidate as a breakthrough therapy if the product candidate is intended, alone or in combination with one or more other drugs or biologics, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that it may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. Breakthrough therapy designation comes with all of the benefits of fast track designation. The FDA may take other actions appropriate to expedite the development and review of the product candidate, including holding meetings with the sponsor and providing timely advice to, and interactive communication with, the sponsor regarding the development program.

A product candidate is eligible for priority review if it treats a serious or life-threatening disease or condition and, if approved, would provide a significant improvement in the safety or effectiveness of the treatment, diagnosis or prevention of a serious disease or condition. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug or biological product designated for priority review in an effort to facilitate the review. Under priority review, the FDA's goal is to review an application in six months once it is filed, compared to ten months for a standard review. Priority review designation does not change the scientific/medical standard for approval or the quality of evidence necessary to support approval.

Additionally, a product candidate may be eligible for accelerated approval. Drug or biological products studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may receive accelerated approval, which means that they may be approved on the basis of adequate and well-controlled clinical trials establishing that the product has an effect on a surrogate endpoint that is reasonably likely to predict a clinical benefit, or on the basis of an effect on an intermediate clinical endpoint other than survival or irreversible morbidity or mortality, that is reasonably likely to predict 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. As a condition of approval, the FDA generally requires that a sponsor of a drug or biological product receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials to verify the clinical benefit in relationship to the surrogate endpoint or ultimate outcome in relationship to the clinical benefit. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product. The FDA may withdraw approval of a drug or indication approved under accelerated approval if, for example, the confirmatory trial fails to verify the predicted clinical benefit of the product.

Post-approval Requirements

Rigorous and extensive FDA regulation of biological products continues after approval, particularly with respect to cGMP requirements, as well as requirements relating to record-keeping, reporting of adverse experiences, periodic reporting, product sampling and distribution, and advertising and promotion of the product. We currently rely, and may continue to rely, on third parties for the production of clinical and commercial quantities of any products that we may commercialize. Manufacturers of our products are required to comply with applicable requirements in the cGMP regulations, including quality control and quality assurance and maintenance of records and documentation. Other post-approval requirements

applicable to biological products include reporting of cGMP deviations that may affect the identity, potency, purity and overall safety of a distributed product, record-keeping requirements, reporting of adverse effects, reporting updated safety and efficacy information, and complying with electronic record and signature requirements. As part of the manufacturing process, the manufacturer is required to perform certain tests on each lot of the product before it is released for distribution. After a BLA is approved for a biological product, the product also may be subject to official lot release. If the product is subject to official release by the FDA, the manufacturer submits samples of each lot of product to the FDA together with a release protocol showing a summary of the history of manufacture of the lot and the results of all of the manufacturer's tests performed on the lot. The FDA also may perform certain confirmatory tests on lots of some products before releasing the lots for distribution by the manufacturer. In addition, the FDA conducts laboratory research related to the regulatory standards on the safety, purity, potency, and effectiveness of biological products.

Manufacturers also must comply with the FDA's advertising and promotion requirements, such as those related to direct-to-consumer advertising, the prohibition on promoting products for uses or in patient populations that are not described in the product's approved labeling (known as "off-label use"), industry-sponsored scientific and educational activities, and promotional activities involving the internet. Discovery of previously unknown problems or the failure to comply with the applicable regulatory requirements may result in restrictions on the marketing of a product or withdrawal of the product from the market as well as possible civil or criminal sanctions.

Failure to comply with the applicable United States requirements at any time during the product development process, approval process, or after approval, may subject an applicant or manufacturer to administrative or judicial civil or criminal sanctions and adverse publicity. FDA sanctions could include refusal to approve pending applications, withdrawal of an approval, clinical holds, warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, product detentions or refusal to permit the import or export of the product, restrictions on the marketing or manufacturing of the product, injunctions, fines, refusals of government contracts, mandated corrective advertising or communications with physicians or other stakeholders, debarment, restitution, disgorgement of profits, or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us.

Biological product manufacturers and other entities involved in the manufacture and distribution of approved biological products are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other laws. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved BLA, including withdrawal of the product from the market. In addition, changes to the manufacturing process or facility generally require prior FDA approval before being implemented and other types of changes to the approved product, such as adding new indications and additional labeling claims, are also subject to further FDA review and approval.

Marketing Exclusivity

Depending upon the timing, duration and specifics of the FDA approval of the use of our product candidates, some of our United States patents may be eligible for limited patent term extension under the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period is generally one-half the time between the effective date of an IND and the submission date of a BLA plus the time between the submission date of a BLA and the approval of that application. Only one patent applicable to an approved biological product is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. In addition, a patent can only be extended once and only for a single product. The U.S. PTO, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we may intend to apply for restoration of patent term for one of our patents, if and as applicable, to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant BLA.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively the ACA, includes a subtitle called the Biologics Price Competition and Innovation Act of 2009, or BPCIA, which created an abbreviated approval pathway for biological products shown to be biosimilar to, or interchangeable with, an FDA-licensed reference biological product. This amendment to the PHS Act attempts to minimize duplicative testing. Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies, and a clinical trial or trials. Interchangeability requires that a product is biosimilar to the reference product and the product must demonstrate that it can be expected to produce the same clinical results as the reference product and, for products administered multiple times, the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic.

FDA will not accept an application for a biosimilar or interchangeable product based on the reference biological product until four years after the date of first licensure of the reference product, and FDA will not approve an application for a biosimilar or interchangeable product based on the reference biological product until twelve years after the date of first licensure of the reference product. “First licensure” typically means the initial date the particular product at issue was licensed in the United States. Date of first licensure does not include the date of licensure of (and a new period of exclusivity is not available for) a biological product if the licensure is for a supplement for the biological product or for a subsequent application by the same sponsor or manufacturer of the biological product (or licensor, predecessor in interest, or other related entity) for a change (not including a modification to the structure of the biological product) that results in a new indication, route of administration, dosing schedule, dosage form, delivery system, delivery device or strength, or for a modification to the structure of the biological product that does not result in a change in safety, purity, or potency.

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

In addition to exclusivity under the BPCIA, a biological product can obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods, including some regulatory exclusivity periods tied to patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric trial in accordance with an FDA-issued “Written Request” for such a trial.

Additional Regulation

In addition to the foregoing, state and federal laws regarding environmental protection and hazardous substances, including the Occupational Safety and Health Act, the Resource Conservancy and Recovery Act and the Toxic Substances Control Act, affect our business. These and other laws govern our use, handling and disposal of various biological, chemical and radioactive substances used in, and wastes generated by, our operations. If our operations result in contamination of the environment or expose individuals to hazardous substances, we could be liable for damages and governmental fines. We believe that we are in material compliance with applicable environmental laws and that continued compliance therewith will not have a material adverse effect on our business. We cannot predict, however, how changes in these laws may affect our future operations.

Government Regulation Outside of the United States

In addition to regulations in the United States, we are subject to a variety of regulations in other jurisdictions governing, among other things, research and development, clinical trials, testing, manufacturing, safety, efficacy, labeling, packaging, storage, record keeping, distribution, reporting, advertising and other promotional practices involving biological products as well as authorization and approval of our products. Because biologically sourced raw materials are subject to unique contamination risks, their use may be restricted in some countries.

Whether or not we obtain FDA approval for a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. Certain countries outside of the United States have a similar process that requires the submission of a clinical trial application much like the IND prior to the commencement of human clinical trials. In the European Union, for example, a CTA must be submitted for each clinical trial to each country's National Competent Authority, or NCA, and at least one independent Ethics Committee, or EC, much like the FDA and an IRB, respectively. Once the CTA is approved in accordance with a country's requirements, the corresponding clinical trial may proceed. Under the current regime (the EU Clinical Trials Directive 2001/20/EC and corresponding national laws) all suspected unexpected serious adverse reactions to the investigated drug that occur during the clinical trial have to be reported to the NCA and ECs of the Member State where they occurred.

In April 2014, the EU adopted a new Clinical Trials Regulation (EU) No 536/2014, which is set to replace the current Clinical Trials Directive 2001/20/EC. It will overhaul the current system of approvals for clinical trials in the EU. Specifically, the new regulation, which will be directly applicable in all member states (meaning that no national implementing legislation in each EU Member State is required), aims at simplifying and streamlining the approval of clinical trials in the EU. For instance, the new Clinical Trials Regulation provides for a streamlined application procedure via a single entry point and strictly defined deadlines for the assessment of clinical trial applications. It is expected that the new Clinical Trials Regulation (EU) No 536/2014 will come into effect following confirmation of full functionality of the Clinical Trials Information System, the centralized EU portal and database for clinical trials foreseen by the new Clinical Trials regulation, through an independent audit.

The requirements and process governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, the clinical trials must be conducted in accordance with GCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

If we fail to comply with applicable foreign regulatory requirements, we may be subject to, among other things, fines, suspension of clinical trials, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

European Union Drug Review and Approval

In the European Union, medicinal products, including biological medicinal products, are subject to extensive pre- and post-market regulation by regulatory authorities at both the European Union and national levels.

To obtain regulatory approval of a biological medicinal product under the European Union regulatory system, we must submit a marketing authorization application, or MAA, either under a centralized procedure administered by the European Medicines Agency, or EMA, or one of the procedures administered by competent authorities in EEA Member States (which are all the European Union Member States, as well as Iceland, Norway and Liechtenstein): the decentralized procedure, national procedure, or mutual recognition procedure. A marketing authorization may be granted only to an applicant established in the EEA.

The centralized procedure provides for the grant of a single marketing authorization by the European Commission that is valid for all EEA. Pursuant to Regulation (EC) No. 726/2004, the centralized procedure is compulsory for specific products, including for medicines produced by certain biotechnological processes, products designated as orphan medicinal products, advanced therapy products and products with a new active substance indicated for the treatment of certain diseases, including products for the treatment of viral diseases and cancer. For those products for which the use of the centralized procedure is not mandatory, applicants may elect to use the centralized procedure where either the product contains a new active substance not yet authorized in the EEA, or where the applicant can show that the product constitutes a significant therapeutic, scientific or technical innovation or for which a centralized process is in the interest of patients at a European Union level.

Under the centralized procedure, the Committee for Medicinal Products for Human Use, or the CHMP, established at the EMA is responsible for conducting an initial assessment of whether a product meets the

required quality, safety and efficacy requirements, and whether a product has a positive benefit/risk profile. Under the centralized procedure in the European Union, the maximum timeframe for the evaluation of an MAA is 210 days from receipt of a valid MAA, excluding clock stops when additional information or written or oral explanation is to be provided by the applicant in response to questions of the CHMP. Clock stops may extend the timeframe of evaluation of an MAA considerably beyond 210 days. Where the CHMP gives a positive opinion, it provides the opinion together with supporting documentation to the European Commission, who make the final decision to grant a marketing authorization, which is issued within 67 days of receipt of the EMA's recommendation. Accelerated evaluation may be granted by the CHMP in exceptional cases, when a medicinal product is of major interest from the point of view of public health and, in particular, from the viewpoint of therapeutic innovation. If the CHMP accepts such a request, the timeframe of 210 days for assessment will be reduced to 150 days (excluding clock stops), but it is possible that the CHMP may revert to the standard time limit for the centralized procedure if it determines that the application is no longer appropriate to conduct an accelerated assessment.

For products not falling within the mandatory scope of the centralized procedure, national marketing authorizations may be obtained, which are issued by the competent authorities of the EEA Member States and only cover their respective territory. Where a product has already been authorized for marketing in an EEA Member State, this national marketing authorization can be recognized in another EEA Member State through the mutual recognition procedure. If the product has not received a national marketing authorization in any Member State at the time of application, it can be approved simultaneously in various EEA Member States through the decentralized procedure. As with the centralized procedure, the competent authorities of the EEA Member States assess the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy before granting the marketing authorization.

The application used to submit the BLA in the United States is similar to that required in the European Union, with certain exceptions. Directive 2001/83/EC and the laws in the Member States transposing this Directive into national law set out the requirements for an MAA. An MAA for a biological medicinal product must contain certain additional requirements to applications for other medicinal products, such as a description of the origin and history of the starting materials used for the product.

Data and Marketing Exclusivity

The EEA also provides opportunities for market exclusivity. Upon receiving marketing authorization in the EEA, innovative medicinal products generally receive eight years of data exclusivity and an additional two years of market exclusivity. Data exclusivity prevents generic or biosimilar applicants from referencing the innovator's preclinical and clinical trial data contained in the dossier of the reference product when applying for a generic or biosimilar marketing authorization in the EEA during a period of eight years from the date on which the reference product was first authorized in the EEA. During the additional two-year period of market exclusivity, a generic or biosimilar marketing authorization can be submitted, and the innovator's data may be referenced, but no generic or biosimilar product can be marketed until the expiration of the market exclusivity period. The overall ten-year period will be extended to a maximum of eleven years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to authorization, is held to bring a significant clinical benefit in comparison with existing therapies. Even if a compound is considered to be a new chemical entity so that the innovator gains the prescribed period of data exclusivity, another company may market another version of the product if such company obtained marketing authorization based on an MAA with a complete independent data package of pharmaceutical tests, preclinical tests and clinical trials.

Orphan Drug Designation and Exclusivity

Products with an orphan designation in the EEA can receive ten years of market exclusivity, during which time "no similar medicinal product" for the same indication may be placed on the market. A "similar medicinal product" is defined as a medicinal product containing a similar active substance or substances as contained in an authorized orphan medicinal product, and which is intended for the same therapeutic indication. An orphan product can also obtain an additional two years of market exclusivity where an agreed Pediatric Investigation Plan for pediatric trials has been complied with. No extension to any

supplementary protection certificate can be granted on the basis of pediatric trials for orphan indications. The ten-year market exclusivity may be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan designation, for example, if the product is sufficiently profitable not to justify maintenance of market exclusivity.

The criteria for designating an "orphan medicinal product" in the EEA are similar in principle to those in the United States. Under Article 3 of Regulation (EC) 141/2000, a medicinal product may be designated as an orphan medicinal product if it meets the following criteria: (i) it is intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition; **and** (ii) the prevalence of such condition must not be more than five in 10,000 persons in the EEA when the application is made, **or** without the benefits derived from orphan status, it must be unlikely that the marketing of the medicine would generate sufficient return in the EEA to justify the investment needed for its development; **and** (iii) there exists no satisfactory method of diagnosis, prevention or treatment of such condition, or if such a method exists, the product will be of significant benefit to those affected by the condition, as defined in Regulation (EC) 847/2000. Orphan medicinal products are eligible for financial incentives such as reduction of fees or fee waivers made available by the EU and its Member States to support research into, and the development and availability of, orphan drugs. The application for orphan drug designation must be submitted before the application for marketing authorization. The applicant will receive a fee reduction for the MAA if the orphan drug designation has been granted, but not if the designation is still pending at the time the marketing authorization is submitted. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

Orphan medicine marketing exclusivity may be revoked only in very select cases, such as:

- it is established that a similar medicinal product is safer, more effective or otherwise clinically superior;
- consent from the marketing authorization holder; or
- the marketing authorization holder cannot supply enough orphan medicinal product.

Pediatric Development

In the EEA, companies developing a new medicinal product must agree upon a Pediatric Investigation Plan, or PIP, with the EMA's Pediatric Committee, or PDCO, and must conduct pediatric clinical trials in accordance with that PIP, unless a waiver applies, (*e.g.*, because the relevant disease or condition occurs only in adults). The PIP sets out the timing and measures proposed to generate data to support a pediatric indication of the drug for which marketing authorization is being sought. The MAA for the product must include the results of pediatric clinical trials conducted in accordance with the PIP, unless a waiver applies, or a deferral has been granted by the PDCO of the obligation to implement some or all of the measures of the PIP until there are sufficient data to demonstrate the efficacy and safety of the product in adults, in which case the pediatric clinical trials must be completed at a later date. Products that are granted a marketing authorization with the results of pediatric clinical trials conducted in accordance with the PIP are eligible for a six month extension of the protection under a supplementary protection certificate (if any is in effect at the time of approval) even where the trial results are negative. In the case of orphan medicinal products, a two year extension of the orphan market exclusivity may be available. This pediatric reward is subject to specific conditions and is not automatically available when data in compliance with the PIP are developed and submitted.

PRIME Designation

In March 2016, the European Medicines Agency (EMA), launched an initiative to facilitate development of product candidates in indications, often rare, for which few or no therapies currently exist. The PRIority MEdicines (PRIME), scheme is intended to encourage drug development in areas of unmet medical need (where there is no satisfactory method of diagnosis, prevention or treatment in the European Union or, if there is, the new medicine will bring a major therapeutic advantage) and provides accelerated assessment of products representing substantial innovation. The PRIME scheme is open to medicines under development and for which the applicant intends to apply for an initial MAA through under the centralized procedure. Applicants will typically be at the exploratory clinical trial phase of development, and will have preliminary

clinical evidence in patients to demonstrate the promising activity of the medicine and its potential to address to a significant extent an unmet medical need. In exceptional cases, products from small- and medium-sized enterprises may qualify for earlier entry into the PRIME scheme than larger companies, if compelling non-clinical data in a relevant model provide early evidence of promising activity, and first in man trials indicate adequate exposure for the desired pharmacotherapeutic effects and tolerability. Many benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and accelerated MAA assessment once a dossier has been submitted. Importantly, a dedicated Agency contact and rapporteur from the CHMP or Committee for Advanced Therapies are appointed early in PRIME scheme facilitating increased understanding of the product at EMA's Committee level. A kick-off meeting initiates these relationships and includes a team of multidisciplinary experts at the EMA to provide guidance on the overall development and regulatory strategies. Where, during the course of development, a medicine no longer meets the eligibility criteria, support under the PRIME scheme may be withdrawn.

Post-Approval Controls

Following approval, the holder of the marketing authorization is required to comply with a range of requirements applicable to the manufacturing, marketing, promotion and sale of the medicinal product. These include the following:

- The holder of a marketing authorization must establish and maintain a pharmacovigilance system and appoint an individual qualified person for pharmacovigilance, who is responsible for oversight of that system. Key obligations include expedited reporting of suspected serious adverse reactions and submission of periodic safety update reports, or PSURs.
- All new MAAs must include a risk management plan, or RMP, describing the risk management system that the company will put in place and documenting measures to prevent or minimize the risks associated with the product. The regulatory authorities may also impose specific obligations as a condition of the marketing authorization. Such risk-minimization measures or post-authorization obligations may include additional safety monitoring, more frequent submission of PSURs, or the conduct of additional clinical trials or post-authorization safety trials. RMPs and PSURs are routinely available to third parties requesting access, subject to limited redactions.
- All advertising and promotional activities for the product must be consistent with the approved SmPC and therefore all off-label promotion is prohibited. Direct-to-consumer advertising of prescription medicines is also prohibited in the European Union. Although general requirements for advertising and promotion of medicinal products are established under European Union directives, the details are governed by regulations in each European Union Member State and can differ from one country to another.

Brexit and the Regulatory Framework in the United Kingdom

In June 2016, the electorate in the United Kingdom voted in favor of leaving the European Union (commonly referred to as "Brexit"). Thereafter, in March 2017, the country formally notified the European Union of its intention to withdraw pursuant to Article 50 of the Lisbon Treaty. The United Kingdom formally left the European Union on January 31, 2020. There was a transitional period, during which EU laws continued to apply in the UK, which ended on December 31, 2020. The UK and EU have signed a EU-UK Trade and Cooperation Agreement, which became provisionally applicable on January 1, 2021 and which will become formally applicable once ratified by both the UK and the EU. This agreement provides details on how some aspects of the UK and EU's relationship regarding medicinal products will operate, particularly in relation to Good Manufacturing Practice; however, there are still many uncertainties. Since the regulatory framework for pharmaceutical products in the United Kingdom covering quality, safety and efficacy of pharmaceutical products, clinical trials, marketing authorization, commercial sales and distribution of pharmaceutical products is derived from European Union directives and regulations, Brexit could materially impact the future regulatory regime which applies to products and the approval of product candidates in the United Kingdom or the EU, as there is now potential for the UK regulations on medicinal

products to diverge from the EU regulations. It remains to be seen how Brexit will impact regulatory requirements for product candidates and products in the United Kingdom in the long-term. In the meantime, the Medicines and Healthcare products Regulatory Agency, the UK medicines and medical devices regulator, has published detailed guidance for industry and organizations to follow from January 1, 2021, which will be updated as necessary.

Coverage and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any pharmaceutical or biological product for which we may seek regulatory approval. Sales of any product, if approved, depend, in part, on the extent to which such product will be covered by third-party payors, such as federal, state, and foreign government healthcare programs, commercial insurers, and managed healthcare organizations. Decisions regarding whether to cover any of our product candidates, if approved, the extent of coverage, and amount of reimbursement to be provided are made on a plan-by-plan basis. Further, no uniform policy for coverage and reimbursement exists in the United States, and coverage and reimbursement can differ significantly from payor to payor.

Moreover, product candidates may not be considered medically necessary or cost-effective. A decision by a third-party payor not to cover any product candidates we may develop could reduce physician utilization of such product candidates once approved and have a material adverse effect on our sales, results of operations, and financial condition. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement rates, but also have their own methods and approval process apart from Medicare determinations. 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 product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. For products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may be particularly difficult because of the higher prices often associated with such drugs. Additionally, separate reimbursement for the product itself or the treatment or procedure in which the product is used may not be available, which may impact physician utilization of the product.

In addition, the U.S. government and state legislatures have continued implementing cost-containment programs, including price controls, restrictions on coverage and reimbursement, and requirements for substitution of generic products. Third-party payors are increasingly challenging the prices charged for medical products and services; examining the medical necessity of pharmaceutical or biological products; reviewing the cost-effectiveness of such products; and questioning the safety and efficacy of such products. Adoption of new price controls and cost-containment measures, or adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit sales of any product that receives approval. Furthermore, there is no assurance that a product will be considered medically reasonable and necessary for a specific indication, that it will be considered cost-effective by third-party payors, that an adequate level of reimbursement will be established even if coverage is available, or that the third-party payors' reimbursement policies will not adversely affect the ability of manufacturers to sell products profitably. Decreases in third-party reimbursement for any product or a decision by a third party not to cover a product could reduce physician usage and patient demand for such product.

In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product, or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. Pharmaceutical products may face competition from lower-priced products in foreign countries that have placed price controls on pharmaceutical products and may also compete with imported foreign products.

Other Healthcare Laws and Compliance Requirements

Pharmaceutical companies are subject to additional healthcare regulation and enforcement by the federal government and by authorities in the states and foreign jurisdictions in which they conduct their business.

Such laws include, without limitation: the U.S. federal Anti-Kickback Statute, or AKS; the civil False Claims Act, or FCA; the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA; and similar foreign, federal, and state fraud and abuse, transparency, and privacy laws.

The AKS prohibits, among other things, persons and entities from knowingly and willfully soliciting, receiving, offering, or paying remuneration to induce, or in return for, either the referral of an individual, or the purchase, lease, ordering, or arranging for or recommending the purchase, lease, or ordering, of any item or service for which payment may be made under any federal healthcare program. The term remuneration has been interpreted broadly to include anything of value, whether given directly or indirectly, in cash or in kind. The AKS has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, third-party payors, patients, and others on the other hand. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, but they are drawn narrowly, and practices that involve remuneration, such as consulting agreements, that may be alleged to be intended to induce prescribing, purchasing, or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of an applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the AKS. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. Our practices may not in all cases meet all of the criteria for protection under a statutory exception or regulatory safe harbor. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, a claim submitted to a federal healthcare program that includes items or services resulting from a violation of the AKS constitutes a false or fraudulent claim that may result in civil liability under the FCA.

Civil and criminal false claims laws, and civil monetary penalty laws, including the FCA, which can be enforced through civil whistleblower or qui tam actions, prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment to the federal government, including federal healthcare programs, that are false or fraudulent. For example, the FCA prohibits any person or entity from knowingly presenting, or causing to be presented, a false claim for payment to the federal government or knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. A claim includes “any request or demand” for money or property presented to the U.S. government. Several pharmaceutical companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal healthcare programs for the product, or for subsidizing copays for patients, including indirectly through charitable patient assistance programs, as an inducement for patients to utilize their products.

HIPAA created additional federal civil and criminal liability for, among other things, knowingly and willfully executing a scheme to defraud any healthcare benefit program, or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (*e.g.*, public or private) and knowingly and willfully falsifying, concealing, or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items, or services relating to healthcare matters. Similar to the AKS, a person or entity can be found guilty of violating HIPAA’s fraud and abuse provisions without actual knowledge of the statute or specific intent to violate it.

In addition, HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, impose certain requirements on HIPAA covered entities, which include certain healthcare providers, healthcare clearinghouses, and health plans, and individuals and entities that provide services on their behalf that involve individually identifiable health information, known as business associates, relating to the privacy, security, and transmission of individually identifiable health information. In particular, regulations promulgated pursuant to HIPAA establish privacy and security standards that limit the use and disclosure of protected health information and require the implementation of administrative, physical and technological safeguards to protect the privacy of protected health information and ensure the confidentiality, integrity and availability of electronic protected health information. Determining whether protected health information has been

handled in compliance with applicable privacy standards and our contractual obligations can require complex factual and statistical analyses, and may be complicated by the fact that the applicable rules are subject to changing interpretation. HIPAA mandates the reporting of certain breaches of health information to the U.S. Department of Health and Human Services, or HHS, affected individuals, and if the breach is large enough, the media. In addition to reputational harm, entities that are found to be in violation of HIPAA as the result of a breach of unsecured protected health information, a complaint about privacy practices, or an audit by HHS, may be subject to significant civil, criminal, and administrative fines and penalties and/or additional reporting and oversight obligations if required to enter into a resolution agreement and corrective action plan with HHS to settle allegations of HIPAA non-compliance. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing civil actions.

The U.S. federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics, and medical supplies for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program, with specific exceptions, to annually report to the Centers for Medicare and Medicaid Services, or CMS, information related to payments or other transfers of value made to physicians (currently defined to include doctors of medicine or osteopathy, dentists, optometrists, podiatrists, and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Effective January 1, 2022, these reporting obligations will extend to include transfers of value made to certain non-physician practitioners, such as physician assistants and nurse practitioners.

We are also subject to additional similar U.S. state and foreign equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, or that apply regardless of payor; state laws which require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government; state and local laws which require pharmaceutical companies to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; state laws which require the reporting of information related to drug pricing; state and local laws requiring the registration of pharmaceutical sales representatives; and state and foreign laws governing the privacy and security of health information which, in some cases, differ from each other in significant ways, and may not have the same effect, thus complicating compliance efforts. If our operations are found to be in violation of any of such laws or any other governmental regulations that apply, we or our officers, directors, employees, contractors, or agents may be subject to penalties, including, without limitation, significant civil, criminal, and administrative penalties; damages; fines; exclusion from government-funded healthcare programs, such as Medicare and Medicaid or similar programs in other countries or jurisdictions; entry into a corporate integrity agreement or similar reporting obligations to resolve allegations of non-compliance; disgorgement; imprisonment; contractual damages; reputational harm; diminished profits; and the curtailment or restructuring of our operations.

Data Privacy and Security Laws

We may also be subject to data privacy and security laws in the United States and various jurisdictions around the world in which we operate or process personally identifiable information ("personal information" or "personal data"). Even when HIPAA does not apply, according to the Federal Trade Commission, or the FTC, failing to take appropriate steps to keep consumers' personal information secure constitutes unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act, or the FTCA, 15 U.S.C. § 45(a). The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. Individually identifiable health information is considered sensitive data that merits stronger safeguards. The FTC's guidance for appropriately securing consumers' personal information is similar to what is required by the HIPAA security regulations.

In addition, certain states have enacted laws that govern the privacy and security of health information and other personal information in certain circumstances, some of which are more stringent than HIPAA and many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts. Failure to comply with these laws, where applicable, can result in the imposition of significant civil and/or criminal penalties and private litigation as well as reputational harm. For example, California recently enacted the California Consumer Privacy Act, or the CCPA, which provides for civil penalties for violations and creates new individual privacy rights for California consumers (as defined in the law) for certain data breaches that result in the loss of personal information that may increase the likelihood of, and risks associated with, data breach litigation, and places increased privacy and security obligations on entities handling personal data of consumers or households. The CCPA requires covered businesses to provide certain disclosures to consumers about their data collection, use and sharing practices, and to provide affected California residents with ways to opt-out of certain sales or transfers of personal information. The CCPA went into effect on January 1, 2020 and became enforceable by the California Attorney General on July 1, 2020. While there is currently an exception for protected health information that is subject to HIPAA and clinical trial regulations, as currently written, the CCPA may impact our business activities with respect to other personal information that we collect regarding California residents. Although the CCPA is now in force, there continues to be uncertainty about how it will be enforced and about how certain of its provisions will be interpreted. The uncertainty surrounding the implementation of CCPA exemplifies the vulnerability of our business to the evolving regulatory environment related to personal information and protected health information.

In addition, on November 3, 2020, California voters approved a new privacy law, the California Privacy Rights Act, or the CPRA. Effective starting on January 1, 2023, the CPRA will significantly modify the CCPA, including by expanding consumers' rights with respect to certain sensitive personal information. The CPRA also creates a new state agency that will be vested with authority to implement and enforce the CCPA and the CPRA. Laws protecting personal data privacy and/or imposing data security requirements have also been proposed in other states and at the federal level, and if passed, such laws may have potentially conflicting requirements that would make compliance challenging.

The collection, use, storage, disclosure, transfer, or other processing of personal information regarding individuals in the European Economic Area, or EEA, including personal health data, is subject to the GDPR, which became effective on May 25, 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, including requirements relating to processing health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, and taking certain measures when engaging third-party processors. The GDPR also imposes strict rules on the transfer of personal data to countries outside the European Union, including the United States, and permits data protection authorities to impose large penalties for violations of the GDPR, including potential fines of up to €20 million or 4% of annual global revenues, whichever is greater. The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR includes restrictions on cross-border data transfers. Compliance with the GDPR will be a rigorous and time-intensive process that may increase our cost of doing business or require us to change our business practices, and despite those efforts, there is a risk that we may be subject to fines and penalties, litigation, and reputational harm in connection with our European activities. Data protection authorities from the different EU member states may interpret the GDPR and national laws differently and impose additional requirements, which add to the complexity of processing personal data in the EU. In addition, further to the United Kingdom’s (U.K.) exit from the EU (“Brexit”) on January 31, 2020, the GDPR continued to apply in the U.K. until the end of the transition period on December 31, 2020. As of January 1, 2021, the GDPR was brought into U.K. law as the ‘U.K. GDPR’, but there may be further developments about the regulation of particular issues such as U.K.-EU data transfers. Pursuant to the Trade and Cooperation Agreement, which went into effect on January 1, 2021, the U.K. and the EU agreed to a specified period during which the U.K. will be treated like an EU member state in relation to transfers of personal data to the U.K. for four months from January 1, 2021. This period may be extended by two further months. Unless the European Commission makes an adequacy finding in respect

of the U.K. before the expiration of such specified period, the U.K. will become an inadequate third country under the GDPR and transfers of data from the European Economic Area to the U.K. will require a transfer mechanism, such as the standard contractual clauses. If we engage in personal data processing activities that cause us to be subject to UK data protection law, we may be required to take steps to ensure the lawfulness of our cross-border data transfers, particularly if by the end of the specified period there will not be an adequacy decision by the European Commission regarding the U.K.

In addition, various jurisdictions around the world continue to propose new laws that regulate the privacy and/or security of certain types of personal data. Complying with these laws, if enacted, would require significant resources and leave us vulnerable to possible fines, penalties, litigation, and reputational harm if we are unable to comply.

Healthcare Reform and Legislative Changes

The United States and some foreign jurisdictions are considering or have enacted a number of reform proposals to change the healthcare system. There is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality, or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by federal and state legislative initiatives, including those designed to limit the pricing, coverage, and reimbursement of pharmaceutical and biological products, especially under government-funded healthcare programs, and increased governmental control of drug pricing.

The ACA, which was enacted in March 2010, substantially changed the way healthcare is financed by both governmental and private insurers in the United States, and significantly affected the pharmaceutical industry. The ACA contains a number of provisions of particular import to the pharmaceutical and biotechnology industries, including, but not limited to, those governing enrollment in federal healthcare programs and expanding enrollment in commercial health plans through new Health Insurance Marketplaces operated by the federal and state governments; a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected; and annual fees based on pharmaceutical companies' share of sales to federal healthcare programs. Since its enactment, there have been judicial, Congressional, and executive branch challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. For example, Congress has considered legislation that would repeal, or repeal and replace, all or part of the ACA. While Congress has not passed comprehensive repeal legislation, it has enacted laws that modify certain provisions of the ACA such as removing penalties, which started on January 1, 2019, for not complying with the ACA's individual mandate to carry health insurance, delaying the implementation of certain ACA-mandated fees, and increasing the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D.

On December 14, 2018, a U.S. District Court Judge in Texas ruled that the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of legislation enacted in 2017, informally titled the Tax Cuts and Jobs Act. On December 18, 2019, the U.S. Court of Appeals for the 5th Circuit ruled that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. On March 2, 2020, the United States Supreme Court granted the petitions for writs of certiorari to review this case. Oral arguments occurred on November 10, 2020, though it is unclear when a decision will be reached. It is also unclear how such litigation and other efforts to repeal or replace the ACA will impact the ACA and our business.

Other legislative changes have been proposed and adopted since the ACA was enacted, including aggregate reductions of Medicare payments to providers of 2% per fiscal year and reduced payments to several types of Medicare providers. These reductions went into effect in April 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2030 unless additional action is taken by Congress. However, pursuant to the Coronavirus Aid, Relief and Economic Security Act, and subsequent legislation, these Medicare sequester reductions are suspended from May 1, 2020 through March 31, 2021 due to the COVID-19 pandemic.

Further regulatory changes include passage of the Right to Try Act on May 30, 2018. The law, among other things, provides a federal framework for certain patients to access certain investigational new medical

products that have completed a Phase 1 clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a pharmaceutical manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act.

Moreover, there has recently been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. The former Trump administration's budget proposal for fiscal year 2021 included a $135 billion allowance to support legislative proposals seeking to reduce drug prices, increase competition, lower out-of-pocket drug costs for patients, and increase patient access to lower-cost generic and biosimilar drugs. On March 10, 2020, the former Trump administration sent "principles" for drug pricing to Congress, calling for legislation that would, among other things, cap Medicare Part D beneficiary out-of-pocket pharmacy expenses, provide an option to cap Medicare Part D beneficiary monthly out-of-pocket expenses, and place limits on pharmaceutical price increases. Further, the former Trump administration also previously released a "Blueprint" to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out of pocket costs of drug products paid by consumers. The U.S. Department of Health and Human Services, or HHS, has already started the process of soliciting feedback on some of these measures and, at the same time, is immediately implementing others under its existing authority. For example, in May 2019, CMS issued a final rule to allow Medicare Advantage Plans the option of using step therapy for Part B drugs beginning January 1, 2020. However, it is unclear whether the Biden administration will challenge, reverse, revoke or otherwise modify these executive and administrative actions after January 20, 2021.

In 2020, President Trump announced several executive orders related to prescription drug pricing that seek to implement several of the administration's proposals. The FDA released a final rule on September 24, 2020, which went into effect on November 30, 2020, providing guidance for states to build and submit importation plans for drugs from Canada. Further, on November 20, 2020 CMS issued an Interim Final Rule implementing the Most Favored Nation, or MFN, Model under which Medicare Part B reimbursement rates will be calculated for certain drugs and biologicals based on the lowest price drug manufacturers receive in Organization for Economic Cooperation and Development countries with a similar gross domestic product per capita. The MFN Model regulations mandate participation by identified Part B providers and would have applied to all U.S. states and territories for a seven-year period beginning January 1, 2021, and ending December 31, 2027. However, in response to a lawsuit filed by several industry groups, on December 28, the U.S. District Court for the Northern District of California issued a nationwide preliminary injunction enjoining government defendants from implementing the MFN Rule pending completion of notice-and-comment procedures under the Administrative Procedure Act. On January 13, 2021, in a separate lawsuit brought by industry groups in the U.S. District of Maryland, the government defendants entered a joint motion to stay litigation on the condition that the government would not appeal the preliminary injunction granted in the U.S. District Court for the Northern District of California and that performance for any final regulation stemming from the MFN Interim Final Rule shall not commence earlier than 60 days after publication of that regulation in the Federal Register. Further, authorities in Canada have passed rules designed to safeguard the Canadian drug supply from shortages. If implemented, importation of drugs from Canada and the MFN Model may materially and adversely affect the price we receive for any of our product candidates. Additionally, on December 2, 2020, HHS published a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The rule also creates a new safe harbor for price reductions reflected at the point-of-sale, as well as a safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers. Pursuant to an order entered by the U.S. District Court for the District of Columbia, the portion of the rule eliminating safe harbor protection for certain rebates related to the sale or purchase of a pharmaceutical product from a manufacturer to a plan sponsor under Medicare Part D has been delayed to

January 1, 2023. Further, implementation of this change and new safe harbors for point-of-sale reductions in price for prescription pharmaceutical products and pharmacy benefit manager service fees are currently under review by the Biden administration and may be amended or repealed.

Although a number of these and other proposed measures may require additional authorization to become effective, Congress and President Joseph Biden have each indicated that they will continue to seek new legislative and/or administrative measures to control drug costs. Additional state and federal healthcare reform measures may be adopted in the future. Further, it is possible that additional governmental action is taken in response to the COVID-19 pandemic. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

Employees and Human Capital Resources

As of April 9, 2021, we had 48 full-time employees and part-time employees. Of our full and part-time employees, 11 have Ph.D. or M.D. degrees and are engaged in research and development activities.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and new employees, advisors and consultants. The principal purposes of our equity incentive plans are to attract, retain and reward personnel through the granting of equity-based compensation awards in order to increase shareholder value and the success of our company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

Facilities

Our principal executive offices are located in Oxford, United Kingdom, where we lease and occupy approximately 5,059 square feet of office and laboratory space. We believe that our current facilities are adequate to meet our ongoing needs and that, if we require additional space, we will be able to obtain additional facilities on commercially reasonable terms.

Legal Proceedings

We are not currently a party to any material legal proceedings. From time to time, we may become involved in other litigation or legal proceedings relating to claims arising from the ordinary course of business.

MANAGEMENT

Executive Officers and Directors

The following table sets forth the name, age and position of each of our executive officers and directors as of the date of this prospectus. Unless otherwise stated, the business address of our executive officers and directors is care of Vaccitech plc, The Schrödinger Building, Heatley Road, The Oxford Science Park, Oxford OX4 4GE, United Kingdom.

Name	Age	Position(s)
Executive Officers:		
William Enright	58	Chief Executive Officer and Director
Thomas G. Evans, MD	66	Chief Scientific Officer
Chris Ellis	61	Chief Operating Officer
Meg Marshall, MD	64	Chief Medical Officer
Graham Griffiths	42	Chief Business Officer
Georgy Egorov	44	Chief Financial Officer
Non-Executive Directors(*):		
Robin Wright(1)	57	Chairman of the Board of Directors
Alex Hammacher(2)	40	Director
Pierre A. Morgon, PharmD(1)(3)	58	Director
Anne M. Phillips, MD(2)	67	Director
Karen T. Dawes(1)(3)	69	Director
Joseph C.F. Scheeren(2)(3)	65	Director

(1) Member of Audit Committee

(2) Member of Compensation Committee

(3) Member of Nominating Committee

(*) Carl Vine served as a member of our board directors from March 2021 to April 2021. Mr. Vine resigned from our board of directors in April 2021 in connection with this offering. Mr. Vine's decision to resign as a director was not the result of any disagreement with us on any matter relating to our operations, policies or practices.

Executive Officers

William Enright has been our Chief Executive Officer and a member of our board of directors since August 2019. From June 2008 to November 2018, Mr. Enright served as the Chief Executive, President and Director of Altimmune, Inc., a biopharmaceutical company. Prior to joining Altimmune, Inc., Mr. Enright held various positions at GenVec, Inc., leaving as Head of Business Development. Mr. Enright holds a MA and BS in Biology from SUNY at Buffalo and a MS in Business Management from Johns Hopkins University. We believe that Mr. Enright is qualified to serve on our board of directors because of his considerable management experience in the biopharmaceutical industry.

Dr. Thomas Evans has been our Chief Scientific Officer since August 2019. Prior to becoming our Chief Scientific Officer, Dr. Evans served as our Chief Executive Officer from April 2017 to August 2019. From September 2010 to May 2016, Dr. Evans served in roles of increasing responsibility at Aeras, a non-profit product development partnership with the mission to develop global tuberculosis vaccines, where he had previously served as Chief Scientific Officer and most recently served as Chief Executive Officer. Dr. Evans was a member of our board of directors from 2016 to March 2021. Dr. Evans received a MD from the University of Virginia and a BA in Physics from Williams College.

Chris Ellis has been our Chief Operating Officer since March 2018. Prior to becoming Chief Operating Officer, Mr. Ellis was our Head of Clinical Operations from August 2016 to February 2018. Prior to that, Mr. Ellis was a Project Leader at PsiOxus Therapeutics Limited, a gene therapy company, from January 2013 to August 2016. Mr. Ellis is a Registered General Nurse and Registered Mental Nurse and received his qualifications from Mansfield & Worksop School of Nursing and Nottingham School of Nursing.

Meg Marshall has been our Chief Medical Officer since November 2020. Prior to becoming our Chief Medical Officer, Dr. Marshall served as a biotech consultant from March 2018 to October 2020. From October 2014 to February 2018, Dr. Marshall was Senior Director, Clinical Research at Kyowa Kirin Pharmaceutical Development, Inc., a pharmaceutical company. Dr. Marshall received a BS from California Institute of Technology and a MD from the University of California, San Diego.

Graham Griffiths has been our Chief Business Officer since October 2017. Prior to becoming our Chief Business Officer, Mr. Griffiths served as Chief Operating Officer, co-founder and a member of the board of directors of Agalimmune Limited, a clinical stage biotechnology company, from May 2013 to September 2017. Mr. Griffiths received a BA Hons degree from Newcastle University.

Georgy Egorov has been our Chief Financial Officer since October 2020. Prior to becoming our Chief Financial Officer, Mr. Egorov served as Chief Financial Officer and a member of the board of directors of Exscientia Limited from October 2018 to August 2020. Prior to joining Exiscientia, Mr. Egorov was Chief Financial Officer and a member of the board of directors of CompareEuropeGroup from June 2017 to September 2018. Before that, Mr. Egorov held multiple positions at UBS Group AG from July 2010 to June 2017, most recently serving as Managing Director, Head of Emerging Markets Equity Capital Markets. Mr. Egorov received a BS/MS in Economics and Finance (Financial Analysis) from Plekhanov Russian University of Economics and a MSt in Social Innovation from the University of Cambridge.

Non-Executive Directors

Robin Wright has served as our chairman since October 2018 and a member of our board of directors since August 2018. From September 2020 to October 2020, Mr. Wright was our interim Chief Financial Officer. From September 2015 to May 2020, Mr. Wright was the Chief Financial Officer of Pharming Group N.V., a biopharmaceutical company. Mr. Wright received a BA from Oxford and is a Fellow of the Institute of Chartered Accountants in England and Wales. We believe Mr. Wright is qualified to serve on our board of directors because of his extensive management experience and financial expertise in the life sciences industry.

Alex Hammacher has been a member of our board of directors since January 2020. Dr. Hammacher is Head of Corporate Finance at Oxford Sciences Innovation, a venture capital firm partnered with Oxford University, a position he has held since October 2019. Prior to joining Oxford Sciences Innovation, Dr. Hammacher held positions of increasing seniority at Lazard, an investment banking firm, from October 2015 to October 2019, most recently as Director of Healthcare Investment Banking, and UBS, an investment banking firm, from July 2007 to September 2015. Dr. Hammacher received a BA and BM BCh from Oxford University. We believe Dr. Hammacher is qualified to serve on our board of directors because of his extensive investment experience in the life sciences industry.

Pierre A. Morgon has been a member of our board of directors since January 2018. Dr. Morgon is Chief Executive Officer of MRGN Advisors, an investment strategy advisor, a position he has held since January 2015. Dr. Morgon is also Regional Partner for Switzerland at Mérieux Equity Partners, an investment firm, a position he has held since October 2014. Dr. Morgon is also chair of the board of directors of Health Technologies Holding (HTH) Srl, a position he has held since June 2020, chair of the board of directors of MYCB1, a position he has held since July 2020, chair of the board of directors of Eurocine Vaccines, a position he has held since May 2019, chair of the board of directors of Theradiag, a position he has held since 2017, and a member of the board of directors of UNIVERCELLS, a position he has held since July 2018. Dr. Morgon also served as a member of the board of directors of CanSino Biologics during 2019, a member of the board of directors of Alma Biotherapeutics from 2017 to 2018 and chair of the board of directors of Virometix AG from January 2017 to November 2019. We believe Dr. Morgon is qualified to serve on our board of directors due to his extensive experience as a director of life sciences companies.

Dr. Anne M. Phillips has been a member of our board of directors since February 2021. Dr. Phillips is Senior Vice President of Clinical, Medical & Regulatory Affairs at Novo Nordisk, a position she has held since 2013. Prior to joining Novo Nordisk, Dr. Phillips held positions of increasing seniority at GlaxoSmithKline from 1998 to 2010, most recently as Vice President, Medicine Development Leader. Dr. Phillips also serves on the board of directors of Trevena Corporation, a biopharmaceutical company, a position she has held since 2014. Dr. Phillips also served as a member of the board of directors of AMAG Pharmaceuticals, Inc., a pharmaceutical company, from 2019 to 2020, and Biotechnology Innovation Organization, a biotechnology trade organization, from 2017 to 2018. Dr. Phillips received a BSc in Zoology from the University of Western Ontario and an MD from the University of Toronto. We believe Dr. Phillips is qualified to serve on our board of directors because of her extensive expertise in the life sciences industry.

Karen T. Dawes has been a member of our board of directors since February 2021. Ms. Dawes is the President of Knowledgeable Decisions, LLC, a position she has held since 2003. Ms. Dawes served from 1999 to 2003 as Senior Vice President and U.S. Business Group Head for Bayer Corporation's U.S. Pharmaceuticals Group. Prior to joining Bayer, she was Senior Vice President, Global Strategic Marketing, at Wyeth LLC, a pharmaceutical company (formerly known as American Home Products). Ms. Dawes also served as Vice President, Chief Commercial Officer, for Genetics Institute, Inc. Ms. Dawes began her pharmaceuticals industry career at Pfizer, Inc. where, from 1984 to 1994, she held a number of marketing positions, serving most recently as Vice President, Marketing of the Pratt Division. Ms. Dawes also serves on the boards of directors of two publicly traded companies, Repligen Corporation, and Medicenna Therapeutics Corporation, one privately-held company, PaxMedica Therapeutics, and one not-for-profit organization, Medicines 360. Ms. Dawes received a BA and an MA from Simmons College in English Literature and an MBA from Harvard University. We believe Ms. Dawes is qualified to serve on our board of directors because of her extensive experience with biopharmaceutical companies as well as her considerable background in the development and commercialization of pharmaceutical products.

Joseph C. F. Scheeren has been a member of our board of directors since March 2021. Dr. Scheeren served as President and Chief Executive Officer of Critical Path Institute, or C-Path, a non-profit organization, from April 2019 to March 2021. Prior to joining C-Path, Dr. Scheeren served in various senior roles at Bayer AG, a global pharmaceutical company, for 15 years, including serving as Senior Vice President, Senior Advisor to Research and Development from January 2018 to December 2018 and Senior Vice President, Head of Global Regulatory Affairs, Pharmaceuticals and Consumer Health from January 2015 to December 2017. He previously also held numerous executive positions at Aventis Pharmaceuticals, Roussel UCLAF, Ares Serono and Les Laboratoires Servier. Dr. Scheeren currently serves as a director on several boards of non-profit organizations, is an adjunct Professor of Regulatory Science at Peking University, Beijing, and is a lecturer at Yale University. Dr Scheeren earned his PharmD, MSc and BS degrees at the University of Leiden, Leiden, the Netherlands, School of Pharmacy. We believe Dr. Scheeren is qualified to serve on our board of directors because of his global expertise in research and development and regulatory affairs in the pharmaceutical industry.

Family Relationships

There are no family relationships among any of our executive officers or directors.

Corporate Governance Practices

We intend to adopt, effective upon the effectiveness of the registration statement of which this prospectus forms a part, a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. Following the completion of this offering, a current copy of the code will be posted on the Corporate Governance section of our website, which is located at *www.vaccitech.co.uk*. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for any officer, we will disclose the nature of such amendment or waiver on our website or in a current report on Form 8-K.

Composition of Our Board Of Directors

Upon completion of this offering, our board of directors will be composed of seven members. Our board of directors has determined that, of our seven directors upon completion of this offering, no director, other

than William Enright and Alex Hammacher, has a relationship that would interfere with the exercise of independent judgment in carrying out his or her responsibilities as a director and that each of these directors is "independent" as that term is defined under Nasdaq rules.

The Articles of Association that will be in effect upon completion of this offering provide that our board of directors will be divided into three classes, each of which will consist, as nearly as possible, of one-third of the total number of directors constituting our entire board and which will serve staggered three-year terms. At each annual general meeting, the successors of directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. Our directors will be divided among the three classes as follows:

- Class I, which will consist of Pierre A. Morgon and Joseph C. F. Scheeren, whose terms will expire at our first annual general meeting to be held after the completion of this offering;
- Class II, which will consist of Karen T. Dawes and Anne M. Phillips, whose terms will expire at our second annual general meeting to be held after the completion of this offering; and
- Class III, which will consist of William Enright, Alex Hammacher and Robin Wright, whose terms will expire at our third annual general meeting to be held after the completion of this offering.

Each director shall serve until his or her successor is duly elected and qualified or until his or her earlier death, resignation or removal. See "Description of Share Capital and Articles of Association — Key Provisions of our Post-IPO Articles of Association — Board of directors."

Committees of Our Board of Directors

Our board of directors has three standing committees: an audit committee, a compensation committee and a nominating committee. Following the consummation of this offering, the full text of our audit committee charter, compensation committee charter, and nominating committee charter will be posted on the investor relations portion of our website at www.vaccitech.co.uk. We do not incorporate the information contained on, or accessible through, our corporate website into this prospectus, and you should not consider it a part of this prospectus.

Audit committee

Upon the effectiveness of the registration of which this prospectus forms a part, our audit committee will consist of Karen T. Dawes, Pierre A. Morgon and Robin Wright, and will be chaired by Mr. Wright.

The functions of the audit committee upon the completion of this offering will include:

- recommending the appointment of the independent auditor to the general meeting of shareholders;
- the appointment, compensation, retention and oversight of any accounting firm engaged for the purpose of preparing or issuing an audit report or performing other audit services;
- pre-approving the audit services and non-audit services to be provided by our independent auditor before the auditor is engaged to render such services;
- evaluating the independent auditor's qualifications, performance and independence, and presenting its conclusions to the full board of directors on at least an annual basis;
- reviewing the adequacy of our internal controls with management and any remediation plan associated with any significant control deficiencies or material weaknesses;
- reviewing and discussing with management and our independent registered public accounting firm our financial statements and our financial reporting process; and
- reviewing, approving or ratifying any related party transactions.

All members of our audit committee will meet the requirements for financial literacy under the applicable rules and regulations of the SEC and the Nasdaq listing rules. Our board of directors has determined that Mr. Wright qualifies as an "audit committee financial expert" within the meaning of applicable SEC regulations. In making this determination, our board of directors considered the nature and scope of experience that Mr. Wright has previously had with public reporting companies, including service as the Chief Executive Officer of Pharming Group N.V. Our board of directors has determined that all of the directors that will become members of our audit committee upon the effectiveness of the registration statement of which this prospectus forms a part satisfy the relevant independence requirements for service on the audit committee set forth in the rules of the SEC and the Nasdaq listing rules. Both our independent registered public accounting firm and management will periodically meet privately with our audit committee.

Compensation committee

Upon effectiveness of the registration statement of which this prospectus forms a part, our compensation committee will consist of Anne M. Phillips, Alex Hammacher and Joseph C. F. Scheeren, and will be chaired by Dr. Phillips. The functions of the compensation committee upon the completion of this offering will include:

- annually reviewing and recommending to the board of directors the corporate goals and objectives relevant to the compensation of our Chief Executive Officer;
- evaluating the performance of our Chief Executive Officer in light of such corporate goals and objectives and based on such evaluation (i) recommending to the board of directors the cash compensation of our Chief Executive Officer and (ii) reviewing and approving grants and awards to our Chief Executive Officer under equity-based plans;
- reviewing and approving the cash compensation of our other executive officers;
- reviewing and establishing our overall management compensation, philosophy and policy;
- overseeing and administering our compensation and similar plans;
- evaluating and assessing potential and current compensation advisors in accordance with the independence standards identified in the applicable Nasdaq rules;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and recommending to the board of directors the compensation of our directors;
- preparing our compensation committee report if and when required by SEC rules;
- reviewing and discussing annually with management our "Compensation Discussion and Analysis," if and when required, to be included in our annual proxy statement; and
- reviewing and approving the retention or termination of any consulting firm or outside advisor to assist in the evaluation of compensation matters.

Our board of directors has determined that Dr. Phillips and Dr. Scheeren, but not Mr. Hammacher, are "independent" as defined in the applicable Nasdaq rules except for Mr. Hammacher. The Board determined that Mr. Hammacher's continued service on the compensation committee is in the best interest of the Company's shareholders due to his past service on the compensation committee and his familiarity with the Company's compensation policies and practices. We intend to rely on the phase-in rules of Nasdaq with respect to the independence of our compensation committee. Each member of our compensation committee will be a non-employee director, as defined in Rule 16b-3 promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Nominating committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, our nominating committee will consist of Pierre A. Morgon, Karen T. Dawes and Joseph C. F. Scheeren, which will be chaired by Mr. Morgon.

Upon completion of this offering, the functions of the nominating committee will include:

- determining selection criteria and appointment procedures for directors;
- recommending nominees for election to our board of directors and appointment to its committees;
- assessing the functioning of our board of directors and executive officers and reporting the results of such assessment to the board of directors; and
- developing corporate governance guidelines and any other governance policies.

Code of business conduct and ethics

Prior to the completion of this offering, we intend to adopt a Code of Business Conduct and Ethics, or Code of Ethics, applicable to our and our subsidiaries' employees, independent contractors, executive officers and directors, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions.

EXECUTIVE COMPENSATION

Executive Compensation Overview

Historically, our executive compensation program has reflected our growth and development-oriented corporate culture. To date, the compensation of the other executive officers identified in the summary compensation table below, who we refer to as the named executive officers, has consisted of a combination of base salary, bonuses and long-term incentive compensation in the form of share options or restricted shares. Our executive officers and all salaried employees are also eligible to receive health and welfare benefits.

As we transition from a private company to a publicly-traded company, we will evaluate our compensation values and philosophy and compensation plans and arrangements as circumstances require. At a minimum, we expect to review executive compensation annually with input from a compensation consultant if and when determined appropriate by the compensation committee. As part of this review process, we expect the board of directors and the compensation committee to apply our values and philosophy, while considering the compensation levels needed to ensure our executive compensation program remains competitive. We will also review whether we are meeting our retention objectives and the potential cost of replacing a key employee.

Summary Compensation Table — 2020

The following table presents information regarding the total compensation awarded to, earned by, and paid to our principal executive officer and the two most highly-compensated executive officers (other than our principal executive officer) who were serving as our executive officers at the end of the last completed fiscal year for services rendered in all capacities to us. We refer to these individuals as our named executive officers. Our named executive officers for 2020 are:

- William Enright, our Chief Executive Officer;
- Georgy Egorov, our Chief Financial Officer; and
- Meg Marshall, MD, our Chief Medical Officer.

The following table provides information regarding the total compensation awarded to, earned by, and paid to our named executive officers for services rendered to us in all capacities for the fiscal year ended December 31, 2020.

Name and Principal Position	Year[1]	Salary ($)	Stock Awards ($)[2]	Option Awards ($)[2]	Non-Equity Incentive Plan Compensation ($)[3]	All Other Compensation ($)[4]	Total ($)
William Enright[5]	2020	350,000	2,795,744	—	175,000	47,884	$3,368,628
	2019	127,957	—	—	67,614	6,476	$ 202,047
Georgy Egorov[6]	2020	54,185		1,043,699	16,272	2,709	$1,116,865
Meg Marshall, MD[7]	2020	45,833		522,629	17,500	98,200	$ 684,162

(1) The company changed its fiscal year end from January 31 to December 31 in 2019. Accordingly, the amounts reported for 2019 for Mr. Enright represent the 11-month period ending December 31, 2019.

(2) The amounts reported reflect the grant date fair value of restricted share unit awards and option awards granted in 2020 and 2019 in accordance with Financial Accounting Standards Board accounting Standards Codification Topic 718, service-vesting conditions. The assumptions used in calculating the grant date fair value of the shares are set forth in the notes to our consolidated financial statements included elsewhere in this prospectus. These amounts do not correspond to the actual value that may be recognized by the named executive officers upon vesting of the applicable awards.

(3) The amounts reported for 2019 represent Mr. Enright's 2019 annual bonus that was paid in February 2020, based on achievement of Company goals. The amounts reported for 2020 represent the annual bonuses paid by us in February 2021 to our named executive officers for the year ended December 31, 2020.

(4) The amounts reported for Mr. Enright represent 401(k) matching contributions and reimbursement for COBRA premiums paid to Mr. Enright's former employer for his continued health insurance coverage. The amount reported for Mr. Egorov represents employer pension contributions. The amounts reported for Dr. Marshall represent $1,900 in 401(k) matching contributions and $96,300 in consulting fees for consulting services Dr. Marshall provided prior to her commencement of employment with us.

(5) Mr. Enright commenced employment with us in August 2019. Accordingly, his salary and bonus for 2019 reflect his partial year of service.

(6) Mr. Egorov commenced employment with us in October 2020. Accordingly, his salary and bonus for 2020 reflect his partial year of service. The amounts reported for Mr. Egorov have been converted from pounds sterling to U.S. dollars using the average monthly exchange rate in effect during each applicable month in 2020, which rate ranged from £0.745 to £0.770 to $1.00.

(7) Dr. Marshall commenced employment with us in November 2020. Accordingly, her salary and bonus for 2020 reflect her partial year of service.

Narrative to the Summary Compensation Table

Base Salaries

For the fiscal year ending December 31, 2020, the base salaries for Mr. Enright, Mr. Egorov and Dr. Marshall were $350,000, £200,000 and $275,000, respectively.

Annual Cash Bonuses

We do not sponsor or maintain a formal annual bonus plan. However, subject to the attainment of certain company and individual performance goals, the Board may approve discretionary bonuses based on a percentage of the executive's base salary. The amounts for performance in 2019, in the case of Mr. Enright, and for 2020, in the case of all our named executive officers, is set forth above in the "Summary Compensation Table."

Employment Agreements with Our Named Executive Officers

William Enright. We intend to enter into an employment agreement with Mr. Enright to be effective upon consummation of this offering, which shall generally supersede his prior employment agreement with us. Pursuant to this employment agreement, Mr. Enright will continue to serve as our chief executive officer. Mr. Enright shall be entitled to an annual base salary, subject to periodic increase (but not decrease), target annual bonus opportunity and employee benefits. Under Mr. Enright's new employment agreement, in the event that Mr. Enright's employment is terminated by us without "cause" or Mr. Enright resigns for "good reason" (as such terms are defined in the employment agreement), subject to the execution and effectiveness of a separation agreement, including a general release of claims in our favor), he will be entitled to receive (i) an amount equal to 12 months of his base salary, payable over the 12 month period following his termination, (ii) if his termination occurs following completion of a calendar year but prior to payment of an annual bonus, payment of such annual bonus, and (iii) if Mr. Enright is participating in our group health plans immediately prior to his termination and elects COBRA health continuation, continuation of such group health coverage at the same rate as if he were an active employee, until the earliest of (A) the 12 month anniversary of his termination; (B) his eligibility for group medical plan benefits under any other employer's group medical plan; or (C) the cessation of his continuation rights under COBRA. The employment agreement also provides that, in lieu of the payments and benefits described above, in the event that Mr. Enright's employment is terminated by us without cause or Mr. Enright resigns for good reason, in either case within 12 months following a "change in control" (as defined in the employment agreement), subject to the execution and effectiveness of a general release of claims in our favor, he will be entitled to receive (i) a lump sum cash payment equal to 1.5 times the sum of his then-current base salary (or his base salary in effect immediately prior to the change in control, if higher) plus his annual target bonus for the then-current year (or the annual target bonus in effect immediately prior to the change in control, if higher), and (ii) if Mr. Enright is participating in our group health plans immediately prior to his termination and elects COBRA health continuation, continuation of such group health coverage at the same rate as if he

were an active employee, until the earliest of (A) the 18 month anniversary of his termination; (B) his eligibility for group medical plan benefits under any other employer's group medical plan; or (C) the cessation of his continuation rights under COBRA. Mr. Enright's new employment agreement further provides that in the event Mr. Enright's employment is terminated by us without cause or Mr. Enright resigns for good reason, in either case within 12 months following a change in control, then any outstanding time-based equity awards shall immediately accelerate and become fully vested and exercisable or nonforfeitable on the date of termination.

Mr. Enright is also subject to an agreement relating to confidentiality, assignment of inventions, and a twelve-month nonsolicitation and noncompetition covenant.

Georgy Egorov. We intend to enter into an employment agreement with Mr. Egorov to be effective upon consummation of this offering, which shall generally supersede his prior employment agreement with us. Pursuant to this employment agreement, Mr. Egorov will continue to serve as our chief financial officer. Mr. Egorov shall be entitled to an annual base salary, which is subject to annual review and increase, but not decrease. Mr. Egorov is also eligible for an annual discretionary bonus of up to forty percent (40%) of his salary (based on the achievement of certain performance objectives) and customary employee benefits. Mr. Egorov's employment has no specified term, but can be terminated at will by either party upon six (6) months' notice (or, in the Company's sole discretion, payment in lieu of notice equal to the basic salary Mr. Egorov would have been entitled to receive during any remaining notice period). The Company may terminate Mr. Egorov's employment immediately without notice or payment in lieu of notice in the case of certain "cause" terminations including, but not limited to, serious or repeated or continued breach by Mr. Egorov of his obligations under the employment agreement.

Mr. Egorov's employment agreement contains standard intellectual property and confidentiality provisions which survive termination and also six (6) month non-competition and non-solicitation restrictive covenants.

Meg Marshall, MD. We intend to enter into an employment agreement with Dr. Marshall to be effective upon consummation of this offering, which shall generally supersede her prior employment agreement with us. Pursuant to this employment agreement, Dr. Marshall will continue to serve as our chief medical officer. Dr. Marshall shall be entitled to an annual base salary, subject to periodic review, target annual bonus opportunity and employee benefits. Under Dr. Marshall's new employment agreement, in the event that Dr. Marshall's employment is terminated by us without "cause" or Dr. Marshall resigns for "good reason" (as such terms are defined in the employment agreement), subject to the execution and effectiveness of a separation agreement, including a general release of claims in our favor), she will be entitled to receive (i) an amount equal to nine months of her base salary, payable over the nine month period following her termination, and (ii) if Dr. Marshall is participating in our group health plans immediately prior to her termination and elects COBRA health continuation, continuation of such group health coverage at the same rate as if she were an active employee, until the earliest of (A) the nine month anniversary of her termination; (B) her eligibility for group medical plan benefits under any other employer's group medical plan; or (C) the cessation of her continuation rights under COBRA. The employment agreement also provides that, in lieu of the payments and benefits described above, in the event that Dr. Marshall's employment is terminated by us without cause or Dr. Marshall resigns for good reason, in either case within 12 months following a "change in control" (as defined in the employment agreement), subject to the execution and effectiveness of a general release of claims in our favor, she will be entitled to receive (i) a lump sum cash payment equal to one times the sum of her then-current base salary (or her base salary in effect immediately prior to the change in control, if higher) plus her annual target bonus for the then-current year (or the annual target bonus in effect immediately prior to the change in control, if higher), and (ii) if Dr. Marshall is participating in our group health plans immediately prior to her termination and elects COBRA health continuation, continuation of such group health coverage at the same rate as if she were an active employee, until the earliest of (A) the 12 month anniversary of her termination; (B) her eligibility for group medical plan benefits under any other employer's group medical plan; or (C) the cessation of her continuation rights under COBRA. Dr. Marshall's new employment agreement further provides that in the event Dr. Marshall's employment is terminated by us without cause or Dr. Marshall resigns for good reason, in either case within 12 months following a change in control, then any outstanding time-based equity awards shall immediately accelerate and become fully vested and exercisable or nonforfeitable on the date of termination.

Dr. Marshall is also subject to an agreement relating to confidentiality, assignment of inventions, and a one-year non-solicitation and non-competition covenant.

Outstanding Equity Awards at Fiscal Year-End — 2020

The following table summarizes, for each of our named executive officers, the number of ordinary shares underlying outstanding share options and share awards held as of December 31, 2020.

		Option Awards[1]				Stock Awards	
Name	Vesting Commencement Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price[2]	Option Expiration Date	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights that have not Vested (#)[3]	Equity Incentive Plan Awards: Market or Payout Value of Shares, Units or Other Rights that have not Vested ($)[4]
William Enright						264,195	4,491,315
Georgy Egorov	October 29, 2020[5]	43,878	132,252	0.0004	October 31, 2030		
Meg Marshall	November 3, 2020	0	88,065	0.0004	November 3, 2030		

(1) Unless otherwise specified below, each option vests in four equal annual installments, with the first such annual installment vesting upon the first anniversary of the vesting commencement date, subject to such named executive officer's continued employment with us as of each such date.

(2) The exercise price of each outstanding option is £0.0003 per share. The exercise prices have been converted from pounds sterling to U.S. dollars using an average exchange rate of £0.745 to $1.00 in December 2020.

(3) Mr. Enright was granted 479,568 restricted share units in January 2020. (the "January Grant"). The terms of Mr. Enright's award provided him with anti-dilution protection, such that he was entitled to an additional grant of restricted shares units upon a funding round or a vesting date to ensure his aggregate restricted shares units equal 1.5% of the total fully-diluted share capital at the relevant vesting date (the "Antidilution Provisions"). Accordingly, an additional 48,822 restricted share units were granted to Mr. Enright in October 2020 pursuant to the Antidilution Provisions. 264,195 of the restricted share units vested in December 2020 upon the initial submission of our confidential registration statement on Form S-1 in connection with this offering. The remaining 264,195 restricted share units (plus any additional restricted share units granted pursuant to the Antidilution Provisions) shall vest upon the resolution of the board of directors to commence our initial public offering following completion of all registration and listing requirements and agreement upon the pricing and quantum of the offering (the "IPO Resolution Date").

(4) At the initial offering price of $17.00 per share.

(5) Mr. Egorov was granted an option to purchase 176,130 ordinary shares. This option vested 25% upon the vesting commencement date, with the remainder vesting 25% upon the IPO Resolution Date, and in two equal installments following the vesting commencement date. In the event there is not a successful initial public offering, then 25% of the option vests on the vesting commencement date, and 25% of the option shall vest on each anniversary thereof.

Equity Grants to Named Executive Officers in Connection with our Initial Public Offering

In February 2021, the board of directors approved option grants to certain of our named executive officers that will be effective upon our initial public offering. The options will be granted contingent and effective

upon the execution of the underwriting agreement for this offering. The options will be granted under our 2021 Plan (as defined below) and have an exercise price per share equal to the initial public offering price in this offering. The options will vest and become exercisable one year following completion of the initial public offering. We will grant options to purchase an aggregate of 11,742 ordinary shares to our named executive officers, with Dr. Marshall and Mr. Egorov being granted options to purchase 6,180 and 5,562 common shares, respectively. In addition, in order to provide equity incentives to our leadership team consistent with the ownership levels of our peer group, our board of directors also approved additional option grants under our 2021 Plan to each of our executive officers, including each of our named executive officers, that will be granted contingent and effective upon the execution of the underwriting agreement for this offering. We will grant options to purchase an aggregate of 551,565 ordinary shares to our named executive officers, with Mr. Enright, Dr. Marshall and Mr. Egorov being granted options to purchase 176,130, 225,570 and 149,865 ordinary shares, respectively. These options will vest over the three-year period following our initial public offering.

Employee Benefit and Stock Plan

EMI Share Option Scheme

In December 2018, the Company adopted the EMI Share Option Scheme (the "Scheme"). On October 22, 2020 the board of directors authorized the addition of 1,130,322 ordinary shares to the scheme to allow issuance to new employees and standard year end awards. The Scheme allows for the grant of options to our employees. The board of directors has determined not to grant any further awards under the Scheme following completion of this offering.

The Scheme is administered by our board of directors. The board of directors has the discretion to amend or add to the Scheme or impose additional conditions or requirements on the awards granted under the Scheme. The board of directors also has the authority to make such alterations as are necessary to secure EMI treatment of EMI options thereunder.

The Scheme provides for the grant of EMI options or unapproved options. All awards under the Scheme will be set forth in an option agreement, which will detail the terms and conditions of the awards, including any exercise conditions and lapse information.

In connection with certain corporate transactions, including a change of control, our board of directors has broad discretion to take action under the Scheme to prevent the dilution or enlargement of intended benefits, or to facilitate the transaction or event. This includes providing for the substitution of awards by a successor entity. In addition, in the event of a change in control, the board of directors may accelerate the vesting and exercisability of any option in its discretion. The board of directors may also specify a period of up to 90 days following a change in control during which such options must be exercised and, if not so exercised, such options will terminate.

Our board of directors may amend or terminate the Scheme at any time; however, no amendment, other than an amendment that increases the number of shares available under the Scheme, may affect an award outstanding under the Scheme without the consent of the affected participant (unless the amendment affects all or a class of optionholders and the amendment is approved by at least 75% of the affected optionholders).

Except as our board of directors may determine or provide in an option agreement, options granted under the Scheme are generally non-transferrable, except by will or the laws of descent and distribution, and are generally exercisable only by the participant. With regard to tax withholding obligations arising in connection with awards under the Scheme, and exercise price obligations arising in connection with the exercise of options under the Scheme, the board of directors may, in its discretion, accept cash, wire transfer or check, or a net exercise arrangement.

As of December 31, 2020, options to purchase 731,712 ordinary shares were outstanding under the Scheme. Our board of directors has determined not to make any further awards under the Scheme following the pricing of this offering.

Share Award Plan 2021

We intend to adopt the Share Award Plan 2021, or the 2021 Plan, which will be effective the day prior to the listing of our ADSs on Nasdaq. The 2021 Plan allows the compensation committee to make equity-based and cash-based incentive awards to our officers, employees, directors and other key persons (including consultants). The material terms of the 2021 Plan are summarized below. Except where the context indicates otherwise, references hereunder to our ordinary shares shall be deemed to include a number of ADSs equal to one ordinary share.

We have initially reserved 3,675,680 ordinary shares, or the Initial Limit, for the issuance of awards under the 2021 Plan. The 2021 Plan provides that the number of shares reserved and available for issuance under the plan will automatically increase each January 1, beginning on January 1, 2022, by 4% of the outstanding number of ordinary shares on the immediately preceding December 31, or such lesser number of shares as determined by our compensation committee, or the Annual Increase. This number is subject to adjustment in the event of a sub-division, consolidation, share dividend or other change in our capitalization.

The ordinary shares underlying any awards that are forfeited, cancelled, held back upon exercise or settlement of an award to satisfy the exercise price or tax withholding, reacquired by us prior to vesting, satisfied without any issuance of shares, expire or are otherwise terminated (other than by exercise) under the 2021 Plan will be added back to the ordinary shares available for issuance under the 2021 Plan.

The maximum aggregate number of shares that may be issued in the form of incentive share options shall not exceed 3,675,680 ordinary shares.

The 2021 Plan will be administered by our compensation committee. Our compensation committee has full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted, to make any combination of awards to participants, and to determine the specific terms and conditions of each award, subject to the provisions of the 2021 Plan. Persons eligible to participate in the 2021 Plan will be employees as selected from time to time by our compensation committee in its discretion. Non-employee directors and consultants as selected from time to time by our compensation committee will be eligible to participate in the 2021 Plan pursuant to the non-employee sub-plan to the 2021 Plan.

The 2021 Plan permits the granting of both options to purchase ordinary shares intended to qualify as incentive share options under Section 422 of the Code, and options that do not so qualify. The option exercise price of each option will be determined by our compensation committee but may not be less than 100% of the fair market value of our ordinary shares on the date of grant. The term of each option will be fixed by our compensation committee and may not exceed 10 years from the date of grant. Our compensation committee will determine at what time or times each option may be exercised.

Our compensation committee may award restricted share units to participants subject to such conditions and restrictions as it may determine. These conditions and restrictions may include the achievement of certain performance goals and/or continued employment with us through a specified vesting period.

Our compensation committee may award restricted shares, share appreciation rights and other share-based awards, on such terms and conditions as it may determine and set forth in the applicable award agreement.

The 2021 Plan provides that in the case of takeover and other corporate events (including where a change of control), the compensation committee shall determine if and to the extent unvested awards shall accelerate and vest and any options or share appreciation rights must be exercised within one month of the applicable event. In addition to and/or in lieu of the foregoing, the compensation committee may provide for the cancellation of awards in exchange for either an amount in cash or other property with a value equal to the amount that could have been obtained upon the exercise or settlement of the vested portion of such award.

Our board of directors may amend or discontinue the 2021 Plan and our compensation committee may amend the exercise price of options without shareholder consent and amend or cancel outstanding awards for purposes of satisfying changes in law or any other lawful purpose but no such action may adversely affect rights under an award without the consent of a majority of those affected. Certain amendments to the 2021 Plan require the approval of our shareholders. No awards may be granted under the 2021 Plan after the date that is 10 years from the date of adoption by our board of directors. No awards under the 2021 Plan have been made prior to the date of this prospectus.

2021 Employee Share Purchase Plan

We intend to adopt the 2021 Employee Share Purchase Plan, or ESPP, which will be effective upon consummation of this offering. We may elect to implement the ESPP in the future following this offering.

The ESPP initially reserves and authorizes up to a total of 367,568 ordinary shares to participating employees. The ESPP provides that the number of shares reserved and available for issuance will automatically increase each January 1, beginning on January 1, 2022, by the least of (i) 735,136 ordinary shares, or (ii) up to 1% of the outstanding number of ordinary shares on the immediately preceding December 31, or such lesser number of ordinary shares as determined by the plan administrator. The share reserve is subject to adjustment in the event of a share split, share dividend or other change in our capitalization.

The ESPP is administered by our compensation committee. The administrator has the authority to make all determinations for administration of the ESPP. The compensation committee may adopt subplans under the 2021 ESPP for our non-U.S. employees, and may permit such employees to participate in the ESPP on different terms, to the extent permitted by applicable law.

All employees employed by us or by any of our designated affiliates whose customary employment is for more than 20 hours a week (unless this exclusion is not permitted by applicable law) are eligible to participate in the ESPP. Any employee who owns 5% or more of the total combined voting power or value of all classes of our shares is not eligible to purchase ordinary shares under the ESPP.

Offerings to our employees to purchase ordinary shares under the ESPP may be made at such times as determined by the administrator. Offerings will continue for such period, referred to as offering periods, as the administrator may determine, but may not be longer than 27 months. Each eligible employee may elect to participate in any offering by submitting an enrollment form before the applicable offering date.

Each employee who is a participant in the ESPP may purchase ordinary shares by authorizing payroll deductions of up to 15% of his or her eligible compensation during an offering period. Unless the participating employee has previously withdrawn from the offering, his or her accumulated payroll deductions will be used to purchase ordinary shares on the last business day of the applicable offering period equal to the lower of (i) the accumulated payroll deductions divided by either a per share price equal to 85% of the fair market value of a share of our ordinary shares on the first business day or the last business day of the offering period, whichever is lower, (ii) a number of ordinary shares determined by dividing the product of (A) $2,500 and (B) the number of months in the offering period, by the fair market value on the first day of the offering period, or (iii) such other lesser maximum number of ordinary shares as shall have been established by the administrator in advance of the offering. Under applicable tax rules, an employee may purchase no more than $25,000 worth of ordinary shares, valued at the start of the purchase period, under the ESPP in any calendar year.

The accumulated payroll deductions of any employee who is not a participant on the last day of an offering period will be refunded. An employee’s rights under the ESPP terminate upon voluntary withdrawal from the plan or when the employee ceases employment with us for any reason.

The ESPP may be terminated or amended by our compensation committee or board of directors at any time. An amendment that increases the number of our ordinary shares that are authorized under the ESPP and certain other amendments require the approval of our shareholders.

NON-EMPLOYEE DIRECTOR COMPENSATION

Other than as set forth in the table and described more fully below, we did not pay any compensation or make any equity awards or non-equity awards to any of our non-employee directors during the fiscal year ended December 31, 2020. Directors may be reimbursed for travel and other expenses directly related to their activities as directors. Directors who also serve as employees receive no additional compensation for their service as directors. During the fiscal year ended December 31, 2020, Mr. Enright, our Chief Executive Officer, and Dr. Evans, our Chief Scientific Officer, were members of our board of directors, as well as employees, and thus received no additional compensation for their services as directors. See the section titled "Executive Compensation" for more information about Mr. Enright's compensation for the fiscal year ended December 31, 2020. The following table presents the total compensation for each person who served as a non-employee director during the fiscal year ended December 31, 2020.

Name	Fees Earned or Paid in Cash ($)[1]	Option Awards[2]	Total ($)
Sarah Gilbert[3]	$48,983	—	$ 48,983
Adrian Hill[4]	$61,606	—	$ 61,606
Pierre Morgon[5]	$25,870	$161,430	$187,300
Robin Wright[6]	$26,415	$162,259	$188,674

(1) The amounts reported have been converted from pounds sterling to U.S. dollars using the average quarterly exchange rate for 2020 of £0.7809 to $1.00, £0.8061 to $1.00, £0.7740 to $1.00 and £0.7571 to $1.00, respectively.

(2) The amounts reported reflect the grant date fair value of option awards granted in 2020 in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, service-vesting conditions. The assumptions used in calculating the grant date fair value of the shares are set forth in the notes to our consolidated financial statements included elsewhere in this prospectus. These amounts do not correspond to the actual value that may be recognized by the named executive officers upon vesting of the applicable awards.

(3) Dr. Gilbert resigned from the Board in September 2020.

(4) Dr. Hill resigned from the Board in August 2018.

(5) As of December 31, 2020, Dr. Morgon held an unexercised option to purchase 20,394 ordinary shares.

(6) As of December 31, 2020, Mr. Wright held an unexercised option to purchase 20,394 ordinary shares.

Immediately prior to the completion of this offering, we intend to implement a formal policy pursuant to which our non-employee directors will be eligible to receive cash and equity retainers.

Non-Employee Director Compensation Program

Prior to the effectiveness of the registration statement of which this prospectus forms a part, we did not have a formal policy to compensate our non-employee directors. As of the effectiveness of the registration statement of which this prospectus forms a part, we intend to implement a formal policy pursuant to which our non-employee directors will be eligible to receive the following cash retainers and equity awards:

Annual Retainer for Board Membership	
Annual service on the board of directors	£30,000
Additional compensation for service as non-executive chair of the board of directors	£22,000
Additional Annual Retainer for Committee Membership	
Annual service as chair of the audit committee	£11,000
Annual service as member of the audit committee (other than chair)	£ 5,500
Annual service as chair of the compensation committee	£ 8,000

Annual service as member of the compensation committee (other than chair)	£ 4,000
Annual service as chair of the nomination and corporate governance committee	£ 6,000
Annual service as member of the nomination and corporate governance committee (other than chair)	£ 3,000

Our policy will provide that, upon initial election to our board of directors following the completion of this offering, each non-employee director will be granted an option to purchase a number of ordinary shares equal to 0.10% of the outstanding ordinary shares as of the date of grant, or the Initial Grant. Furthermore, on the date of each of our annual meeting of shareholders following the completion of this offering, each non-employee director who will continue as a non-employee director following such meeting will be granted an option to purchase a number of ordinary shares equal to 0.05% of the outstanding ordinary shares as of the date of grant, or the Annual Grant. The Annual Grant will vest in full on the earlier of (i) the one-year anniversary of the grant date or (ii) the next annual meeting of shareholders, subject to continued service as a director through the applicable vesting date. The Initial Grant will vest in 36 equal monthly installments, subject to continued service as a director through the applicable vesting date. Such awards are subject to full accelerated vesting upon the sale of the Company.

Employee directors will receive no additional compensation for their service as a director.

We will reimburse all reasonable out-of-pocket expenses incurred by directors for their attendance at meetings of our board of directors or any committee thereof.

RELATED PARTY TRANSACTIONS

Within this section, we have calculated the dollar amounts using the historical exchange rate as of the date of each transaction. The following is a description of transactions or series of transactions since January 1, 2017, to which we were or will be a party, in which:

- the amount involved in the transaction exceeds, or will exceed, $120,000; and
- in which any of our executive officers, directors or holder of five percent or more of any class of our capital stock, including their immediate family members or affiliated entities, had or will have a direct or indirect material interest.

Compensation arrangements for our named executive officers and our directors are described elsewhere in this prospectus under "Management — Director Compensation," "Executive Compensation" and Non-Executive Director Compensation."

Private Placements of Securities

Series A Financing

In November 2017, with subsequent closings in January 2018 and December 2018, we issued an aggregate of 6,818,085 of our Series A Shares at a subscription price of £3.52 ($4.63) per share for the November 2017 and January 2018 closing and £5.28 ($6.68) per share for the December 2018 closing for an aggregate amount of approximately $33.9 million. The following table summarizes the participation in the Series A financing across all closings by any of our directors, executive officers, holders of more than 5% of our share capital or any member of the immediate family of the foregoing persons.

Name	Series A Shares	Aggregate Purchase Price Paid	
		in Pound Sterling	in US dollar
5% or Greater Shareholders:			
Oxford Sciences Innovation plc[(1)]	1,704,444	£5,999,477.40	$7,901,687
Entities affiliated with GV[(2)]	1,704,444	£5,999,477.40	$7,901,687
SCC Venture VI Holdco, Ltd.[(3)]	1,420,473	£5,000,000.00	$6,532,698

(1) Oxford Sciences Innovation plc, or OSI, holds more than 5% of our voting securities.

(2) Entities affiliated with GV, including GV Europe 2014, L.P. and GV 2017, L.P., collectively hold more than 5% of our voting securities.

(3) SCC Venture VI Holdco, Ltd. holds more than 5% of our voting securities.

Series B Financing

On March 15, 2021, we issued 8,947,713 Series B Shares at a subscription price of $14.00 per share for a total of $125.2 million. At the time of completion of the Series B financing, convertible loan notes issued by the Company totalling approximately $43 million converted automatically on their terms and the Company applied such amount as a subscription of 3,838,089 Series B Shares at a price of approximately $11.20 per share. The following table summarizes the participation in the Series B financing by any of our directors, executive officers, holders of more than 5% of our share capital or any member of the immediate family of the foregoing persons.

Name	Series B Shares		Aggregate Purchase Price Paid
	Converted	Issuance	in US dollar
5% or Greater Shareholders:			
OSI[(1)]	589,572	1,071,612	$21,600,840.00
Prudential Credit Opportunities SCSp[(2)]		3,572,349	$50,001,325.00
Tencent Holdings Ltd.[(3)]		1,428,816	$19,998,800.00

(1) OSI holds more than 5% of our voting securities.
(2) Prudential Credit Opportunities SCSp holds more than 5% of our voting securities. Prudential Credit Opportunities SCSp is advised by M&G Alternatives Investment Management Ltd. Carl Vine is a director and Co-Head APAC Equity Investing of M&G Investments and served as a member of our board of directors from March 2021 until April 2021. Mr. Vine resigned from our board of directors in April 2021 in connection with this offering.
(3) Tencent Holdings Ltd. holds more than 5% of our voting securities.

Lease Agreement

In March 2019, we formalized a lease agreement with OSI, pursuant to which we leased our corporate headquarters beginning in May 2018. In 2018 and 2019, we paid OSI £144,000 and £221,991, respectively, for annual rent. Pursuant to the lease agreement, we are obligated to pay annual rent of £210,000 through the expiration of the lease in 2028.

Agreements with Shareholders

In connection with the subscriptions of our Series A and Series B Shares, we entered into a subscription and shareholder agreements containing information rights, among other things, with certain holders of our preferred shares. These shareholder agreements will terminate upon the consummation of this offering, except for the registration rights granted under our shareholders' agreement, as more fully described in "Description of Share Capital and Articles of Association — Registration Rights."

Executive Officer and Director Compensation

See the sections titled "Executive Compensation" and Non-Employee Director Compensation for information regarding compensation of our executive officers and directors.

Agreements with our Executive Officers and Directors

We have entered into employment agreements with certain of our executive officers. These agreements contain customary provisions and representations, including confidentiality, non-competition, non-solicitation and inventions assignment undertakings by the executive officers and non-executive directors. The enforceability of the non-competition provisions may be limited under applicable law.

Indemnification Agreements

We intend to enter into a deed of indemnity with each of our directors and executive officers prior to the completion of this offering. These agreements and our Articles of Association that will be in effect upon completion of this offering require us to indemnify our directors and executive officers to the fullest extent permitted by law.

Directed Share Program

At our request, Morgan Stanley & Co. LLC, or the DSP Underwriter, has reserved up to 325,000 ADSs, or 5% of the ADSs offered by this prospectus, for sale at the initial public offering price through a directed share program to certain of our directors, officers, employees and business associates and other parties related to us. If purchased by our directors and officers, these ADSs will be subject to a 180-day lock-up restriction. The DSP Underwriter will administer our directed share program. See the section titled "Underwriting — Directed Share Program."

Related Party Transactions Policy

In connection with this offering, we expect to adopt a written related party transactions policy that will provide that such transactions must be approved by our audit committee. This policy will become effective on the date on which the registration statement of which this prospectus forms a part is declared effective by the Securities and Exchange Commission, or SEC. Pursuant to this policy, the audit committee has the primary responsibility for reviewing and approving or disapproving "related party transactions," which are transactions between us and related persons in which the aggregate amount involved exceeds or may be

expected to exceed $120,000 and in which a related person has or will have a direct or indirect material interest. For purposes of this policy, a related person will be defined as a director, executive officer, nominee for director, or greater than 5% beneficial owner of our common shares, in each case since the beginning of the most recently completed year, and their immediate family members.

PRINCIPAL SHAREHOLDERS

The following table sets forth information with respect to the beneficial ownership of our ordinary shares as of March 15, 2021, for:

- each beneficial owner of 5% or more of our outstanding ordinary shares;
- each of our directors and executive officers; and
- all of our directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities and include ordinary shares that can be acquired within 60 days of March 15, 2021. Percentage ownership calculations before the offering are based on 27,813,708 ordinary shares outstanding as of March 15, 2021, but also give effect to (i) the issuance of 12,785,802 Series B Shares in March 2021, which included the conversion of our 2020 Notes and (ii) our corporate reorganization.

The percentage of shares beneficially owned after completion of this offering is based on 34,313,708 ordinary shares outstanding after this offering, including 6,500,000 ordinary shares in the form of ADSs issued in connection with this offering.

Except as otherwise indicated, all of the shares reflected in the table are ordinary shares and all persons listed below have sole voting and investment power with respect to the shares beneficially owned by them, subject to applicable community property laws. The information is not necessarily indicative of beneficial ownership for any other purpose.

The following table does not reflect any ADSs that may be purchased in this offering pursuant to our directed share program described under "Underwriting — Directed Share Program." If any ADSs are purchased by our existing principal shareholders, directors, executive officers or their affiliated entities, the number and percentage of ADSs beneficially owned by them after this offering will differ from those set forth in the following table.

Except as otherwise indicated in the table below, addresses of the directors, executive officers and named beneficial owners are in care of Vaccitech plc, The Schrödinger Building, Heatley Road, The Oxford Science Park, Oxford OX4 4GE, United Kingdom.

		Percentage of shares beneficially owned	
Name of beneficial owner	Number of shares beneficially owned	Before offering	After offering
5% or Greater Shareholders:			
Oxford Sciences Innovation plc[1]	8,197,770	29.47%	23.89%
Prudential Credit Opportunities SCSp[2]	3,572,349	12.84%	10.41%
Entities affiliated with Google Ventures[3]	1,704,444	6.13%	4.97%
Image Frame Investment (HK) Limited[4]	1,428,816	5.14%	4.16%
SCC Venture VI Holdco, Ltd.[5]	1,420,473	5.11%	4.14%
Executive Officers and Directors:			
William Enright[6]	1,199,229	4.24%	3.49%
Georgy Egorov[7]	88,065	*	*
Thomas G. Evans[8]	319,197	1.14%	*
Meg Marshall	—	—	—
Robin Wright[9]	30,900	*	*
Alex Hammacher	—	—	—
Pierre A. Morgon[10]	30,900	*	*
Anne M. Philips	—	—	—
Karen T. Dawes	—	—	—
Joseph C. F. Scheeren	—	—	—
All executive officers and directors as a group (12 persons)	1,854,000	6.44%	5.40%

* Represents beneficial ownership of less than one percent.

(1) Consists of (i) 4,832,142 ordinary shares, (ii) 1,704,444 ordinary shares issuable upon conversion of our Series A Shares and (iii) 1,661,184 ordinary shares issuable upon conversion of our Series B Shares. Alex Hammacher, a member of our board of directors, is the Head of Corporate Finance at Oxford Sciences Innovation plc. The business address for each person and entity named in this footnote is 46 Woodstock Road, Oxford, OX2 6HT, United Kingdom.

(2) Consists of 3,572,349 ordinary shares issuable upon conversion of our Series B Shares. Prudential Credit Opportunities SCSp is advised by M&G Alternatives Investment Management Ltd. Carl Vine is a director and Co-Head APAC Equity Investing of M&G Investments and served as a member of our board of directors from March 2021 until April 2021. Mr. Vine resigned from our board of directors in April 2021 in connection with this offering. The business address for each entity named in this footnote is 10 Fenchurch Avenue, London, EC3M 5AG, UK.

(3) Consists of (i) 852,222 ordinary shares issuable upon conversion of our Series A Shares held by GV 2017, L.P. and (ii) 852,222 ordinary shares issuable upon conversion of our Series A Shares held by GV Europe 2014, L.P. GV 2017 GP, L.P. (the general partner of GV 2017, L.P.), GV 2017 GP, L.L.C. (the general partner of GV 2017 GP, L.P.), Alphabet Holdings LLC (the managing member of GV 2017 GP, L.L.C.), XXVI Holdings Inc. (the managing member of Alphabet Holdings LLC) and Alphabet Inc. (the controlling stockholder of XXVI Holdings Inc.) may each be deemed to have sole power to vote or dispose of the shares held directly by GV 2017, L.P. GV Europe 2014 GP, L.P. (the general partner of GV Europe 2014, L.P.), GV Europe 2014 GP, L.L.C. (the general partner of GV Europe 2014 GP, L.P.), Alphabet Holdings LLC (the managing member of GV Europe 2014 GP, L.L.C.), XXVI Holdings Inc. (the managing member of Alphabet Holdings LLC) and Alphabet Inc. (the controlling stockholder of XXVI Holdings Inc.) may each be deemed to have sole power to vote or dispose of the shares held directly by GV Europe 2014, L.P. The principal business address for each entity named in this footnote is 1600 Amphitheatre Parkway, Mountain View, CA 94043.

(4) Consists of 1,428,816 ordinary shares issuable upon conversion of our Series B Shares. Image Frame Investment (HK) Limited is a subsidiary of Tencent Holdings Limited. The business address for Image Frame Investment (HK) Limited is 29/F., Three Pacific Place, No. 1 Queen’s Road East, Wanchai, Hong Kong.

(5) Consists of 1,420,473 Series A Shares held by SCC Venture VI Holdco, Ltd., an exempted company with limited liability incorporated under the laws of the Cayman Islands. The sole shareholder of SCC Venture VI Holdco, Ltd. is Sequoia Capital China Venture Fund VI, L.P., whose general partner is SC China Venture VI Management, L.P. The general partner of SC China Venture VI Management, L.P. is SC China Holding Limited. SC China Holding Limited is wholly owned by SNP China Enterprises Limited, which in turn is wholly owned by Neil Nanpeng Shen. The registered address of SCC Venture VI Holdco, Ltd. is Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands.

(6) Consists of (a) 743,454 ordinary shares held by Mr. Enright and (b) 455,775 ordinary shares underlying options exercisable within 60 days of March 15, 2021.

(7) Consists of 88,065 ordinary shares underlying options exercisable within 60 days of March 15, 2021.

(8) Consists of (a) 127,926 ordinary shares held by Mr. Evans and (b) 191,271 ordinary shares underlying options exercisable within 60 days of March 15, 2021.

(9) Consists of (a) 10,506 ordinary shares held by Mr. Wright and (b) 20,394 ordinary shares underlying options exercisable within 60 days of March 15, 2021.

(10) Consists of (a) 10,506 ordinary shares held by Mr. Morgon and (b) 20,394 ordinary shares underlying options exercisable within 60 days of March 15, 2021.

DESCRIPTION OF SHARE CAPITAL AND ARTICLES OF ASSOCIATION

The following describes our issued share capital, summarizes the material provisions of our Articles of Association and highlights certain differences in corporate law in England and Wales and Delaware. Please note that this summary is not intended to be exhaustive. For further information, please refer to the full version of our Articles of Association, which are included as an exhibit to the registration statement of which this prospectus is a part.

We were incorporated pursuant to the laws of England and Wales as Vaccitech Rx Limited in March 2021 to become the holding company for Vaccitech (UK) Limited (formerly Vaccitech Limited). Pursuant to the terms of a share for share exchange agreement entered into on March 31, 2021, as part of our corporate reorganization, all shareholders of Vaccitech (UK) Limited (formerly Vaccitech Limited) exchanged each of the shares held by them for one share of the same class, with the same shareholder rights, of newly issued shares of Vaccitech Rx Limited and, as a result, Vaccitech (UK) Limited (formerly Vaccitech Limited) became a wholly owned subsidiary of Vaccitech Rx Limited. Subsequently, we re-registered Vaccitech Rx Limited as a public limited company and renamed it as Vaccitech plc. See "Corporate Reorganization" for more information.

We are registered with the Registrar of Companies in England and Wales under number 13282620, and our registered office is at The Schrodinger Building 2nd Floor, Heatley Road, Oxford Science Park, Oxford, Oxfordshire, England, OX4 4GE.

As part of our corporate reorganization, certain resolutions of the shareholders of the Company were passed on April 21, 2021 in preparation for completion of this offering. These resolutions included:

- adoption of our Articles. See "Key Provisions of our Post-IPO Articles of Association" below;
- general authorization of our directors for purposes of section 551 of the Companies Act 2006 to issue our shares and grant rights to subscribe for or convert any securities into shares up to a maximum aggregate nominal amount of £ for a period of years; and
- empowering of our directors pursuant to section 570 of the Companies Act 2006 to issue equity securities for cash pursuant to the section 551 authority referred to above as if the statutory preemption rights under section 561(1) of the Companies Act 2006 did not apply to such allotments.

Issued Share Capital

Prior to our corporate reorganization, as of March 16, 2021, the issued share capital of Vaccitech (UK) Limited (formerly Vaccitech Limited) was 26,616 ordinary shares, 22,065 series A shares and 41,378 series B shares. The nominal value of its ordinary shares was £0.01 per share and the nominal value of its series A shares and series B shares was £0.10. Each issued ordinary share, series A share, and series B share was fully paid. Following the exchange of shares of Vaccitech (UK) Limited (formerly Vaccitech Limited) for shares of Vaccitech Rx Limited on March 31, 2021 whereby all shareholders of Vaccitech (UK) Limited (formerly Vaccitech Limited) exchanged each of the shares held by them for one of the same class, with the same shareholder rights, of newly issued shares of Vaccitech Rx Limited, the issued share capital of Vaccitech Rx Limited (now Vaccitech plc following its re-registration as a public limited company) was 26,616 ordinary shares, 22,065 Series A Shares, and 41,378 Series B Shares. As part of the exchange of shares, Vaccitech (UK) Limited (formerly Vaccitech Limited) became a wholly owned subsidiary of Vaccitech Rx Limited (now Vaccitech plc following its re-registration as a public limited company).

Ordinary Shares

Our ordinary shares have the rights and restrictions described in "Key Provisions of our Post-IPO Articles of Association" below. In accordance with our Articles, the following summarizes the rights of holders of, and attaching to, our ordinary shares:

- each holder of our ordinary shares is entitled to one vote per ordinary share on all matters to be voted on by shareholders generally;

- the holders of our ordinary shares shall be entitled to receive notice of, attend, speak and vote at our general meetings and receive a copy of every report, accounts, circular or other documents sent out by us to our shareholders; and
- holders of our ordinary shares are entitled to receive such dividends as are recommended by our directors and declared by our shareholders.

Deferred Shares

In accordance with our Articles, the following summarizes the rights of holders of our deferred shares:

- deferred shares shall confer no rights to dividends or to participate in our profits;
- on a return of assets on liquidation, the deferred shares shall confer on the holders thereof an entitlement to receive out of the assets of the Company available for distribution amongst the members (subject to the rights of any new class of shares with preferred rights) the amount credited as paid up on the deferred shares held by them respectively after (but only after) payment shall have been made to the holders of the ordinary shares of the amounts paid up or credited as paid up on such shares and the sum of £1,000,000 in respect of each ordinary share held by them respectively. The deferred shares shall confer on the holders thereof no further right to participate in the assets of the Company;
- the holders of the deferred shares shall not be entitled in their capacity as holders of such shares to receive notice of, attend, speak, form part of the quorum of, or vote at our general meetings;
- any reduction of capital involving the cancellation of the deferred shares for no consideration shall not be deemed to be a variation, modification or abrogation of the rights or privileges attaching to them and the Company shall be authorized at any time to reduce its capital (in accordance with the Companies Act 2006) without obtaining the consent of the holders of the deferred shares;
- any special rights conferred upon the holders of the deferred shares shall be deemed to not be modified, varied or abrogated by the creation or issue of further shares ranking pari passu with or in priority to the deferred shares;
- no transfer of any deferred shares shall be permitted except as provided below;
- the Company shall have irrevocable authority at any time, without making payment to the holders of the deferred shares, to transfer on behalf of the holders to such person as the Company may determine, to cancel and/or to acquire any of the deferred shares (in accordance with the provisions of the Companies Act 2006); and
- subject to the Companies Act 2006, the Company shall be entitled to purchase any deferred shares in issue at any time for no consideration and the Company shall be entitled to cancel all or any of the deferred shares so acquired by the Company.

Registered Shares

We are required by the Companies Act 2006 to keep a register of our shareholders. Under English law, the ordinary shares are deemed to be issued when the name of the shareholder is entered in our register of members. The register of members therefore is prima facie evidence of the identity of our shareholders, and the shares that they hold. The register of members generally provides limited, or no, information regarding the ultimate beneficial owners of our ordinary shares. Our register of members is maintained by our registrar, Computershare Investor Services plc. Holders of the ADSs will not be treated as our shareholders and their names will therefore not be entered in our register of members. The depositary, the custodian or their nominees will be the holder of the ordinary shares underlying the ADSs. Holders of the ADSs have a right to receive the ordinary shares underlying their ADSs. For discussion on the ADSs and ADS holder rights, see “Description of American Depositary Shares” in this prospectus.

Under the Companies Act 2006, we must enter an allotment of shares in our register of members as soon as practicable and in any event within two months of the allotment. We will perform all procedures necessary to update the register of members to reflect the ordinary shares being allotted and issued in this offering,

including updating the share register with the number of ordinary shares to be issued to the depositary upon the closing of this offering. We also are required by the Companies Act 2006 to register a transfer of shares (or give the transferee notice of and reasons for refusal as the transferee may reasonably request) as soon as practicable and in any event within two months of receiving notice of the transfer.

We, any of our shareholders or any other affected person may apply to the court for rectification of the register of members if:

- the name of any person, without sufficient cause, is wrongly entered in or omitted from our register of members; or
- there is a default or unnecessary delay in entering on the register the fact of any person having ceased to be a shareholder or on which we have a lien, provided that such delay does not prevent dealings in the shares taking place on an open and proper basis.

Registration Rights

Upon the completion of this offering, certain holders of 16,560,237 of our ordinary shares will be entitled to rights with respect to the registration of these securities under the Securities Act. These rights will be provided under the terms of a registration rights agreement between us and holders of our shares, or the registration rights agreement. The registration rights agreement will provide for two demand registrations commencing six months after the completion of this offering and unlimited short-form and piggyback registration rights.

Key Provisions of our Post-IPO Articles of Association

Our Articles were approved by our shareholders on April 21, 2021 and will be adopted immediately prior to the completion of the offering. A summary of certain key provisions of our Articles is set out below. The summary below is not a complete copy of the terms of our Articles. For further information, please refer to the full version of our Articles filed as an exhibit to the registration statement of which this prospectus forms a part.

Our Articles contain no specific restrictions on our purpose and therefore, by virtue of section 31(1) of the Companies Act 2006, our purpose is unrestricted.

Our Articles contain, among other things, provisions to the following effect:

Share Capital

Our share capital will consist of ordinary shares and deferred shares. We may, in accordance with section 551 of the Companies Act 2006, be authorized by our shareholders to generally and unconditionally allot our shares or grant rights to subscribe for or to convert any security into our shares by way of an ordinary resolution. We may issue these shares with such rights and restrictions as may be determined by the ordinary resolution, or if no ordinary resolution is passed or so far as the resolution does not make specific provision, as our board of directors may determine, including shares which are to be redeemed, or are liable to be redeemed at our option or the option of the holder of such shares.

Voting

The ordinary shareholders have the right to receive notice of, and to attend and vote at, our general meetings. Subject to any other provisions of our Articles and without prejudice to any special rights, privileges or restrictions as to voting attached to any shares forming part of our share capital, each shareholder who is present in person (or, in the case of a corporation, by representative) or by proxy at a general meeting on a show of hands has one vote and, on a poll, every such shareholder who is present in person (or, being a corporation, by representative) or by proxy has one vote in respect of every share held by him or her.

Variation of Rights

Whenever our share capital is divided into different classes of shares, the special rights attached to any class may be varied or abrogated either: (i) with the consent in writing of the holders of not less than

three-quarters in nominal value of the issued shares of that class (excluding any shares of that class held as treasury shares), or (ii) with the authority of a special resolution passed at a separate meeting of the holders of the shares of that class.

Dividends

We may, subject to the provisions of the Companies Act 2006 and our Articles, by ordinary resolution from time to time declare dividends to be paid to shareholders according to their respective rights and interests in our profits, however no dividend shall exceed the amount recommended by our board of directors.

Subject to the provisions of the Companies Act 2006, our board of directors may declare interim dividends (including any dividend at a fixed rate) as appears our board of directors to be justified by our profits available for distribution. Except as provided otherwise by the rights attached to shares, all dividends may be declared or paid in any currency. Our board of directors may decide the rate of exchange for any currency conversions that may be required and how any costs involved in such conversions are to be met.

All dividends that remain unclaimed after a period of twelve (12) years from the date after they were first declared or became due for payment shall, if our board of directors so resolves, be forfeited and shall cease to remain owing by us.

Unless otherwise provided by the rights attached to the share, no dividend or other monies payable by us or in respect of a share shall bear interest as against us.

Liquidation

On a distribution of assets on a liquidation, dissolution or winding-up the surplus assets remaining after payment of our liabilities shall be distributed among the holders of our ordinary shares in proportion to the number of our ordinary shares held, irrespective of the amount paid or credited as paid on any share.

Transfer of Ordinary Shares

Each shareholder may transfer all or any of his shares which are in certificated form by means of an instrument of transfer in any usual form or in any other form which our board of directors may approve. Each shareholder may transfer all or any of his shares which are in uncertificated form by means of a "relevant system" (*i.e.*, the CREST System) in such manner provided for, and subject as provided in, the uncertificated securities rules (as defined in our Articles) (*i.e.*, the CREST Regulations).

Our board of directors may, in its absolute discretion, refuse to register a transfer of shares in certificated form unless:

(i) it is for a share which is fully paid up;

(ii) it is for a share upon which we have no lien;

(iii) it is only for one class of share;

(iv) it is in favor of a single transferee or no more than four joint transferees;

(v) it is duly stamped or is duly certificated or otherwise shown to the satisfaction of our board of directors to be exempt from stamp duty; and

(vi) it is delivered for registration to our registered office (or such other place as our board of directors may determine), accompanied (except in the case of a transfer by a person to whom we are not required by law to issue a certificate and to whom a certificate has not been issued or in the case of a renunciation) by the certificate for the shares to which it relates and such other evidence as our board of directors may reasonably require to prove the title of the transferor (or person renouncing) and the due execution of the transfer or renunciation by such transferor or, if the transfer or renunciation is executed by some other person on his behalf, the authority of that person to do so.

Our board of directors shall not refuse to register any transfer of partly paid shares in respect of which ADSs are admitted to Nasdaq on the grounds that they are partly paid shares in circumstances where such refusal would prevent dealings in such shares from taking place on an open and proper basis.

Our board of directors may refuse to register a transfer of uncertificated shares in any circumstances that are allowed or required by the uncertificated securities rules and the relevant system (in each case as defined in our Articles) (*i.e.*, the CREST Regulations and the CREST System).

Allotment of Shares and Preemption Rights

Subject to the Companies Act 2006 and to any rights attached to existing shares, any share may be issued with or have attached to it such rights and restrictions as we may by ordinary resolution determine, or if no ordinary resolution has been passed or so far as the resolution does not make specific provision, as our board of directors may determine (including shares which are to be redeemed, or are liable to be redeemed at our option or the holder of such shares). However, an amendment to our Articles, which requires the passing of a special resolution, will be required to issue any shares other than ordinary shares.

In accordance with section 551 of the Companies Act 2006, our board of directors may be generally and unconditionally authorized to exercise for each prescribed period of up to five years all of our powers to allot shares or grant rights to subscribe for or to convert any security into our shares up to an aggregate nominal amount equal to the amount stated in the relevant ordinary resolution authorizing such allotment. The authorities referred to above were included in the ordinary resolution of our shareholders passed on April 21, 2021 and remain in force at the date of this prospectus.

Pursuant to section 561 of the Companies Act 2006, shareholders are granted preemptive rights when new shares are issued for cash. However, it is possible for our Articles, or shareholders at a general meeting representing at least 75% of our ordinary shares present (in person or by proxy) and eligible to vote at that general meeting, to disapply these preemptive rights. Such a disapplication of preemption rights may be for a maximum period of up to five years from the date of the shareholder special resolution. In either case, this disapplication would need to be renewed by our shareholders upon its expiration (*i.e.*, at least every five years) to remain effective.

On April 21, 2021, our shareholders approved the disapplication of preemptive rights for a period of five years from the date of approval by way of a special resolution of our shareholders. This included the disapplication of preemption rights in relation to the allotment of our ordinary shares in connection with this offering. This disapplication will need to be renewed upon expiration (*i.e.*, at least every five years) to remain effective, but may be sought more frequently for additional five-year terms (or any shorter period).

Alteration of Share Capital

We may, in accordance with the Companies Act 2006, by ordinary resolution consolidate all or any of our share capital into a smaller number of shares of a larger nominal amount than our existing shares, or cancel any shares which, at the date of that ordinary resolution, have not been taken or agreed to be taken by any person and diminish the amount of our share capital by the amount of shares so cancelled, or sub-divide our shares, or any of them, into shares of a smaller nominal amount than our existing shares.

We may, in accordance with the Companies Act 2006, reduce or cancel our share capital or any capital redemption reserve or share premium account in any manner and with and subject to any conditions, authorities and consents required by law.

Board of Directors

Appointment of Directors

Unless otherwise determined by ordinary resolution, the number of directors (other than any alternate directors) shall not be less than two, but there shall be no maximum number of directors.

Subject to our Articles and the Companies Act 2006, we may by ordinary resolution appoint a person who is willing to act as a director and our board of directors shall have power at any time to appoint any person who is willing to act as a director, in both cases either to fill a vacancy or as an addition to the existing board of directors.

Our Articles provide that, our board of directors will be divided into three classes, designated as "Class I", "Class II" and "Class III", each of which will consist, as nearly as possible, of one-third of the total number of directors constituting our entire board of directors and which will serve staggered three-year terms. At each annual general meeting, the successors of directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. Directors of the class retiring at the annual general meeting shall be eligible for re-appointment by ordinary resolution at such annual general meeting.

At every subsequent annual general meeting any director who has been appointed by our board of directors since the last annual general meeting must retire from office and may offer themselves for reappointment by the shareholders by ordinary resolution.

Proceedings of Directors

Subject to the provisions of our Articles, our board of directors may regulate their proceedings as they deem appropriate. A director may, and the secretary at the request of a director shall, call a meeting of the directors.

The quorum for a meeting of our board of directors shall be fixed from time to time by decision of the board of directors, but it must never be fewer than two directors (or duly appointed alternate directors).

Questions and matters requiring resolution arising at a meeting shall be decided by a majority of votes of the participating directors, with each director having one vote. In the case of an equality of votes, the chairperson will have a second or casting vote (unless the chairperson is not entitled to vote on the resolution in question).

Directors' Compensation

Directors shall be entitled to receive such fees as our board of directors shall determine for their services as our directors, and for any other service which they undertake on our behalf. Directors shall be entitled to reasonable additional remuneration (whether by way of salary, commission, participation in profits or otherwise) for any special duties or services performed or rendered to us, as determined by our board of directors, and not in respect of any employment or executive office. The directors shall also be entitled to be paid reasonable travel, hotel and other expenses properly incurred by them in connection with their attendance at meetings of shareholders or class meetings, board of director or committee meetings or otherwise in connection with the performance of their duties as directors.

Conflicts of Interest

Our board of directors may, in accordance with the requirements in our Articles, authorize any matter proposed to them by any director which would, if not authorized, involve a director breaching his duty under the Companies Act 2006, to avoid conflicts of interests.

A director seeking authorization in respect of such conflict shall declare to our board of directors the nature and extent of his interest in a conflict as soon as is reasonably practicable. The director shall provide our board of directors with such details of the matter as are necessary for our board of directors to decide how to address the conflict together with such additional information as may be requested by our board of directors.

Any authorization by our board of directors will be effective only if:

(i) to the extent permitted by the Companies Act 2006, the matter in question shall have been proposed by any director for consideration in the same way that any other matter may be proposed to the directors under the provisions of our Articles;

(ii) any requirement as to the quorum for consideration of the relevant matter is met without counting the conflicted director and any other conflicted director; and

(iii) the matter is agreed to without the conflicted director voting or would be agreed to if the conflicted director's and any other interested director's vote is not counted.

Permitted Interests

Under our Articles, certain transactions which would otherwise give rise to a conflict are considered to be permitted interests of our directors. In the event that these permitted interests arise, the director in question will still count towards the quorum requirements of the relevant meeting and be entitled to vote on resolutions relating to such permitted interests, including but not limited to the following matters:

(i) the giving by such director of any security, guarantee or indemnity for any money or any liability which such director, or any other person, has lent or obligations such director or any other person has undertaken at the request, or for the benefit, of us or any of our subsidiary undertakings;

(ii) the giving of any security, guarantee or indemnity to any other person for a debt or obligation which is owed by us or any of our subsidiary undertakings, to that other person if such director has taken responsibility for some or all of that debt or obligation. Such director can take this responsibility by giving a guarantee, indemnity or security;

(iii) a proposal or contract relating to an offer of any shares or debentures or other securities for subscription or purchase by us or any of our subsidiary undertakings, if such director takes part because such director is a holder of shares, debentures or other securities, or if such director takes part in the underwriting or sub-underwriting of the offer;

(iv) any arrangement for the benefit of our employees or the employees of any of our subsidiary undertakings which only gives such director benefits which are also generally given to employees to whom the arrangement relates;

(v) any arrangement involving any other company if such director (together with any person connected with such director) has an interest of any kind in that company (including an interest by holding any position in that company or by being a shareholder of that company). This does not apply if such director knows that that such director has a relevant interest in a company. A company shall be deemed to be one in which such director has a relevant interest if and so long as (but only if and so long as) such director is to their knowledge (either directly or indirectly) the holder of or beneficially interested in one percent or more of any class of the equity share capital of that company (calculated exclusive of any shares of that class in that company held as treasury shares) or of the voting rights available to shareholders of that company;

(vi) a contract relating to insurance which we can buy or renew for the benefit of our directors or a group of people which includes our directors; and

(vii) a contract relating to a pension, superannuation or similar scheme or a retirement, death, disability benefits scheme or employees' share scheme which gives such director benefits which are also generally given to the employees to whom the scheme relates.

A director is not permitted to vote (or count towards the quorum) on a resolution relating to their own appointment or the settlement or variation of the terms of their appointment to an office or place of profit with us, or any other company in which we have an interest.

Directors' Indemnity

Subject to the provisions of the Companies Act 2006, all of our directors, secretaries or other officers (other than an auditor) shall be indemnified against any loss or liability incurred by them in connection with their duties or powers in relation to us or any of our subsidiaries or any pension fund or employees' share scheme of us or any of our subsidiaries or in relation to our activities as trustee of any occupational pension scheme which is operated by us from time to time. This indemnity includes any liability incurred by a director in defending any civil or criminal proceedings in which judgment is given in that director's favor or the director is acquitted or the proceedings are otherwise disposed of without any finding or admission of any material breach of duty on his part and we may provide the director with funds to meet expenditure incurred in connection with the proceedings set out above.

General Meetings

We must convene and hold annual general meetings once a year in accordance with the Companies Act 2006. Under the Companies Act 2006, an annual general meeting must be called by notice of at least 21 clear days and a general meeting must be called by notice of at least 14 clear days.

No business shall be transacted at any general meeting unless a quorum is present when the meeting proceeds to business, but the absence of a quorum shall not preclude the choice or appointment of a chairperson of the meeting, which shall not be treated as part of the business of the meeting. Save as otherwise provided by our Articles, shareholders holding thirty-three and one-third percent (33 1/3%) of our issued shares (excluding any shares held as treasury shares) present in person or by proxy (or in the case of a corporation, by a representative) and entitled to vote shall be a quorum for all purposes.

Choice of Forum/Governing Law

Our Articles provide that the courts of England and Wales will be the exclusive forum for resolving all shareholder complaints other than shareholder complaints asserting a cause of action arising under the Securities Act and the Exchange Act, for which, unless we consent by ordinary resolution to the selection of an alternative forum, the United States District Court for the Southern District of New York will be the exclusive forum. As a company incorporated in England and Wales, the choice of the courts of England and Wales as our exclusive forum for resolving all shareholder complaints, other than complaints arising under the Securities Act and the Exchange Act, allows us to more efficiently and affordably respond to such actions, and provides consistency in the application of the laws of England and Wales to such actions. Similarly, we have selected the United States District Court for the Southern District of New York as our exclusive forum for resolving shareholder complaints arising under the Securities Act and the Exchange Act in order to more efficiently and affordably respond to such claims. This choice of forum also provides both us and our shareholders with a forum that is familiar with and regularly reviews cases involving U.S. securities law. Although we believe this choice of forum benefits us by providing increased consistency in the application of U.S. securities law for the specified types of action, it may have the effect of discouraging lawsuits against our directors and officers. Any person or entity purchasing or otherwise acquiring any interest in our ordinary shares will be deemed to have notice of and consented to the provisions of our articles of association, including the exclusive forum provision. However, it is possible that a court could find our forum selection provision to be inapplicable or unenforceable. The enforceability of similar exclusive forum provisions (including exclusive federal forum provisions for actions, suits or proceedings asserting a cause of action arising under the Securities Act) in other companies' organizational documents has been challenged in legal proceedings, and there is uncertainty as to whether courts would enforce the exclusive forum provisions in our articles of association. Additionally, our shareholders cannot waive compliance with the federal securities laws and the rules and regulations thereunder. See "Risk Factors — Risks Related to this Offering and Ownership of The ADSs — Our Articles will provide that the courts of England and Wales will be the exclusive forum for the resolution of all shareholder complaints other than complaints asserting a cause of action arising under the Securities Act or the Exchange Act, and that the United States District Court for the Southern District of New York will be the exclusive forum for the resolution of any shareholder complaint asserting a cause of action arising under the Securities Act or the Exchange Act."

Borrowing Powers

Subject to our Articles and the Companies Act 2006, our board of directors may exercise all of our powers to:

(a) borrow money;

(b) indemnify and guarantee;

(c) mortgage or charge;

(d) create and issue debentures and other securities; and

(e) give security either outright or as collateral security for any of our debt, liability or obligation or any of a third party.

Capitalization of Profits

The directors may, if they are so authorized by an ordinary resolution of the shareholders, decide to capitalize any of our undistributed profits not required for paying any preferential dividend (whether or not they are available for distribution), or any sum standing to the credit of any reserve or fund which is

available for distribution or standing to the credit of our share premium account, capital redemption reserve or other undistributable reserve. The directors may also, subject to the aforementioned ordinary resolution, appropriate any sum which they so decide to capitalize to the persons who would have been entitled to it if it were distributed by way of dividend and in the same proportions.

Limitation on Owning Securities

Neither English law nor our Articles restrict in any way the ownership or voting of our shares by non-residents.

Uncertificated Shares

Subject to the Companies Act 2006 and any applicable uncertificated securities rules (as defined in our Articles), our board of directors may permit title to shares of any class to be issued or held otherwise than by a certificate and to be transferred by means of a "relevant system" (*i.e.*, the CREST System) without a certificate and may make arrangements for a class of shares to be transferred to that relevant system.

Our board of directors may, subject to compliance with the uncertificated securities rules (as defined in our Articles), determine at any time that title to any class of shares must be in certificated form and that such class of shares will cease to be transferred to a relevant system from a date specified by our board of directors. Our board of directors may take such steps as it sees fit in relation to the evidencing of and transfer of title to uncertificated shares, any records relating to the holding of uncertificated shares and the conversion of uncertificated shares to certificated shares, or vice-versa. Ordinary shares may be changed from uncertificated to certified form (and vice versa) in accordance with and subject to the uncertificated securities rules (as defined in our Articles).

We may, by notice to the holder of an uncertificated share, require that share to be converted into certificated form.

If, and subject to under our Articles or pursuant to the Companies Act 2006, we are entitled to sell, transfer or otherwise dispose of, forfeit, re-allot, accept the surrender of or otherwise enforce a lien over an uncertificated share, such entitlement shall include the right of our board of directors to:

(i) require the holder of the uncertificated share by notice in writing to change that share from uncertificated to certificated form;

(ii) appoint any person to act on behalf of the holder of the uncertificated share to take such steps as may be required in order to effect the transfer of that share; and

(iii) take such other action that our board of directors considers appropriate to achieve the sale, transfer, disposal, forfeiture, re-allotment or surrender of that share or otherwise to enforce a lien in respect of that share.

Unless our board of directors determines otherwise, shares which a shareholder holds in uncertificated form shall be treated as separate holdings from any shares which that shareholder holds in certificated form and any shares issued or created out of or in respect of any uncertificated shares shall be uncertificated shares and any shares issued or created out of or in respect of any certificated shares shall be certificated shares.

Our board of directors may take such other action that our board of directors considers appropriate to achieve the sale, transfer, disposal, forfeiture, re-allotment or surrender of an uncertificated share or otherwise to enforce a lien in respect of it.

Other Relevant UK Laws and Regulations

Mandatory Bid

We believe that, as of the date of this prospectus, our place of central management and control is not in the UK (or the Channel Islands or the Isle of Man) for the purposes of the jurisdictional criteria of the Takeover Code. Accordingly, we believe that we are not currently subject to the Takeover Code and, as a result, our shareholders are not currently entitled to the benefit of certain takeover offer protections

provided under the Takeover Code, including the rules regarding mandatory takeover bids (a summary of which is set out below). In the event that this changes, or if the interpretation and application of the Takeover Code by the Takeover Panel changes (including changes to the way in which the Takeover Panel assesses the application of the Takeover Code to English companies whose shares are listed outside of the UK), the Takeover Code may apply to us in the future.

The Takeover Code provides a framework within which takeovers of companies subject to it are conducted. In particular, the Takeover Code contains certain rules in respect of mandatory offers. Under the Takeover Code:

(a) any person who acquires, whether by a series of transactions over a period of time or not, an interest in shares which (taken together with shares in which he is already interested, and in which persons acting in concert with him are interested) carry 30% or more of the voting rights of a company; or

(b) any person who, together with persons acting in concert with him, is interested in shares which in the aggregate carry not less than 30% of the voting rights of a company but does not hold shares carrying more than 50% of such voting rights and such person, or any person acting in concert with him, acquires an interest in any other shares which increases the percentage of shares carrying voting rights in which he is interested, such person shall, except in limited circumstances, be obliged to extend offers, on the basis set out in Rules 9.3, 9.4 and 9.5 of the Takeover Code, to the holders of any class of equity share capital, whether voting or non-voting, and also to the holders of any other class of transferable securities carrying voting rights. Offers for different classes of equity share capital must be comparable; the Takeover Panel should be consulted in advance in such cases.

(i) An offer under Rule 9 of the Takeover Code must be in cash and at the highest price paid for any interest in the shares by the person required to make an offer or any person acting in concert with him during the 12 months prior to the announcement of the offer.

(ii) Under the Takeover Code, a "concert party" arises where persons acting together pursuant to an agreement or understanding (whether formal or informal and whether or not in writing) actively cooperate, through the acquisition by them of an interest in shares in a company, to obtain or consolidate control of the company. "Control" means holding, or aggregate holdings, of an interest in shares carrying 30% or more of the voting rights of the company, irrespective of whether the holding or holdings give de facto control.

Squeeze-out

(i) Under Sections 979 to 982 of the Companies Act 2006, where a takeover offer has been made for us and the offeror has acquired, or unconditionally contracted to acquire, not less than 90% in value of the shares to which the offer relates and not less than 90% of the voting rights carried by those shares, it could then compulsorily acquire the remaining 10%. It would do so by sending a notice to the outstanding shareholders telling them that it will compulsorily acquire their shares, provided that no such notice may be served after the end of: (a) the period of three months beginning with the day after the last day on which the offer can be accepted; or (b) if earlier, and the offer is not one to which section 943(1) of the Companies Act 2006 applies, the period of six months beginning with the date of the offer.

(ii) Six weeks following service of the notice, the offeror must send a copy of it to the company together with the consideration for the ordinary shares to which the notice relates, and an instrument of transfer executed on behalf of the outstanding shareholder(s) by a person appointed by the offeror.

(iii) The company will hold the consideration on trust for the outstanding shareholders.

Sell-out

(i) Sections 983 to 985 of the Companies Act 2006 also give minority shareholders in the company a right to be bought out in certain circumstances by an offeror who has made a

takeover offer. If a takeover offer relating to all the ordinary shares of the company is made and the offeror has acquired or unconditionally agreed to acquire not less than 90% in value of the voting shares and not less than 90% of the voting rights carried by those shares, at any time before the end of the period within which the offer could be accepted, any holder of shares to which the offer related who had not accepted the offer could by a written communication to the offeror require it to acquire those shares. The offeror is required to give any shareholder notice of his right to be bought out within one month of that right arising. The offeror may impose a time limit on the rights of minority shareholders to be bought out, but that period cannot end less than three months after the end of the acceptance period, or, if longer a period of three months from the date of the notice.

(ii) If a shareholder exercises his rights, the offeror is bound to acquire those shares on the terms of the offer or on such other terms as may be agreed.

Disclosure of Interest in Shares

Pursuant to Part 22 of the Companies Act 2006, a company incorporated in England and Wales is empowered by notice in writing to require any person whom the company knows to be, or has reasonable cause to believe to be, interested in the company's shares or at any time during the three years immediately preceding the date on which the notice is issued to have been so interested, within a reasonable time to disclose to the company details of that person's interest and (so far as is within such person's knowledge) details of any other interest that subsists or subsisted in those shares.

Under our Articles, if a shareholder defaults in supplying us with the required details in relation to the shares in question, or the Default Shares, within the prescribed period of 14 days, the shareholder shall not be entitled to vote or exercise any other right conferred by membership in relation to general meetings. Where the Default Shares represent 0.25% or more in nominal value of the issued shares of the class in question (calculated exclusive of any shares held as treasury shares), the directors may direct that:

- any dividend or other money payable in respect of the Default Shares shall be retained by us without any liability to pay interest on it when such dividend or other money is finally paid to the shareholder; and/or
- no transfer by the relevant shareholder of shares (other than a transfer permitted in accordance with the provisions of our Articles) may be registered (unless such shareholder is not in default and the transfer does not relate to Default Shares).

Purchase of Own Shares

English law permits a public limited company to purchase its own shares out of the distributable profits of the company or the proceeds of a fresh issue of shares made for the purpose of financing the purchase, subject to complying with procedural requirements under the Companies Act 2006 and provided that its articles of association do not prohibit it from doing so. Our Articles, a summary of which is provided above, do not prohibit us from purchasing our own shares. A public limited company must not purchase its own shares if, as a result of the purchase, there would no longer be any issued shares of the company other than redeemable shares or shares held as treasury shares. Shares must be fully paid in order to be repurchased.

Any such purchase will be either a "market purchase" or "off-market purchase," each as defined in the Companies Act 2006. A "market purchase" is a purchase made on a "recognized investment exchange" (other than an overseas exchange) as defined in the UK Financial Services and Markets Act 2000, as amended, or FSMA. An "off-market purchase" is a purchase that is not made on a "recognized investment exchange." Both "market purchases" and "off-market purchases" require prior shareholder approval by way of an ordinary resolution. In the case of an "off-market purchase," a company's shareholders, other than the shareholders from whom the company is purchasing shares, must approve the terms of the contract to purchase shares and in the case of a "market purchase," the shareholders must approve the maximum number of shares that can be purchased and the maximum and minimum prices to be paid by the company. Both resolutions authorizing "market purchases" and "off-market purchases" must specify a date, not later than five years after the passing of the resolution, on which the authority to purchase is to expire.

Nasdaq is an "overseas exchange" for the purposes of the Companies Act 2006 and does not fall within the definition of a "recognized investment exchange" for the purposes of FSMA and any purchase made by us would need to comply with the procedural requirements under the Companies Act 2006 that regulate "off-market purchases."

A buy-back by a company of its shares will generally give rise to UK stamp duty at the rate of 0.5% of the amount or value of the consideration payable by the company (rounded up to the next £5.00).

Our Articles do not have conditions governing changes to our capital which are more stringent than those required by law.

Distributions and Dividends

Under the Companies Act 2006, before a company can lawfully make a distribution or dividend, it must ensure that it has sufficient distributable reserves, as determined on a non-consolidated basis. The basic rule is that a company's profits available for the purpose of making a distribution are its accumulated, realized profits, so far as not previously utilized by distribution or capitalization, less its accumulated, realized losses, so far as not previously written off in a reduction or reorganization of capital duly made. The requirement to have sufficient distributable reserves before a distribution or dividend can be paid applies to us and to each of our subsidiaries that has been incorporated under English law.

As a public company, it is also not sufficient that we have made a distributable profit for the purpose of making a distribution. An additional capital maintenance requirement is imposed on us to ensure that our net worth is at least equal to the amount of our capital. A public company can only make a distribution:

- if, at the time that the distribution is made, the amount of its net assets (that is, the total excess of assets over liabilities) is not less than the total of its called up share capital and undistributable reserves; and
- if, and to the extent that, the distribution itself, at the time that it is made, does not reduce the amount of the net assets to less than that total.

Shareholder Rights

Certain rights granted under the Companies Act 2006, including the right to requisition a general meeting or require a resolution to be put to shareholders at the annual general meeting, are only available to our shareholders. For English law purposes, our shareholders are the persons who are registered as the owners of the legal title to the shares and whose names are recorded in our share register. If a person who holds their ADSs in DTC wishes to exercise certain of the rights granted under the Companies Act 2006, they may be required to first take steps to withdraw their ADSs from the settlement system operated by DTC and become the registered holder of the shares in our share register. A withdrawal of shares from DTC may have tax implications. For additional information on the potential tax implications of withdrawing your shares from the settlement system operated by DTC, see "Material Income Tax Considerations — UK Taxation."

Exchange Controls

There are no governmental laws, decrees, regulations or other legislation in the UK that may affect the import or export of capital, including the availability of cash and cash equivalents for use by us, or that may affect the remittance of dividends, interest, or other payments by us to non-resident holders of our ordinary shares or ADSs, other than, on current law, withholding tax requirements that may apply in respect of interest. There is no limitation imposed by English law or in our Articles on the right of non-residents to hold or vote shares.

Differences in Corporate Law

The applicable provisions of the Companies Act 2006 differ from laws applicable to U.S. corporations and their shareholders. Set forth below is a summary of certain differences between the provisions of the Companies Act 2006 applicable to us and the General Corporation Law of the State of Delaware relating to shareholders' rights and protections. This summary is not intended to be a complete discussion of the respective rights and it is qualified in its entirety by reference to Delaware law and the laws of England and Wales.

	ENGLAND AND WALES	DELAWARE
Number of Directors	Under the Companies Act 2006, a public limited company must have at least two directors and the number of directors may be fixed by or in the manner provided for in a company's articles of association.	Under Delaware law, a corporation must have at least one director and the number of directors shall be fixed by or in the manner provided in the bylaws.
Removal of Directors	Under the Companies Act 2006, shareholders may remove a director without cause by an ordinary resolution (which is passed by a simple majority of those voting in person or by proxy at a general meeting) irrespective of any provisions of any service contract the director has with the company, provided 28 clear days' notice of the resolution has been given to the company and its shareholders. On receipt of notice of an intended resolution to remove a director, the company must forthwith send a copy of the notice to the director concerned. Certain other procedural requirements under the Companies Act 2006 must also be followed, such as allowing the director to make representations against his or her removal either at the meeting or in writing.	Under Delaware law, any director or the entire board of directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors, except (i) unless the certificate of incorporation provides otherwise, in the case of a corporation whose board of directors is classified, shareholders may effect such removal only for cause, or (ii) in the case of a corporation having cumulative voting, if less than the entire board of directors is to be removed, no director may be removed without cause if the votes cast against his or her removal would be sufficient to elect him or her if then cumulatively voted at an election of the entire board of directors, or, if there are classes of directors, at an election of the class of directors of which he is a part.
Vacancies on the Board of Directors	Under English law, the procedure by which directors, other than a company's initial directors, are appointed is generally set out in a company's articles of association, provided that where two or more persons are appointed as directors of a public limited company by resolution of the shareholders, resolutions appointing each director must be voted on individually.	Under Delaware law, vacancies and newly created directorships may be filled by a majority of the directors then in office (even though less than a quorum) or by a sole remaining director unless (i) otherwise provided in the certificate of incorporation or bylaws of the corporation or (ii) the certificate of incorporation directs that a particular class of stock is to elect such director, in which case a majority of the other directors elected by such class, or a sole remaining director elected by such class, will fill such vacancy.
Annual General Meeting	Under the Companies Act 2006, a public limited company must hold an annual general meeting within the six-month period beginning with the day following the company's annual accounting reference date.	Under Delaware law, the annual meeting of shareholders shall be held at such place, on such date and at such time as may be designated from time to time by the board of directors or as provided in the certificate of incorporation or by the bylaws.

	ENGLAND AND WALES	DELAWARE
General Meeting	Under the Companies Act 2006, a general meeting of the shareholders of a public limited company may be called by the directors. Shareholders holding at least 5% of the paid-up capital of the company carrying voting rights at general meetings (excluding any paid up capital held as treasury shares) can require the directors to call a general meeting and, if the directors fail to do so within a certain period, may themselves (or any of them representing more than one half of the total voting rights of all of them) convene a general meeting.	Under Delaware law, special meetings of the shareholders may be called by the board of directors or by such person or persons as may be authorized by the certificate of incorporation or by the bylaws.
Notice of General Meetings	Under the Companies Act 2006, at least 21 clear days' notice must be given for an annual general meeting and any resolutions to be proposed at the meeting, subject to a company's articles of association providing for a longer period. Subject to a company's articles of association providing for a longer period, at least 14 clear days' notice is required for any other general meeting of a public limited company. In addition, certain matters, such as the removal of directors or auditors, require special notice, which is 28 clear days' notice. The shareholders of a company may in all cases consent to a shorter notice period, the proportion of shareholders' consent required being 100% of those entitled to attend and vote in the case of an annual general meeting and, in the case of any other general meeting, a majority in number of the members having a right to attend and vote at the meeting, being a majority who together hold not less than 95% in nominal value of the shares giving a right to attend and vote at the meeting.	Under Delaware law, unless otherwise provided in the certificate of incorporation or bylaws, written notice of any meeting of the shareholders must be given to each shareholder entitled to vote at the meeting not less than ten nor more than 60 days before the date of the meeting and shall specify the place, date, hour and purpose or purposes of the meeting.
Quorum	Subject to the provisions of a company's articles of association, the Companies Act 2006 provides that two shareholders present at a	The certificate of incorporation or bylaws may specify the number of shares, the holders of which shall be present or represented by proxy at any

	ENGLAND AND WALES	DELAWARE
	meeting (in person, by proxy or authorized representative under the Companies Act 2006) shall constitute a quorum for companies with more than one shareholder.	meeting in order to constitute a quorum, but in no event shall a quorum consist of less than one third of the shares entitled to vote at the meeting. In the absence of such specification in the certificate of incorporation or bylaws, a majority of the shares entitled to vote, present in person or represented by proxy, shall constitute a quorum at a meeting of stockholders.
Proxy	Under the Companies Act 2006, at any meeting of shareholders, a shareholder may designate another person to attend, speak and vote at the meeting on their behalf by proxy.	Under Delaware law, at any meeting of shareholders, a shareholder may designate another person to act for such shareholder by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. A director of a Delaware corporation may not issue a proxy representing the director's voting rights as a director.
Preemptive Rights	Under the Companies Act 2006, "equity securities," being (i) shares in the company other than shares that, with respect to dividends and capital, carry a right to participate only up to a specified amount in a distribution, referred to as "ordinary shares," or (ii) rights to subscribe for, or to convert securities into, ordinary shares, proposed to be allotted for cash must be offered first to the existing equity shareholders in the company in proportion to the respective nominal value of their holdings, unless an exception applies or a special resolution to the contrary has been passed by shareholders in a general meeting or the articles of association provide otherwise in each case in accordance with the provisions of the Companies Act 2006.	Under Delaware law, shareholders have no preemptive rights to subscribe to additional issues of stock or to any security convertible into such stock unless, and except to the extent that, such rights are expressly provided for in the certificate of incorporation.
Authority to Allot	Under the Companies Act 2006, the directors of a company must not allot shares or grant rights to subscribe for or convert any security into shares unless an exception applies or an ordinary resolution has been passed by shareholders in a	Under Delaware law, if the corporation's charter or certificate of incorporation so provides, the board of directors has the power to authorize the issuance of stock. The board of directors may authorize capital stock to be issued for

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	general meeting authorizing such allotment or the articles of association provide for such authorization, in each case in accordance with the provisions of the Companies Act 2006.	consideration consisting of cash, any tangible or intangible property or any benefit to the corporation or any combination thereof. It may determine the amount of such consideration by approving a formula. In the absence of actual fraud in the transaction, the judgment of the directors as to the value of such consideration is conclusive.
Liability of Directors and Officers	Under the Companies Act 2006, any provision, whether contained in a company's articles of association or any contract or otherwise, that purports to exempt a director of a company, to any extent, from any liability that would otherwise attach to him or her in connection with any negligence, default, breach of duty or breach of trust in relation to the company, is void. Any provision by which a company directly or indirectly provides an indemnity, to any extent, for a director of the company or of an associated company against any liability attaching to him or her in connection with any negligence, default, breach of duty or breach of trust in relation to the company of which he or she is a director is also void except as permitted by the Companies Act 2006, which provides exceptions for the company to (i) purchase and maintain insurance against such liability; (ii) provide a "qualifying third party indemnity," or an indemnity against liability incurred by the director to a person other than the company or an associated company as long as he or she is successful in defending the claim or criminal proceedings; and (iii) provide a "qualifying pension scheme indemnity," or an indemnity against liability incurred in connection with the company's activities as trustee of an occupational pension plan.	Under Delaware law, a corporation's certificate of incorporation may include a provision eliminating or limiting the personal liability of a director to the corporation and its shareholders for damages arising from a breach of fiduciary duty as a director. However, no provision can limit the liability of a director for: • any breach of the director's duty of loyalty to the corporation or its shareholders; • acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law; • intentional or negligent payment of unlawful dividends or stock purchases or redemptions; or • any transaction from which the director derives an improper personal benefit.

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Voting Rights	For an English company it is usual for the articles of association to provide that, unless a poll is demanded by the shareholders of a company or is required by the chairperson of the meeting or the company's articles of association, shareholders shall vote on all resolutions on a show of hands. Under the Companies Act 2006, a poll may be demanded by (i) not fewer than five shareholders having the right to vote on the resolution; (ii) any shareholder(s) representing not less than 10% of the total voting rights of all the shareholders having the right to vote on the resolution (excluding any voting rights attaching to treasury shares); or (iii) any shareholder(s) holding shares in the company conferring a right to vote on the resolution (excluding any voting rights attaching to treasury shares) being shares on which an aggregate sum has been paid up equal to not less than 10% of the total sum paid up on all the shares conferring that right. A company's articles of association may provide more extensive rights for shareholders to call a poll. Under English law, an ordinary resolution is passed on a show of hands if it is approved by a simple majority (more than 50%) of the votes cast by shareholders present (in person or by proxy) and entitled to vote. If a poll is demanded, an ordinary resolution is passed if it is approved by holders representing a simple majority of the total voting rights of shareholders present, in person or by proxy, who, being entitled to vote on the resolution. Special resolutions require the affirmative vote of not less than 75% of the votes cast by shareholders present, in person or by proxy, at the meeting.	Delaware law provides that, unless otherwise provided in the certificate of incorporation, each shareholder is entitled to one vote for each share of capital stock held by such shareholder.

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Shareholder Vote on Certain Transactions	The Companies Act 2006 provides for schemes of arrangement, which are arrangements or compromises between a company and any class of shareholders or creditors and used in certain types of reconstructions, amalgamations, capital reorganizations or takeovers. These arrangements require: • the approval at a shareholders' or creditors' meeting convened by order of the court, of a majority in number of shareholders or creditors or a class thereof representing 75% in value of the capital held by, or debt owed to, the class of shareholders or creditors, or class thereof present and voting, either in person or by proxy; and • the approval of the court.	Generally, under Delaware law, unless the certificate of incorporation provides for the vote of a larger portion of the stock, completion of a merger, consolidation, sale, lease or exchange of all or substantially all of a corporation's assets or dissolution requires: • the approval of the board of directors; and • the approval by the vote of the holders of a majority of the outstanding stock or, if the certificate of incorporation provides for more or less than one vote per share, a majority of the votes of the outstanding stock of the corporation entitled to vote on the matter.
Standard of Conduct for Directors	Under English law, a director owes various statutory and fiduciary duties to the company, including: • to act in the way he considers, in good faith, would be most likely to promote the success of the company for the benefit of its members as a whole, and in doing so have regard (amongst other matters) to: (i) the likely consequences of any decision in the long-term, (ii) the interests of the company's employees, (iii) the need to foster the company's business relationships with suppliers, customers and others, (iv) the impact of the company's operations on the community and the environment, (v) the desirability to maintain a reputation for high standards of business conduct, and (vi) the need to act fairly as between members of the company; • to avoid a situation in which he has, or can have, a direct or indirect interest that conflicts, or possibly conflicts, with the	Delaware law does not contain specific provisions setting forth the standard of conduct of a director. The scope of the fiduciary duties of directors is generally determined by the courts of the State of Delaware. In general, directors have a duty to act without self-interest, on a well-informed basis and in a manner they reasonably believe to be in the best interest of the shareholders. Directors of a Delaware corporation owe fiduciary duties of care and loyalty to the corporation and to its shareholders. The duty of care generally requires that a director act in good faith, with the care that an ordinarily prudent person would exercise under similar circumstances. Under this duty, a director must inform himself or herself of all material information reasonably available regarding a significant transaction. The duty of loyalty requires that a director act in a manner he or she reasonably believes to be in the best interests of the corporation. He or she must not use his corporate position for personal gain or advantage. In general, but

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	interests of the company; • to act in accordance with the company's constitution and only exercise his powers for the purposes for which they are conferred; • to exercise independent judgment; • to exercise reasonable care, skill and diligence; • not to accept benefits from a third party conferred by reason of his being a director or doing, or not doing, anything as a director; and • a duty to declare any interest that he has, whether directly or indirectly, in a proposed or existing transaction or arrangement with the company.	subject to certain exceptions, actions of a director are presumed to have been made on an informed basis, in good faith and in the honest belief that the action taken was in the best interests of the corporation. However, this presumption may be rebutted by evidence of a breach of one of the fiduciary duties. Delaware courts have also imposed a heightened standard of conduct upon directors of a Delaware corporation who take any action designed to defeat a threatened change in control of the corporation. In addition, under Delaware law, when the board of directors of a Delaware corporation approves the sale or break-up of a corporation, the board of directors may, in certain circumstances, have a duty to obtain the highest value reasonably available to the shareholders.
Shareholder Suits	Under English law, generally, the company, rather than its shareholders, is the proper claimant in an action in respect of a wrong done to the company or where there is an irregularity in the company's internal management. Notwithstanding this general position, the Companies Act 2006 provides that (i) a court may allow a shareholder to bring a derivative claim (that is, an action in respect of and on behalf of the company) in respect of a cause of action arising from a director's negligence, default, breach of duty or breach of trust and (ii) a shareholder may bring a claim for a court order where the company's affairs have been or are being conducted in a manner that is unfairly prejudicial to some of its shareholders.	Under Delaware law, a shareholder may initiate a derivative action to enforce a right of a corporation if the corporation fails to enforce the right itself. The complaint must: • state that the plaintiff was a shareholder at the time of the transaction of which the plaintiff complains or that the plaintiffs shares thereafter devolved on the plaintiff by operation of law; and • allege with particularity the efforts made by the plaintiff to obtain the action the plaintiff desires from the directors and the reasons for the plaintiff's failure to obtain the action; or • state the reasons for not making the effort. Additionally, the plaintiff must remain a shareholder through the duration of the derivative suit. The action will not be dismissed or compromised without the approval of the Delaware Court of Chancery.

Stock exchange listing

We have been approved to list the ADSs on The Nasdaq Global Market under the trading symbol "VACC."

Transfer agent and registrar of shares

Our share register will be maintained by Computershare Investor Services plc upon the consummation of this offering. The share register reflects only record owners of our ordinary shares. Holders of the ADSs will not be treated as our shareholders and their names will therefore not be entered in our share register. The depositary, the custodian or their nominees will be the holder of the ordinary shares underlying the ADSs. Holders of the ADSs have a right to receive the ordinary shares underlying their ADSs. For discussion on the ADSs and ADS holder rights, see “Description of American Depositary Shares” in this prospectus.

DESCRIPTION OF AMERICAN DEPOSITARY SHARES

American Depositary Shares

The Bank of New York Mellon, as depositary, will register and deliver American Depositary Shares, also referred to as ADSs. Each ADS will represent one share (or a right to receive one share) deposited with The Bank of New York Mellon, as custodian, acting through an office located in the United Kingdom. Each ADS will also represent any other securities, cash or other property that may be held by the depositary. The deposited shares together with any other securities, cash or other property held by the depositary are referred to as the deposited securities. The depositary's office at which the ADSs will be administered and its principal executive office are located at 240 Greenwich Street, New York, New York 10286.

You may hold ADSs either (A) directly (i) by having an American Depositary Receipt, also referred to as an ADR, which is a certificate evidencing a specific number of ADSs, registered in your name, or (ii) by having uncertificated ADSs registered in your name, or (B) indirectly by holding a security entitlement in ADSs through your broker or other financial institution that is a direct or indirect participant in The Depository Trust Company, also called DTC. If you hold ADSs directly, you are a registered ADS holder, also referred to as an ADS holder. This description assumes you are an ADS holder. If you hold the ADSs indirectly, you must rely on the procedures of your broker or other financial institution to assert the rights of ADS holders described in this section. You should consult with your broker or financial institution to find out what those procedures are.

Registered holders of uncertificated ADSs will receive statements from the depositary confirming their holdings.

As an ADS holder, we will not treat you as one of our shareholders and you will not have shareholder rights. English law governs shareholder rights. The depositary will be the holder of the shares underlying your ADSs. As a registered holder of ADSs, you will have ADS holder rights. A deposit agreement among us, the depositary, ADS holders and all other persons indirectly or beneficially holding ADSs sets out ADS holder rights as well as the rights and obligations of the depositary. New York law governs the deposit agreement and the ADSs.

The following is a summary of the material provisions of the deposit agreement. For more complete information, you should read the entire deposit agreement and the form of ADR.

Dividends and Other Distributions

How will you receive dividends and other distributions on the shares?

The depositary has agreed to pay or distribute to ADS holders the cash dividends or other distributions it or the custodian receives on shares or other deposited securities, upon payment or deduction of its fees and expenses. You will receive these distributions in proportion to the number of shares your ADSs represent.

Cash. The depositary will convert any cash dividend or other cash distribution we pay on the shares into U.S. dollars, if it can do so on a reasonable basis and can transfer the U.S. dollars to the United States. If that is not possible or if any government approval is needed and cannot be obtained, the deposit agreement allows the depositary to distribute the foreign currency only to those ADS holders to whom it is possible to do so. It will hold the foreign currency it cannot convert for the account of the ADS holders who have not been paid. It will not invest the foreign currency and it will not be liable for any interest.

Before making a distribution, any withholding taxes, or other governmental charges that must be paid will be deducted. See "Material Income Tax Considerations." The depositary will distribute only whole U.S. dollars and cents and will round fractional cents to the nearest whole cent. *If the exchange rates fluctuate during a time when the depositary cannot convert the foreign currency, you may lose some of the value of the distribution.*

Shares. The depositary may distribute additional ADSs representing any shares we distribute as a dividend or free distribution. The depositary will only distribute whole ADSs. It will sell shares which would require it to deliver a fraction of an ADS (or ADSs representing those shares) and distribute the net

proceeds in the same way as it does with cash. If the depositary does not distribute additional ADSs, the outstanding ADSs will also represent the new shares. The depositary may sell a portion of the distributed shares (or ADSs representing those shares) sufficient to pay its fees and expenses in connection with that distribution.

Rights to purchase additional shares. If we offer holders of our securities any rights to subscribe for additional shares or any other rights, the depositary may (i) exercise those rights on behalf of ADS holders, (ii) distribute those rights to ADS holders or (iii) sell those rights and distribute the net proceeds to ADS holders, in each case after deduction or upon payment of its fees and expenses. To the extent the depositary does not do any of those things, it will allow the rights to lapse. *In that case, you will receive no value for them.* The depositary will exercise or distribute rights only if we ask it to and provide satisfactory assurances to the depositary that it is legal to do so. If the depositary will exercise rights, it will purchase the securities to which the rights relate and distribute those securities or, in the case of shares, new ADSs representing the new shares, to subscribing ADS holders, but only if ADS holders have paid the exercise price to the depositary. U.S. securities laws may restrict the ability of the depositary to distribute rights or ADSs or other securities issued on exercise of rights to all or certain ADS holders, and the securities distributed may be subject to restrictions on transfer.

Other Distributions. The depositary will send to ADS holders anything else we distribute on deposited securities by any means it thinks is legal, fair and practical. If it cannot make the distribution in that way, the depositary has a choice. It may decide to sell what we distributed and distribute the net proceeds, in the same way as it does with cash. Or, it may decide to hold what we distributed, in which case ADSs will also represent the newly distributed property. However, the depositary is not required to distribute any securities (other than ADSs) to ADS holders unless it receives satisfactory evidence from us that it is legal to make that distribution. The depositary may sell a portion of the distributed securities or property sufficient to pay its fees and expenses in connection with that distribution. U.S. securities laws may restrict the ability of the depositary to distribute securities to all or certain ADS holders, and the securities distributed may be subject to restrictions on transfer.

The depositary is not responsible if it decides that it is unlawful or impractical to make a distribution available to any ADS holders. We have no obligation to register ADSs, shares, rights or other securities under the Securities Act. We also have no obligation to take any other action to permit the distribution of ADSs, shares, rights or anything else to ADS holders. *This means that you may not receive the distributions we make on our shares or any value for them if it is illegal or impractical for us to make them available to you.*

Deposit, Withdrawal and Cancellation

How are ADSs issued?

The depositary will deliver ADSs if you or your broker deposits shares or evidence of rights to receive shares with the custodian. Upon payment of its fees and expenses and of any taxes or charges, such as stamp taxes or stock transfer taxes or fees, the depositary will register the appropriate number of ADSs in the names you request and will deliver the ADSs to or upon the order of the person or persons that made the deposit.

How can ADS holders withdraw the deposited securities?

You may surrender your ADSs to the depositary for the purpose of withdrawal. Upon payment of its fees and expenses and of any taxes or charges, such as stamp taxes or stock transfer taxes or fees, the depositary will deliver the shares and any other deposited securities underlying the ADSs to the ADS holder or a person the ADS holder designates at the office of the custodian. Or, at your request, risk and expense, the depositary will deliver the deposited securities at its office, if feasible. However, the depositary is not required to accept surrender of ADSs to the extent it would require delivery of a fraction of a deposited share or other security. The depositary may charge you a fee and its expenses for instructing the custodian regarding delivery of deposited securities.

How do ADS holders interchange between certificated ADSs and uncertificated ADSs?

You may surrender your ADR to the depositary for the purpose of exchanging your ADR for uncertificated ADSs. The depositary will cancel that ADR and will send to the ADS holder a statement

confirming that the ADS holder is the registered holder of uncertificated ADSs. Upon receipt by the depositary of a proper instruction from a registered holder of uncertificated ADSs requesting the exchange of uncertificated ADSs for certificated ADSs, the depositary will execute and deliver to the ADS holder an ADR evidencing those ADSs.

Voting Rights

How do you vote?

ADS holders may instruct the depositary how to vote the number of deposited shares their ADSs represent. If we request the depositary to solicit your voting instructions (and we are not required to do so), the depositary will notify you of a shareholders' meeting and send or make voting materials available to you. Those materials will describe the matters to be voted on and explain how ADS holders may instruct the depositary how to vote. For instructions to be valid, they must reach the depositary by a date set by the depositary. The depositary will try, as far as practical, subject to the laws of England and Wales and the provisions of our articles of association or similar documents, to vote or to have its agents vote the shares or other deposited securities as instructed by ADS holders. If we do not request the depositary to solicit your voting instructions, you can still send voting instructions, and, in that case, the depositary may try to vote as you instruct, but it is not required to do so.

Except by instructing the depositary as described above, you won't be able to exercise voting rights unless you surrender your ADSs and withdraw the shares. However, you may not know about the meeting enough in advance to withdraw the shares. In any event, the depositary will not exercise any discretion in voting deposited securities and it will only vote or attempt to vote as instructed.

We cannot assure you that you will receive the voting materials in time to ensure that you can instruct the depositary to vote your shares. In addition, the depositary and its agents are not responsible for failing to carry out voting instructions or for the manner of carrying out voting instructions. *This means that you may not be able to exercise voting rights and there may be nothing you can do if your shares are not voted as you requested.*

In order to give you a reasonable opportunity to instruct the depositary as to the exercise of voting rights relating to Deposited Securities, if we request the depositary to act, we agree to give the depositary notice of any such meeting and details concerning the matters to be voted upon at least 45 days in advance of the meeting date.

Fees and Expenses

Persons depositing or withdrawing shares or ADS holders must pay:	For:
$5.00 (or less) per 100 ADSs (or portion of 100 ADSs)	Issuance of ADSs, including issuances resulting from a distribution of shares or rights or other property
	Cancellation of ADSs for the purpose of withdrawal, including if the deposit agreement terminates
$.05 (or less) per ADS	Any cash distribution to ADS holders
A fee equivalent to the fee that would be payable if securities distributed to you had been shares and the shares had been deposited for issuance of ADSs	Distribution of securities distributed to holders of deposited securities (including rights) that are distributed by the depositary to ADS holders
$.05 (or less) per ADS per calendar year	Depositary services
Registration or transfer fees	Transfer and registration of shares on our share register to or from the name of the depositary or its agent when you deposit or withdraw shares
Expenses of the depositary	Cable (including SWIFT) and facsimile transmissions (when expressly provided in the deposit agreement) Converting foreign currency to U.S. dollars
Taxes and other governmental charges the depositary or the custodian has to pay on any ADSs or shares underlying ADSs, such as stock transfer taxes, stamp duty or withholding taxes	As necessary
Any charges incurred by the depositary or its agents for servicing the deposited securities	As necessary

The depositary collects its fees for delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The depositary may collect its annual fee for depositary services by deduction from cash distributions or by directly billing investors or by charging the book-entry system accounts of participants acting for them. The depositary may collect any of its fees by deduction from any cash distribution payable (or by selling a portion of securities or other property distributable) to ADS holders that are obligated to pay those fees. The depositary may generally refuse to provide fee-attracting services until its fees for those services are paid.

From time to time, the depositary may make payments to us to reimburse us for costs and expenses generally arising out of establishment and maintenance of the ADS program, waive fees and expenses for services provided to us by the depositary or share revenue from the fees collected from ADS holders. In performing its duties under the deposit agreement, the depositary may use brokers, dealers, foreign currency dealers or other service providers that are owned by or affiliated with the depositary and that may earn or share fees, spreads or commissions.

The depositary may convert currency itself or through any of its affiliates, or the custodian or we may convert currency and pay U.S. dollars to the depositary. Where the depositary converts currency itself or through any of its affiliates, the depositary acts as principal for its own account and not as agent, advisor, broker or fiduciary on behalf of any other person and earns revenue, including, without limitation, transaction spreads, that it will retain for its own account. The revenue is based on, among other things, the difference between the exchange rate assigned to the currency conversion made under the deposit agreement and the rate that the depositary or its affiliate receives when buying or selling foreign currency for its own account. The depositary makes no representation that the exchange rate used or obtained by it or its

affiliate in any currency conversion under the deposit agreement will be the most favorable rate that could be obtained at the time or that the method by which that rate will be determined will be the most favorable to ADS holders, subject to the depositary's obligation to act without negligence or bad faith. The methodology used to determine exchange rates used in currency conversions made by the depositary is available upon request. Where the custodian converts currency, the custodian has no obligation to obtain the most favorable rate that could be obtained at the time or to ensure that the method by which that rate will be determined will be the most favorable to ADS holders, and the depositary makes no representation that the rate is the most favorable rate and will not be liable for any direct or indirect losses associated with the rate. In certain instances, the depositary may receive dividends or other distributions from the us in U.S. dollars that represent the proceeds of a conversion of foreign currency or translation from foreign currency at a rate that was obtained or determined by us and, in such cases, the depositary will not engage in, or be responsible for, any foreign currency transactions and neither it nor we make any representation that the rate obtained or determined by us is the most favorable rate and neither it nor we will be liable for any direct or indirect losses associated with the rate.

Payment of Taxes

You will be responsible for any taxes or other governmental charges payable on your ADSs or on the deposited securities represented by any of your ADSs. The depositary may refuse to register any transfer of your ADSs or allow you to withdraw the deposited securities represented by your ADSs until those taxes or other charges are paid. It may apply payments owed to you or sell deposited securities represented by your ADSs to pay any taxes owed and you will remain liable for any deficiency. If the depositary sells deposited securities, it will, if appropriate, reduce the number of ADSs to reflect the sale and pay to ADS holders any proceeds, or send to ADS holders any property, remaining after it has paid the taxes.

Tender and Exchange Offers; Redemption, Replacement or Cancellation of Deposited Securities

The depositary will not tender deposited securities in any voluntary tender or exchange offer unless instructed to do so by an ADS holder surrendering ADSs and subject to any conditions or procedures the depositary may establish.

If deposited securities are redeemed for cash in a transaction that is mandatory for the depositary as a holder of deposited securities, the depositary will call for surrender of a corresponding number of ADSs and distribute the net redemption money to the holders of called ADSs upon surrender of those ADSs.

If there is any change in the deposited securities such as a sub-division, combination or other reclassification, or any merger, consolidation, recapitalization or reorganization affecting the issuer of deposited securities in which the depositary receives new securities in exchange for or in lieu of the old deposited securities, the depositary will hold those replacement securities as deposited securities under the deposit agreement. However, if the depositary decides it would not be lawful and practical to hold the replacement securities because those securities could not be distributed to ADS holders or for any other reason, the depositary may instead sell the replacement securities and distribute the net proceeds upon surrender of the ADSs.

If there is a replacement of the deposited securities and the depositary will continue to hold the replacement securities, the depositary may distribute new ADSs representing the new deposited securities or ask you to surrender your outstanding ADRs in exchange for new ADRs identifying the new deposited securities.

If there are no deposited securities underlying ADSs, including if the deposited securities are cancelled, or if the deposited securities underlying ADSs have become apparently worthless, the depositary may call for surrender of those ADSs or cancel those ADSs upon notice to the ADS holders.

Amendment and Termination

How may the deposit agreement be amended?

We may agree with the depositary to amend the deposit agreement and the ADRs without your consent for any reason. If an amendment adds or increases fees or charges, except for taxes and other governmental charges or expenses of the depositary for registration fees, facsimile costs, delivery charges or similar items,

or prejudices a substantial right of ADS holders, it will not become effective for outstanding ADSs until 30 days after the depositary notifies ADS holders of the amendment. *At the time an amendment becomes effective, you are considered, by continuing to hold your ADSs, to agree to the amendment and to be bound by the ADRs and the deposit agreement as amended.*

How may the deposit agreement be terminated?

The depositary will initiate termination of the deposit agreement if we instruct it to do so. The depositary may initiate termination of the deposit agreement if:

- 60 days have passed since the depositary told us it wants to resign but a successor depositary has not been appointed and accepted its appointment;
- we delist the ADSs from an exchange in the United States on which they were listed and do not list the ADSs on another exchange in the United States or make arrangements for trading of ADSs on the U.S. over-the-counter market;
- we delist our shares from an exchange outside the United States on which they were listed and do not list the shares on another exchange outside the United States;
- the depositary has reason to believe the ADSs have become, or will become, ineligible for registration on Form F-6 under the Securities Act of 1933;
- we appear to be insolvent or enter insolvency proceedings;
- all or substantially all the value of the deposited securities has been distributed either in cash or in the form of securities;
- there are no deposited securities underlying the ADSs or the underlying deposited securities have become apparently worthless; or
- there has been a replacement of deposited securities.

If the deposit agreement will terminate, the depositary will notify ADS holders at least 90 days before the termination date. At any time after the termination date, the depositary may sell the deposited securities. After that, the depositary will hold the money it received on the sale, as well as any other cash it is holding under the deposit agreement, unsegregated and without liability for interest, for the pro rata benefit of the ADS holders that have not surrendered their ADSs. Normally, the depositary will sell as soon as practicable after the termination date.

After the termination date and before the depositary sells, ADS holders can still surrender their ADSs and receive delivery of deposited securities, except that the depositary may refuse to accept a surrender for the purpose of withdrawing deposited securities or reverse previously accepted surrenders of that kind that have not settled if it would interfere with the selling process. The depositary may refuse to accept a surrender for the purpose of withdrawing sale proceeds until all the deposited securities have been sold. The depositary will continue to collect distributions on deposited securities, but, after the termination date, the depositary is not required to register any transfer of ADSs or distribute any dividends or other distributions on deposited securities to the ADSs holder (until they surrender their ADSs) or give any notices or perform any other duties under the deposit agreement except as described in this paragraph.

Limitations on Obligations and Liability

Limits on our Obligations and the Obligations of the Depositary; Limits on Liability to Holders of ADSs

The deposit agreement expressly limits our obligations and the obligations of the depositary. It also limits our liability and the liability of the depositary. We and the depositary:

- are only obligated to take the actions specifically set forth in the deposit agreement without negligence or bad faith, and the depositary will not be a fiduciary or have any fiduciary duty to holders of ADSs;

- are not liable if we are or it is prevented or delayed by law or by events or circumstances beyond our or its ability to prevent or counteract with reasonable care or effort from performing our or its obligations under the deposit agreement;
- are not liable if we or it exercises discretion permitted under the deposit agreement;
- are not liable for the inability of any holder of ADSs to benefit from any distribution on deposited securities that is not made available to holders of ADSs under the terms of the deposit agreement, or for any special, consequential or punitive damages for any breach of the terms of the deposit agreement;
- have no obligation to become involved in a lawsuit or other proceeding related to the ADSs or the deposit agreement on your behalf or on behalf of any other person;
- may rely upon any documents we believe or it believes in good faith to be genuine and to have been signed or presented by the proper person;
- are not liable for the acts or omissions of any securities depository, clearing agency or settlement system; and
- the depositary has no duty to make any determination or provide any information as to our tax status, or any liability for any tax consequences that may be incurred by ADS holders as a result of owning or holding ADSs or be liable for the inability or failure of an ADS holder to obtain the benefit of a foreign tax credit, reduced rate of withholding or refund of amounts withheld in respect of tax or any other tax benefit.

In the deposit agreement, we and the depositary agree to indemnify each other under certain circumstances.

Requirements for Depositary Actions

Before the depositary will deliver or register a transfer of ADSs, make a distribution on ADSs, or permit withdrawal of shares, the depositary may require:

- payment of stock transfer or other taxes or other governmental charges and transfer or registration fees charged by third parties for the transfer of any shares or other deposited securities;
- satisfactory proof of the identity and genuineness of any signature or other information it deems necessary; and
- compliance with regulations it may establish, from time to time, consistent with the deposit agreement, including presentation of transfer documents.

The depositary may refuse to deliver ADSs or register transfers of ADSs when the transfer books of the depositary or our transfer books are closed or at any time if the depositary or we think it advisable to do so.

Your Right to Receive the Shares Underlying your ADSs

ADS holders have the right to cancel their ADSs and withdraw the underlying shares at any time except:

- when temporary delays arise because: (i) the depositary has closed its transfer books or we have closed our transfer books; (ii) the transfer of shares is blocked to permit voting at a shareholders' meeting; or (iii) we are paying a dividend on our shares;
- when you owe money to pay fees, taxes and similar charges; or
- when it is necessary to prohibit withdrawals in order to comply with any laws or governmental regulations that apply to ADSs or to the withdrawal of shares or other deposited securities.

This right of withdrawal may not be limited by any other provision of the deposit agreement.

Direct Registration System

In the deposit agreement, all parties to the deposit agreement acknowledge that the Direct Registration System, also referred to as DRS, and Profile Modification System, also referred to as Profile, will apply to the ADSs. DRS is a system administered by DTC that facilitates interchange between registered holding of uncertificated ADSs and holding of security entitlements in ADSs through DTC and a DTC participant. Profile is a feature of DRS that allows a DTC participant, claiming to act on behalf of a registered holder of uncertificated ADSs, to direct the depositary to register a transfer of those ADSs to DTC or its nominee and to deliver those ADSs to the DTC account of that DTC participant without receipt by the depositary of prior authorization from the ADS holder to register that transfer.

In connection with and in accordance with the arrangements and procedures relating to DRS/Profile, the parties to the deposit agreement understand that the depositary will not determine whether the DTC participant that is claiming to be acting on behalf of an ADS holder in requesting registration of transfer and delivery as described in the paragraph above has the actual authority to act on behalf of the ADS holder (notwithstanding any requirements under the Uniform Commercial Code). In the deposit agreement, the parties agree that the depositary's reliance on and compliance with instructions received by the depositary through the DRS/Profile system and in accordance with the deposit agreement will not constitute negligence or bad faith on the part of the depositary.

Shareholder communications; inspection of register of holders of ADSs

The depositary will make available for your inspection at its office all communications that it receives from us as a holder of deposited securities that we make generally available to holders of deposited securities. The depositary will send you copies of those communications or otherwise make those communications available to you if we ask it to. You have a right to inspect the register of holders of ADSs, but not for the purpose of contacting those holders about a matter unrelated to our business or the ADSs.

Jury Trial Waiver

The deposit agreement provides that, to the extent permitted by law, ADS holders waive the right to a jury trial of any claim they may have against us or the depositary arising out of or relating to our shares, the ADSs or the deposit agreement, including any claim under the U.S. federal securities laws. If we or the depositary opposed a jury trial demand based on the waiver, the court would determine whether the waiver was enforceable in the facts and circumstances of that case in accordance with applicable case law.

You will not, by agreeing to the terms of the deposit agreement, be deemed to have waived our or the depositary's compliance with U.S. federal securities laws or the rules and regulations promulgated thereunder.

SHARES AND ADSS ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our ordinary shares or ADSs. Upon completion of this offering, we will have 34,328,231 ordinary shares (including in the form of ADSs) outstanding, based on the offering price of $17.00 per ADS. Future sales of ADSs in the public market after this offering, and the availability of ADSs for future sale, could adversely affect the market price of the ADSs prevailing from time to time. Some of our ordinary shares are subject to contractual and legal restrictions on resale as described below. There may be sales of substantial amounts of the ADSs in the public market after such restrictions lapse, which could adversely affect prevailing market prices of the ADSs.

We expect 6,500,000 ADSs, or 7,475,000 ADSs if the underwriters exercise in full their option to purchase additional ADSs, sold in this offering will be freely transferable without restriction, except for any shares purchased by one or more of our existing "affiliates," as that term is defined in Rule 144 under the Securities Act. We expect 27,828,231 of our ordinary shares will be subject to the contractual 180-day lock-up period described below. This may adversely affect the prevailing market price of the ADSs and our ability to raise capital in the future.

Rule 144

In general, persons who have beneficially owned restricted ordinary shares for at least six months, and any affiliate of the company who owns either restricted or unrestricted securities, are entitled to sell their securities without registration with the SEC under an exemption from registration provided by Rule 144 under the Securities Act.

Non-Affiliates

Any person who is not deemed to have been one of our affiliates at the time of, or at any time during the three months preceding, a sale may sell an unlimited number of restricted securities under Rule 144 if:

- the restricted securities have been held for at least six months, including the holding period of any prior owner other than one of our affiliates;
- we have been subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale; and
- we are current in our Exchange Act reporting at the time of sale.

Any person who is not deemed to have been an affiliate of ours at the time of, or at any time during the three months preceding, a sale and has held the restricted securities for at least one year, including the holding period of any prior owner other than one of our affiliates, will be entitled to sell an unlimited number of restricted securities without regard to the length of time we have been subject to Exchange Act periodic reporting or whether we are current in our Exchange Act reporting.

Affiliates

Persons seeking to sell restricted securities who are our affiliates at the time of, or any time during the three months preceding, a sale, would be subject to the restrictions described above.

They are also subject to additional restrictions, by which such person would be required to comply with the manner of sale and notice provisions of Rule 144 and would be entitled to sell within any three-month period only that number of securities that does not exceed the greater of either of the following:

- 1% of the number of ordinary shares then outstanding (including in the form of ADSs), which will equal approximately 340,643 shares immediately after the consummation of this offering, assuming no exercise of the underwriters' option to purchase additional shares, based on the number of ordinary shares outstanding as of December 31, 2020; or
- the average weekly trading volume of our ordinary shares in the form of ADSs on The Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Additionally, persons who are our affiliates at the time of, or any time during the three months preceding, a sale may sell unrestricted securities under the requirements of Rule 144 described above, without regard to the six-month holding period of Rule 144, which does not apply to sales of unrestricted securities.

Rule 701

Rule 701 under the Securities Act, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares. However, substantially all Rule 701 shares are subject to lock-up agreements as described below and in the section of this prospectus titled “Underwriting” and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

Form S-8 Registration Statements

As soon as practicable after the closing of this offering, we intend to file with the SEC one or more registration statements on Form S-8 under the Securities Act to register the ordinary shares subject to outstanding options or reserved for issuance under the Scheme and the 2021 Plan. These registration statements will become effective immediately upon filing. Shares covered by these registration statements will then be eligible for sale in the open market, subject to vesting restrictions, any applicable lock-up agreements described below and Rule 144 limitations applicable to affiliates.

Regulation S

Regulation S provides generally that sales made in offshore transactions are not subject to the registration or prospectus delivery requirements of the Securities Act.

Lock-up agreements

We expect that all of our directors and executive officers and the holders of substantially all of our share capital will agree, subject to limited exceptions, not to offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise dispose of, directly or indirectly, or enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the ADSs, ordinary shares or such other securities for a period of 180 days after the date of this prospectus, without the prior consent of Morgan Stanley & Co. LLC and Jefferies LLC on behalf of the underwriters. See “Underwriting.”

Registration Rights

The registration rights agreement grants certain registration rights with respect to our ordinary shares. See “Description of Share Capital and Articles of Association—Registration Rights.”

MATERIAL INCOME TAX CONSIDERATIONS

The following summary contains a description of material United Kingdom and U.S. federal income tax consequences of the acquisition, ownership and disposition of our ordinary shares or ADSs. This summary should not be considered a comprehensive description of all the tax considerations that may be relevant to the decision to acquire ordinary shares or ADSs in this offering.

Material U.S. federal income tax considerations for U.S. holders

The following is a description of certain material U.S. federal income tax considerations for U.S. Holders (defined below) with respect to their ownership and disposition of our ordinary shares or ADSs. It is not a comprehensive description of all tax considerations that may be relevant to a particular person's decision to acquire securities. This discussion applies only to a U.S. Holder that is an initial purchaser of the ordinary shares or ADSs pursuant to the offering and that holds our ordinary shares or ADSs as a capital asset for tax purposes (generally, property held for investment). In addition, it does not describe all of the tax consequences that may be relevant in light of a U.S. Holder's particular circumstances, including state and local tax consequences, estate tax consequences, alternative minimum tax consequences, the potential application of the Medicare contribution tax, and tax consequences applicable to U.S. Holders subject to special rules, such as:

- banks, insurance companies, and certain other financial institutions;
- U.S. expatriates and certain former citizens or long-term residents of the United States;
- dealers or traders in securities who use a mark-to-market method of tax accounting;
- persons holding ordinary shares or ADSs as part of a hedging transaction, "straddle," wash sale, conversion transaction or integrated transaction or persons entering into a constructive sale with respect to ordinary shares or ADSs;
- persons whose "functional currency" for U.S. federal income tax purposes is not the U.S. dollar;
- brokers, dealers or traders in securities, commodities, currencies or notional principal contracts;
- tax-exempt entities or government organizations, including an "individual retirement account" or "Roth IRA" as defined in Section 408 or 408A of the Code (as defined below), respectively;
- S corporations, partnerships (including entities or arrangements classified as partnerships for U.S. federal income tax purposes) or other pass-through entities, or persons that will hold our ordinary shares or ADSs through such an entity;
- certain former citizens or long term residents of the United States;
- regulated investment companies, grantor trusts or real estate investment trusts;
- persons who acquired our ordinary shares or ADSs pursuant to the exercise of any employee stock option or otherwise as compensation;
- persons subject to Section 451(b) of the Code;
- persons holding our ordinary shares or ADSs in connection with a trade or business, permanent establishment, or fixed base outside the United States; and
- persons who own (directly, constructively or through attribution) 10% or more (by vote or value) of our outstanding ordinary shares or ADS.

If an entity that is classified as a partnership for U.S. federal income tax purposes holds ordinary shares or ADSs, the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and the activities of the partnership. Partnerships holding ordinary shares or ADSs and partners in such partnerships are encouraged to consult their tax advisors as to the particular U.S. federal income tax consequences of holding and disposing of ordinary shares or ADSs.

The discussion is based on the Code, administrative pronouncements, judicial decisions, final, temporary and proposed Treasury Regulations, and the income tax treaty between the United Kingdom and the United States, or the Treaty, all as of the date hereof, changes to any of which may affect the tax consequences described herein — possibly with retroactive effect. There can be no assurances that the IRS will not take a contrary or different position concerning the tax consequences of the ownership and disposition of our ordinary shares or ADSs or that such a position would not be sustained by a court. We have not obtained, nor do we intend to obtain, a ruling with respect to the U.S. federal income tax considerations relating to the purchase, ownership or disposition of our ordinary shares or ADSs. Holders should consult their own tax advisers concerning the U.S. federal, state, local and non-U.S. tax consequences of owning and disposing of our ordinary shares or ADSs in their particular circumstances.

A "U.S. Holder" is a holder who, for U.S. federal income tax purposes, is a beneficial owner of ordinary shares or ADSs and is:

(i) an individual who is a citizen or individual resident of the United States;

(ii) a corporation, or other entity taxable as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States, any state therein or the District of Columbia;

(iii) an estate the income of which is subject to U.S. federal income taxation regardless of its source; or

(iv) a trust if (1) a U.S. court is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have authority to control all substantial decisions of the trust or (2) the trust has a valid election to be treated as a U.S. person under applicable U.S. Treasury Regulations.

The discussion below assumes that the representations contained in the deposit agreement are true and that the obligations in the deposit agreement and any related agreement will be complied with in accordance with their terms. Accordingly, a holder of an ADS should be treated for U.S. federal income tax purposes as holding the ordinary shares represented by the ADS.

As indicated below, this discussion is subject to U.S. federal income tax rules applicable to a "passive foreign investment company" ("PFIC").

PERSONS CONSIDERING AN INVESTMENT IN ORDINARY SHARES OR ADSs SHOULD CONSULT THEIR OWN TAX ADVISORS AS TO THE PARTICULAR TAX CONSEQUENCES APPLICABLE TO THEM RELATING TO THE ACQUISITION, OWNERSHIP AND DISPOSITION OF THE ORDINARY SHARES OR ADSs, INCLUDING THE APPLICABILITY OF U.S. FEDERAL, STATE AND LOCAL TAX LAWS.

PFIC Rules

If we are classified as a PFIC in any taxable year, a U.S. Holder will be subject to special rules generally intended to reduce or eliminate any benefits from the deferral of U.S. federal income tax that a U.S. Holder could derive from investing in a non-U.S. company that does not distribute all of its earnings on a current basis.

A non-U.S. corporation will be classified as a PFIC for any taxable year in which, after applying certain look-through rules, either:

- at least 75% of its gross income is passive income (such as interest income); or
- at least 50% of its gross assets (determined on the basis of a quarterly average) is attributable to assets that produce passive income or are held for the production of passive income.

We will be treated as owning our proportionate share of the assets and earning our proportionate share of the income of any other corporation, the equity of which we own, directly or indirectly, 25% or more (by value).

A separate determination must be made after the close of each taxable year as to whether we are a PFIC for that year. As a result, our PFIC status may change from year to year. The total value of our assets for purposes of the asset test generally will be calculated using the market price of the ordinary shares or ADSs, which may fluctuate considerably. Fluctuations in the market price of the ordinary shares or ADSs may result in our being a PFIC for any taxable year. If we are a "controlled foreign corporation", or CFC, for U.S. federal income tax purposes for a taxable period (including in the current year) in which our ordinary shares or ADSs are not publicly traded, the value of our assets for purposes of the asset test would be determined based on the tax basis of such assets, which could increase the likelihood that we are treated as a PFIC. We do not believe that we were a CFC in 2020, and we do not expect to be a CFC in 2021.

Our PFIC status for the 2020 taxable year is currently not certain. However, based on the current and expected composition of our income and the value of our assets, we do not believe we were a PFIC for 2020, and we do not expect to be a PFIC for our current taxable year. However, our status as a PFIC is a fact-intensive determination made on an annual basis applying principles and methodologies that in some circumstances are unclear and subject to varying interpretation. With respect to the current taxable year, the value of our assets would be subject to some uncertainty if we are treated as a CFC. As a result, we cannot provide any assurances regarding our PFIC status for the current, prior or future taxable years.

If we are determined to be a PFIC, U.S. holders may be able to make certain elections that could alleviate some of the adverse consequences of PFIC status and would result in an alternative treatment of the ordinary shares or ADSs. Such elections include a "mark to market" election, a "deemed sale" election, and a "qualified electing fund" election. We may or may not be able to provide the information required to make any such elections, and U.S. holders should therefore not assume that any particular election will be available to them.

If we were a PFIC for any taxable year during which a U.S. Holder held Shares or ADSs, gain recognized by a U.S. Holder on a sale or other disposition (including certain pledges) of the ordinary shares or ADSs would be allocated ratably over the U.S. Holder's holding period for the ordinary shares or ADSs. The amounts allocated to the taxable year of the sale or other disposition and to any year before the Company became a PFIC would be taxed as ordinary income. The amount allocated to each other taxable year would be subject to tax at the highest rate in effect for individuals or corporations, as appropriate, for that taxable year, and an interest charge would be imposed on the tax on such amount. Further, to the extent that any distribution received by a U.S. Holder on its ordinary shares or ADSs exceeds 125% of the average of the annual distributions on the Shares or ADSs received during the preceding three years or the U.S. Holder's holding period, whichever is shorter, that distribution would be subject to taxation in the same manner as gain, described immediately above.

If we are classified as a PFIC in any year with respect to which a U.S. Holder owns the ordinary shares or ADSs, we will continue to be treated as a PFIC with respect to such U.S. Holder in all succeeding years during which the U.S. Holder owns the ordinary shares or ADSs, regardless of whether we continue to meet the tests described above unless (i) we cease to be a PFIC and the U.S. Holder has made a "deemed sale" election under the PFIC rules, or (ii) the U.S. Holder makes a Qualified Electing Fund Election, or QEF Election, with respect to all taxable years during such U.S. Holder's holding period in which we are a PFIC.

If a U.S. Holder makes an effective QEF Election, the U.S. Holder will be required to include in gross income each year, whether or not we make distributions, as capital gains, such U.S. Holder's pro rata share of our net capital gains and, as ordinary income, such U.S. Holder's pro rata share of our earnings in excess of our net capital gains. We intend to determine our PFIC status at the end of each taxable year and to satisfy any applicable record keeping and reporting requirements that apply to a QEF Election, and expect to provide to U.S. Holders, for each taxable year that we determine we are a PFIC, a PFIC Annual Information Statement containing information necessary for a U.S. Holder to make a QEF Election with respect to us. We may elect to provide such information on our website.

If a U.S. holder owns ordinary shares or ADSs during any taxable year in which we are a PFIC, the U.S. holder generally will be required to file an IRS Form 8621 (Information Return by a Shareholder of a Passive Foreign Investment Company or Qualified Electing Fund) with respect to the company, generally with the U.S. holder's federal income tax return for that year. If our company were a PFIC for a given taxable year, then you should consult your tax advisor concerning your annual filing requirements.

The U.S. federal income tax rules relating to PFICs are complex. Prospective U.S. investors are urged to consult their own tax advisers with respect to the ownership and disposition of the ordinary shares or ADSs, the consequences to them of an investment in a PFIC, any elections available with respect to the ordinary shares or ADSs and the IRS information reporting obligations with respect to the ownership and disposition of the ordinary shares or ADSs.

WE STRONGLY URGE YOU TO CONSULT YOUR TAX ADVISOR REGARDING THE IMPACT OF OUR PFIC STATUS ON YOUR INVESTMENT IN THE ORDINARY SHARES OR ADSs AS WELL AS THE APPLICATION OF THE PFIC RULES TO YOUR INVESTMENT IN THE ORDINARY SHARES OR ADSs.

Taxation of distributions

Subject to the discussion above under "PFIC rules," distributions paid on ordinary shares or ADSs, other than certain pro rata distributions of ordinary shares or ADSs, will generally be treated as dividends to the extent paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles). Distributions in excess of earnings and profits will be non-taxable to the U.S. holder to the extent of, and will be applied against and reduce, the U.S. holder's adjusted tax basis in the ordinary shares or the ADSs. Distributions in excess of earnings and profits and such adjusted tax basis will generally be taxable to the U.S. holder as either long-term or short-term capital gain depending upon whether the U.S. holder has held the ordinary shares or the ADSs for more than one year as of the time such distribution is received. However, because we may not calculate our earnings and profits under U.S. federal income tax principles, we expect that distributions generally will be reported to U.S. Holders as dividends, even if that distribution would otherwise be treated as a non-taxable return of capital or as capital gain under the rules described above. Subject to applicable limitations, dividends paid to certain non-corporate U.S. Holders may be taxable at preferential rates applicable to "qualified dividend income" if we are a "qualified foreign corporation" and certain other requirements are met. However, the qualified dividend income treatment will not apply if we are treated as a PFIC with respect to the U.S. Holder. The amount of the dividend will be treated as foreign-source dividend income to U.S. Holders and will not be eligible for the dividends-received deduction generally available to U.S. corporations under the Code. Dividends will generally be included in a U.S. Holder's income on the date of the U.S. Holder's receipt of the dividend. The amount of any dividend income paid in foreign currency will be the U.S. dollar amount calculated by reference to the exchange rate in effect on the date of actual or constructive receipt, regardless of whether the payment is in fact converted into U.S. dollars. If the dividend is converted into U.S. dollars on the date of receipt, a U.S. Holder should not be required to recognize foreign currency gain or loss in respect of the dividend income. A U.S. Holder may have foreign currency gain or loss if the dividend is converted into U.S. dollars after the date of receipt. Such gain or loss would generally be treated as U.S.-source ordinary income or loss.

For foreign tax credit limitation purposes, our dividends will generally be treated as passive category income. Because no UK income taxes are expected to be withheld from dividends on ordinary shares or ADSs, there will be no creditable foreign taxes associated with any dividends that a U.S. Holder will receive. The rules governing foreign tax credits are complex and U.S. Holders should therefore consult their tax advisors regarding the effect of the receipt of dividends for foreign tax credit limitation purposes.

Sale or other taxable disposition of ordinary shares and ADSs

Subject to the discussion above under "PFIC rules," gain or loss realized on the sale or other taxable disposition of ordinary shares or ADSs will be capital gain or loss, and will be long-term capital gain or loss if the U.S. Holder held the ordinary shares or ADSs for more than one year. The amount of the gain or loss will equal the difference between the U.S. Holder's tax basis in the ordinary shares or ADSs disposed of and the amount realized on the disposition, in each case as determined in U.S. dollars. This gain or loss will generally be U.S.-source gain or loss for foreign tax credit purposes. The deductibility of capital losses is subject to limitations.

Information reporting and backup withholding

Payments of dividends and sales proceeds that are made within the United States or through certain U.S.-related financial intermediaries generally are subject to information reporting, and may be subject to

backup withholding, unless (i) the U.S. Holder is a corporation or other exempt recipient or (ii) in the case of backup withholding, the U.S. Holder provides a correct taxpayer identification number and certifies that it is not subject to backup withholding on a duly executed IRS Form W-9 or otherwise establishes an exemption.

Backup withholding is not an additional tax. The amount of any backup withholding from a payment to a U.S. Holder will be allowed as a credit against the U.S. Holder's U.S. federal income tax liability and may entitle the U.S. Holder to a refund, provided that the required information is timely furnished to the IRS.

UK Taxation

The following is intended as a general guide to current UK tax law and HM Revenue & Customs, or HMRC, published practice (which is not binding) applying as at the date of this prospectus (both of which are subject to change at any time, possibly with retrospective effect) relating to the holding of ADSs. It does not constitute legal or tax advice and does not purport to be a complete analysis of all UK tax considerations relating to the holding of ADSs, or all of the circumstances in which holders of ADSs may benefit from an exemption or relief from UK taxation. It is written on the basis that we do not (and will not) directly or indirectly at any time derive 75% or more of our qualifying asset value from UK land, and that we are and will remain solely resident in the UK for tax purposes and will therefore be subject to the UK tax regime and not the U.S. tax regime save as set out above under "Material U.S. Federal Income Tax Considerations for U.S. Holders."

Except to the extent that the position of non-UK resident persons is expressly referred to, this guide relates only to persons who are resident (and in the case of individuals, domiciled or deemed domiciled) for tax purposes solely in the UK and do not have a permanent establishment, branch or agency (or equivalent) in any other jurisdiction with which the holding of the ADSs is connected, or UK Holders, who are absolute beneficial owners of the ADSs (and do not hold the ADSs through an Individual Savings Account or a Self-Invested Personal Pension) and any dividends paid in respect of the ADSs or underlying ordinary shares (where the dividends are regarded for U.K. tax purposes as that person's own income) and who hold their ADSs as investments.

This guide may not relate to certain classes of UK Holders, such as (but not limited to):

- persons who are connected with us;
- financial institutions;
- insurance companies;
- charities or tax-exempt organizations;
- collective investment schemes;
- pension schemes;
- market makers, intermediaries, brokers or dealers in securities or persons who hold ADSs otherwise than as an investment;
- persons who have (or are deemed to have) acquired their ADSs by virtue of an office or employment or who are or have been our (or any of our affiliates') officers or employees; and
- individuals who are subject to UK taxation on a remittance basis or to whom split-year treatment applies.

The decision of the First-tier Tribunal (Tax Chamber) in HSBC Holdings PLC and The Bank of New York Mellon Corporation v HMRC (2012) casts some doubt on whether a holder of a depositary receipt is the beneficial owner of the underlying shares. However, based on published HMRC guidance we would expect that HMRC will regard a holder of ADSs as holding the beneficial interest in the underlying shares and therefore these paragraphs assume that a holder of ADSs is the beneficial owner of the underlying ordinary shares and any dividends paid in respect of the underlying ordinary shares (where the dividends are regarded for UK purposes as that person's own income) for UK direct tax purposes.

THESE PARAGRAPHS ARE A SUMMARY OF CERTAIN UK TAX CONSIDERATIONS AND ARE INTENDED AS A GENERAL GUIDE ONLY. IT IS RECOMMENDED THAT ALL HOLDERS OF ADSs OBTAIN ADVICE AS TO THE CONSEQUENCES OF THE ACQUISITION, OWNERSHIP AND DISPOSAL OF THE ADSs IN THEIR OWN PARTICULAR CIRCUMSTANCES FROM THEIR OWN TAX ADVISORS. IN PARTICULAR, NON-UK RESIDENT OR DOMICILED PERSONS OR PERSONS SUBJECT TO TAXATION IN ANY JURISDICTION OTHER THAN THE UK ARE ADVISED TO CONSIDER THE POTENTIAL IMPACT OF ANY RELEVANT DOUBLE TAXATION AGREEMENTS.

Dividends

Withholding Tax

Dividends that we pay will not be subject to any withholding or deduction for or on account of UK tax.

Income Tax

An individual UK Holder may, depending on his or her particular circumstances, be subject to UK tax on dividends received from us. An individual holder of ADSs who is not resident for tax purposes in the UK should not be chargeable to UK income tax on dividends received from us unless he or she carries on (whether solely or in partnership) a trade, profession or vocation in the UK through a permanent establishment, branch or agency to which the ADSs are attributable. There are certain exceptions for trading in the UK through independent agents, such as some brokers and investment managers.

Dividend income is treated as the top slice of the total income chargeable to UK income tax for an individual UK Holder. An individual UK Holder who receives a dividend in the 2021/2022 tax year will be entitled to a tax-free allowance of £2,000. Income within the dividend allowance counts towards an individual's basic or higher rate limits and may, therefore, affect the level of personal allowance to which they are entitled. Dividend income in excess of this tax-free allowance will (subject to the availability of any income tax personal allowance) be charged at 7.5% (for the tax year 2021/2022) to the extent the excess amount falls within the basic rate band, 32.5% (for the tax year 2021/2022) to the extent the excess amount falls within the higher rate band, and 38.1% (for the tax year 2021/2022) to the extent the excess amount falls within the additional rate band.

Corporation Tax

A corporate holder of ADSs who is not resident for tax purposes in the UK should not be chargeable to UK corporation tax on dividends received from us unless it carries on (whether solely or in partnership) a trade in the UK through a permanent establishment to which the ADSs are attributable.

Corporate UK Holders should not be subject to UK corporation tax on any dividend received from us so long as the dividends qualify for exemption, which should be the case, although certain conditions must be met. It should be noted that the exemptions, whilst of wide application, are not comprehensive and are subject to anti-avoidance rules in relation to a dividend. If the conditions for the exemption are not satisfied, or such anti-avoidance provisions apply or such UK Holder elects for an otherwise exempt dividend to be taxable, UK corporation tax will be chargeable on the amount of any dividends (at the current rate of 19% for the tax year 2021/2022 rising to 25% in the tax year 2023/2024 for companies with profits of more than £50,000 while the rate of 19% will apply to companies with profits not exceeding £50,000 with a tapered rate applying to profits between £50,000 and £250,000).

Chargeable Gains

A disposal or deemed disposal of ADSs by a UK Holder may, depending on the UK Holder's circumstances and subject to any available exemptions or reliefs (such as the annual exemption), give rise to a chargeable gain or an allowable loss for the purposes of UK capital gains tax and corporation tax on chargeable gains.

If an individual UK Holder who is subject to UK income tax at either the higher or the additional rate is liable to UK capital gains tax on the disposal of ADSs, the current applicable rate will be 20% (for the tax year 2021/2022). For an individual UK Holder who is subject to UK income tax at the basic rate and liable

to UK capital gains tax on such disposal, the current applicable rate would be 10% (for the tax year 2021/2022), save to the extent that any capital gains when aggregated with the UK Holder's other taxable income and gains in the relevant tax year exceed the unused basic rate tax band. In that case, the rate currently applicable to the excess would be 20% (for the tax year 2021/2022).

If a corporate UK Holder becomes liable to UK corporation tax on the disposal (or deemed disposal) of ADSs, the main rate of UK corporation tax would apply (currently at 19% for the tax year 2021/2022 rising to 25% in the tax year 2023/2024 for companies with profits of more than £50,000 while the rate of 19% will apply to companies with profits not exceeding £50,000 with a tapered rate applying to profits between £50,000 and £250,000).

A holder of ADSs that is not resident for tax purposes in the UK should not normally be liable to UK capital gains tax or corporation tax on chargeable gains on a disposal (or deemed disposal) of ADSs, unless the person is carrying on (whether solely or in partnership) a trade, profession or vocation in the UK through a branch or agency (or, in the case of a corporate holder of ADSs, through a permanent establishment) to which the ADSs are attributable. However, an individual holder of ADSs who has ceased to be resident for tax purposes in the UK or is treated as resident outside the UK for the purposes of a double taxation treaty for a period of five years or less and who disposes of ADSs during that period of temporary non-residence may be liable on his or her return to the UK (or upon ceasing to be regarded as resident outside the UK for the purposes of double taxation treaty) to UK tax on any capital gain realized (subject to any available exemption or relief).

Stamp Duty and Stamp Duty Reserve Tax

The discussion below relates to the holders of our ordinary shares or ADSs wherever resident, however it should be noted that special rules may apply to certain persons such as market makers, brokers, dealers or intermediaries.

Issue of Ordinary Shares

As a general rule, no UK stamp duty or stamp duty reserve tax, or SDRT, is payable on the issue of the ordinary shares underlying the ADSs.

Transfers of Ordinary Shares

An unconditional agreement to transfer ordinary shares will normally give rise to a charge to SDRT at the rate of 0.5% of the amount or value of the consideration payable for the transfer. The purchaser of the shares is liable for the SDRT. Transfers of ordinary shares in certificated form are generally also subject to stamp duty at the rate of 0.5% of the amount or value of the consideration given for the transfer (rounded up to the next £5.00). Stamp duty is normally paid by the purchaser. The charge to SDRT will be cancelled or, if already paid, repaid (generally with interest), where a transfer instrument has been duly stamped within six years of the charge arising, (either by paying the stamp duty or by claiming an appropriate relief) or if the instrument is otherwise exempt from stamp duty.

Clearance Services and Depositary Receipts

Under current U.K. tax law and published HMRC practice, no SDRT (and, where the transfer is effected by a written instrument, stamp duty) is generally payable where an issue or transfer of ordinary shares (including an unconditional agreement to transfer ordinary shares to a clearance service or a depositary receipt system (including to a nominee or agent for, a person whose business is or includes the issue of depositary receipts or the provision of clearance services)) is an integral part of an issue of share capital unless the clearance service has made and maintained an election under section 97A of the UK Finance Act 1986, or a section 97A election. It is understood that HMRC regards the facilities of DTC as a clearance service for these purposes and we are not aware of any section 97A election having been made by the DTC.

Issue or Transfers of ADSs

No UK SDRT or stamp duty is required to be paid in respect of the issue of or an agreement to transfer ADSs (including by way of a paperless transfer of ADSs through the facilities of DTC).

UNDERWRITING

Under the terms and subject to the conditions in an underwriting agreement dated the date of this prospectus, the underwriters named below, for whom Morgan Stanley & Co. LLC, Jefferies LLC, Barclays Capital Inc. and William Blair & Company, L.L.C. are acting as representatives, have severally agreed to purchase, and we have agreed to sell to them, severally, the number of ADSs indicated below:

Name	Number of ADSs
Morgan Stanley & Co. LLC	2,600,000
Jefferies LLC	1,885,000
Barclays Capital Inc.	975,000
William Blair & Company, L.L.C.	780,000
H.C. Wainwright & Co., LLC	260,000
Total	6,500,000

The underwriters and the representatives are collectively referred to as the "underwriters" and the "representatives," respectively. The underwriters are offering the ADSs subject to their acceptance of the ADSs from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the ADSs offered by this prospectus are subject to the approval of certain legal matters by their counsel and to certain other conditions. The underwriters are obligated to take and pay for all of the ADSs offered by this prospectus if any such ADSs are taken. However, the underwriters are not required to take or pay for the ADSs covered by the underwriters' over-allotment option to purchase additional ADSs described below.

The underwriters initially propose to offer part of the ADSs directly to the public at the offering price listed on the cover page of this prospectus and part to certain dealers at a price that represents a concession not in excess of $0.714 per ADS under the public offering price. After the initial offering of the ADSs, the offering price and other selling terms may from time to time be varied by the representatives.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to 975,000 additional ADSs at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with the offering of the ADSs offered by this prospectus. To the extent the option is exercised, each underwriter will become obligated, subject to certain conditions, to purchase about the same percentage of the additional ADSs as the number listed next to the underwriter's name in the preceding table bears to the total number of ADSs listed next to the names of all underwriters in the preceding table.

The following table shows the per ADS and total public offering price, underwriting discounts and commissions, and proceeds before expenses to us. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase up to an additional 975,000 ADSs.

		Total	
	Per ADS	No Exercise	Full Exercise
Public offering price	$17.00	$110,500,000	$127,075,000
Underwriting discounts and commissions to be paid by us:	$ 1.19	$ 7,735,000	$ 8,895,250
Proceeds, before expenses, to us	$15.81	$102,765,000	$118,179,750

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately $2.8 million. We have agreed to reimburse the underwriters for expenses of up to $45,000 relating to clearance of this offering with the Financial Industry Regulatory Authority, or FINRA.

The underwriters have informed us that they do not intend sales to discretionary accounts to exceed 5% of the total number of ADSs offered by them.

We have been approved to have the ADSs listed on the Nasdaq Global Market under the trading symbol "VACC".

We and all directors and officers and certain of our other shareholders have agreed that, without the prior consent of the representatives, including the prior written consent of Morgan Stanley & Co. LLC and Jefferies LLC, on behalf of the underwriters, we and they will not, and will not publicly disclose an intention to, during the period ending 180 days after the date of this prospectus (the "restricted period"):

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any ordinary shares or ADSs or any securities convertible into or exercisable or exchangeable for ordinary shares or ADSs;
- file any registration statement with the Securities and Exchange Commission (or the equivalent thereof in non-U.S. jurisdictions) relating to the offering of any ordinary shares or ADSs or any securities convertible into or exercisable or exchangeable for ordinary shares or ADSs; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of ordinary shares or ADSs;

whether any such transaction described above is to be settled by delivery of ordinary shares or ADSs or such other securities, in cash or otherwise. In addition, we and each such person have agreed that, without the prior consent of Morgan Stanley & Co. LLC and Jefferies LLC, on behalf of the underwriters, we or such other person will not, during the restricted period, make any demand for, or exercise any right with respect to, the registration of any ordinary shares or ADSs or any security convertible into or exercisable or exchangeable for ordinary shares or ADSs.

The restrictions described in the immediately preceding paragraph do not apply to:

a) participation in the corporate reorganization, and all securities convertible into or exchangeable or exercisable for ordinary shares of the Company, for equivalent equity interests in the Company, provided that any lock-up securities received upon such exchange would be subject to restrictions similar to those in the immediately preceding paragraph;

b) the deposit of ordinary shares with the depositary, in exchange for the issuance of ADSs, or the cancellation of ADSs in exchange for the issuance of ordinary shares, provided that such ADSs or ordinary shares issued pursuant to such exchange would be subject to restrictions similar to those in the immediately preceding paragraph;

c) the sale of ordinary shares or ADSs to the underwriters;

d) the issuance by the Company of shares of ordinary shares upon the exercise of an option or a warrant or the conversion of a security outstanding on the date of this prospectus of which the underwriters have been advised in writing;

e) transactions relating to ordinary shares, ADSs or other securities acquired in this offering or in open market transactions after the completion of this offering; provided that no filing under Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), is required or voluntarily made in connection with subsequent sales of the ordinary shares or ADSs other securities acquired in this offering or such open market transactions;

f) transfers of ordinary shares, ADSs or any security convertible into or exercisable or exchangeable for ordinary shares or ADSs as a bona fide gift;

g) transfers or dispositions of ordinary shares, ADSs or any security convertible into or exercisable or exchangeable for ordinary shares or ADSs to any member of the immediate family of the lock-up party or any trust for the direct or indirect benefit of the lock-up party or the immediate family of the lock-up party in a transaction not involving a disposition for value;

h) transfers or dispositions of ordinary shares, ADSs or any security convertible into or exercisable or exchangeable for ordinary shares or ADSs (i) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the lock-up party upon the death of the lock-up party or (ii) by operation of law pursuant to orders of a court or regulatory agency, in connection with a negotiated divorce settlement or pursuant to a qualified domestic relations order;

i) if the lock-up party is an entity, (x) transfers or distributions of ordinary shares, ADSs or any security convertible into ordinary shares or ADSs to general or limited partners, members or shareholders of the lock-up party, its direct or indirect affiliates (as defined in Rule 405 promulgated under the Securities Act of 1933, as amended) or to an investment fund or other entity that controls or manages, or is under common control with, the lock-up party, or (y) distributions of ordinary shares, ADSs or any security convertible into ordinary shares or ADSs to partners, members, shareholders, beneficiaries or other equity holders of the lock-up party;

j) transfers or dispositions of ordinary shares, ADSs or any security convertible into or exercisable or exchangeable for ordinary shares or ADSs to the Company pursuant to any contractual arrangement in effect on the date of the lock-up agreement and disclosed to the underwriters in writing that provides for the repurchase of the lock-up party's ordinary shares, ADSs or any security convertible into or exercisable or exchangeable for ordinary shares or ADSs or in connection with the termination of the lock-up party's employment with or service to the Company; provided that any filing under Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of ordinary shares or ADSs shall indicate by footnote disclosure or otherwise the nature of the transfer or disposition;

k) transfers or dispositions of ordinary shares, ADSs or any security convertible into or exercisable or exchangeable for ordinary shares or ADSs or other securities to the Company in connection with the conversion of any convertible security into, or the exercise of any option or warrant for, ordinary shares or ADSs (including by way of "net" or "cashless" exercise solely to cover withholding tax obligations in connection with such exercise and any transfer to the Company for the payment of taxes as a result of such exercise) pursuant to existing plans disclosed in the registration statement (as defined in the underwriting agreement), pricing disclosure package and this prospectus; provided that (i) any such ordinary shares or ADSs received by the lock-up party shall be subject to the terms of the lock-up agreement and (ii) no filing under Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of ordinary shares or ADSs shall be required or shall be voluntarily made during the restricted period (other than a required filing on a Form 4 that reports such disposition under the transaction code "F" and indicates by footnote disclosure or otherwise the nature of the transfer or disposition);

l) the establishment of a trading plan on behalf of a shareholder, officer or director of the Company pursuant to Rule 10b5-1 under the Exchange Act for the transfer of ordinary shares or ADSs, provided that (i) such plan does not provide for the transfer of ordinary shares or ADSs during the restricted period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by or on behalf of the lock-up party or the Company regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of ordinary shares or ADSs may be made under such plan during the restricted period;

m) (i) transfers of ordinary shares, ADSs or any security convertible into or exercisable or exchangeable for ordinary shares or ADSs pursuant to a bona fide third-party tender offer for shares of the Company's capital stock made to all holders of the Company's securities, merger, consolidation or other similar transaction approved by the Company's board of directors the result of which is that any person (as defined in Section 13(d)(3) of the Exchange Act), or group of persons, other than the Company, becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of more than 50% of the total voting power of the voting stock of the Company and (ii) entry into any lock-up, voting or similar agreement pursuant to which the lock-up party may agree to transfer, sell, tender or otherwise dispose of ordinary shares, ADSs or such other securities in connection with a transaction described in (i) above; provided that in the event that such change of control transaction is not completed, the ordinary shares, ADSs or any security convertible into or exercisable or exchangeable for ordinary shares or ADSs owned by the lock-up party shall remain subject to the restrictions contained in the lock-up agreement; or

n) transfers of ordinary shares, ADSs or any security convertible into or exercisable or exchangeable for ordinary shares or ADSs pursuant to the underwriting agreement,

provided, further, that in the case of any transfer or distribution pursuant to clause (f), (g), (h) or (i) above, (1) each transferee, donee or distributee shall sign and deliver a lock up letter substantially in the form of this letter and (2) no filing under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of ordinary shares or ADSs, shall be required or shall be voluntarily made during the restricted period (other than, in the case of a transfer or other disposition pursuant to clause (h)(ii) above, any Form 4 or 5 required to be filed under the Exchange Act if the lock-up party is subject to Section 16 reporting with respect to the Company under the Exchange Act; any such filing will indicate by footnote disclosure or otherwise the nature of the transfer or disposition and a statement to the effect that such transfer is pursuant to the circumstances described in the lock-up agreement).

Morgan Stanley & Co. LLC and Jefferies LLC, in their sole discretion, may release the ordinary shares, ADSs and other securities subject to the lock-up agreements described above in whole or in part at any time. In addition, in the event that Morgan Stanley & Co. LLC and Jefferies LLC grant an early release to certain beneficial holders of any ordinary shares, ADSs or other securities subject to the lock-up agreements with respect to ordinary shares that, in the aggregate, exceed a specified percentage of our then outstanding ordinary shares, then certain other lock-up parties shall also be granted an early release, on the same terms, from their obligations on a pro rata basis, subject to certain exceptions.

In order to facilitate the offering of the ADSs, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the ADSs. Specifically, the underwriters may sell more ADSs than they are obligated to purchase under the underwriting agreement, creating a short position. A short sale is covered if the short position is no greater than the number of ADSs available for purchase by the underwriters under the over-allotment option to purchase additional ADSs. The underwriters can close out a covered short sale by exercising the over-allotment option to purchase additional ADSs or purchasing ADSs in the open market. In determining the source of ADSs to close out a covered short sale, the underwriters will consider, among other things, the open market price of ADSs compared to the price available under the over-allotment option to purchase additional ADSs. The underwriters may also sell ADSs in excess of the over-allotment option to purchase additional ADSs, creating a naked short position. The underwriters must close out any naked short position by purchasing ADSs in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the ADSs in the open market after pricing that could adversely affect investors who purchase in this offering. As an additional means of facilitating this offering, the underwriters may bid for, and purchase, ADSs in the open market to stabilize the price of the ADSs. These activities may raise or maintain the market price of the ADSs above independent market levels or prevent or retard a decline in the market price of the ADSs. The underwriters are not required to engage in these activities and may end any of these activities at any time.

We and the underwriters have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act.

A prospectus in electronic format may be made available on websites maintained by one or more underwriters, or selling group members, if any, participating in this offering. The representatives may agree to allocate a number of ADSs to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters that may make Internet distributions on the same basis as other allocations.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. Certain of the underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for us, for which they received or will receive customary fees and expenses.

In addition, in the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve our securities and instruments. The underwriters and their respective affiliates may also make investment recommendations or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long or short positions in such securities and instruments.

Pricing of the Offering

Prior to this offering, there has been no public market for our ordinary shares. The initial public offering price was determined by negotiations between us and the representatives. Among the factors considered in determining the initial public offering price were our future prospects and those of our industry in general, our sales, earnings and certain other financial and operating information in recent periods, and the price-earnings ratios, price-sales ratios, market prices of securities, and certain financial and operating information of companies engaged in activities similar to ours.

Directed Share Program

At our request, Morgan Stanley & Co. LLC, or the DSP Underwriter, has reserved up to 325,000 ADSs, or 5% of the ADSs offered by this prospectus, for sale at the initial public offering price through a directed share program to certain of our directors, officers, employees and business associates and other parties related to us. If purchased by our directors and officers, these ADSs will be subject to a 180-day lock-up restriction.

The number of ADSs available for sale to the general public will be reduced to the extent that such persons purchase such reserved ADSs. Any reserved ADSs not so purchased will be offered by the DSP Underwriter to the general public on the same basis as the other ADSs offered by this prospectus. Other than the underwriting discount described on the front cover of this prospectus, the DSP Underwriter will not be entitled to any commission with respect to ADSs sold pursuant to the directed share program. We will agree to indemnify the DSP Underwriter against certain liabilities and expenses, including liabilities under the Securities Act, in connection with sales of the ADSs reserved for the directed share program. The DSP Underwriter will administer our directed share program.

Selling Restrictions

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published, in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act, and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the ADSs may only be made to persons, or to the Exempt Investors, who are “sophisticated investors” (within the meaning of section 708(8) of the Corporations Act), “professional investors” (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or

more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the ADSs without disclosure to investors under Chapter 6D of the Corporations Act.

The ADSs applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring ADSs must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take into account the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate for their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Canada

The ADSs may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the ADSs must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

European Economic Area

In relation to each Member State of the European Economic Area (each, a "Relevant State"), no ADSs have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the ADSs which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that offers of ADSs may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

(a) to any legal entity which is a qualified investor as defined in the Prospectus Regulation;

(b) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation), subject to obtaining the prior consent of the representatives; or

(c) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of ADSs shall require us or any of our representatives to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation and each person who initially acquires any ADSs or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with each of the representatives and us that it is a "qualified investor" as defined in the Prospectus Regulation.

In the case of any ADSs being offered to a financial intermediary as that term is used in Article 5 of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the ADSs acquired by it in the offer have not been acquired on a nondiscretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any ADSs to the public other than their offer or resale in a Relevant State to qualified investors as so defined or in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

For the purposes of this provision, the expression an "offer of ADSs to the public" in relation to any of the ADSs in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any of the ADSs to be offered so as to enable an investor to decide to purchase or subscribe for any of the ADSs, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129 (as amended).

United Kingdom

No ADSs have been offered or will be offered pursuant to the offering to the public in the United Kingdom prior to the publication of a prospectus in relation to the ADSs which has been approved by the Financial Conduct Authority, except that the ADSs may be offered to the public in the United Kingdom at any time:

(a) to any legal entity which is a qualified investor as defined under Article 2 of the U.K. Prospectus Regulation;

(b) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the U.K. Prospectus Regulation), subject to obtaining the prior consent of the Representatives for any such offer; or

(c) in any other circumstances falling within Section 86 of the FSMA.

provided that no such offer of the ADSs shall require us or any underwriter to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the U.K. Prospectus Regulation. For the purposes of this provision, the expression an "offer to the public" in relation to the ADSs in the United Kingdom means the communication in any form and by any means of sufficient information on the terms of the offer and any ADSs to be offered so as to enable an investor to decide to purchase or subscribe for any ADSs and the expression "U.K. Prospectus Regulation" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018. In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the U.K. Prospectus Regulation) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended, or the "Order," and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (e) of the Order (all such persons together being referred to as "relevant persons") or otherwise in circumstances which have not resulted and will not result in an offer to the public of the ADSs in the United Kingdom within the meaning of the Financial Services and Markets Act 2000. In the United Kingdom, any investment or investment activity to which this document relates is only available to, and will be engaged in with, relevant persons. Any person in the UK who is not a relevant person must not act on or rely upon this document or any of its contents.

Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority ("DFSA"). This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The ADSs to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the ADSs offered should conduct their own due diligence on the ADSs. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Hong Kong

The ADSs may not be offered or sold in Hong Kong by means of any document other than (1) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong); (2) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder; or (3) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), and no advertisement, invitation, or document relating to the ADSs may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to ADSs which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder.

Israel

In the State of Israel this prospectus shall not be regarded as an offer to the public to purchase ADSs under the Israeli Securities Law, 5728—1968, which requires a prospectus to be published and authorized by the Israel Securities Authority, if it complies with certain provisions of Section 15 of the Israeli Securities Law, 5728 — 1968, including, inter alia, if: (i) the offer is made, distributed or directed to not more than 35 investors, subject to certain conditions (the "Addressed Investors"); or (ii) the offer is made, distributed or directed to certain qualified investors defined in the First Addendum of the Israeli Securities Law, 5728 —1968, subject to certain conditions (the "Qualified Investors"). The Qualified Investors shall not be taken into account in the count of the Addressed Investors and may be offered to purchase securities in addition to the 35 Addressed Investors. The company has not and will not take any action that would require it to publish a prospectus in accordance with and subject to the Israeli Securities Law, 5728—1968. We have not and will not distribute this prospectus or make, distribute or direct an offer to subscribe for the ADSs to any person within the State of Israel, other than to Qualified Investors and up to 35 Addressed Investors.

Qualified Investors may have to submit written evidence that they meet the definitions set out in of the First Addendum to the Israeli Securities Law, 5728—1968. In particular, we may request, as a condition to be offered ADSs, that Qualified Investors will each represent, warrant and certify to us and/or to anyone acting on our behalf: (i) that it is an investor falling within one of the categories listed in the First Addendum to the Israeli Securities Law, 5728—1968; (ii) which of the categories listed in the First Addendum to the Israeli Securities Law, 5728—1968 regarding Qualified Investors is applicable to it; (iii) that it will abide by all provisions set forth in the Israeli Securities Law, 5728—1968 and the regulations promulgated thereunder in connection with the offer to be issued ADSs; (iv) that the ADSs that it will be issued are, subject to exemptions available under the Israeli Securities Law, 5728—1968: (a) for its own account; (b) for investment purposes only; and (c) not issued with a view to resale within the State of Israel, other than in accordance with the provisions of the Israeli Securities Law, 5728—1968; and (v) that it is willing to provide further evidence of its Qualified Investor status. Addressed Investors may have to submit written evidence in respect of their identity and may have to sign and submit a declaration containing, inter alia, the Addressed Investor's name, address and passport number or Israeli identification number.

Japan

No registration pursuant to Article 4, paragraph 1 of the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) (the "FIEL") has been made or will be made with respect to the solicitation of the application for the acquisition of the ADSs.

Accordingly, the ADSs have not been, directly or indirectly, offered or sold and will not be, directly or indirectly, offered or sold in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan) or to others for re-offering or re-sale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan except pursuant to an exemption from the registration requirements, and otherwise in compliance with, the FIEL and the other applicable laws and regulations of Japan.

For Qualified Institutional Investors ("QII")

Please note that the solicitation for newly issued or secondary securities (each as described in Paragraph 2, Article 4 of the FIEL) in relation to the ADSs constitutes either a "QII only private placement" or a "QII only secondary distribution" (each as described in Paragraph 1, Article 23-13 of the FIEL). Disclosure regarding any such solicitation, as is otherwise prescribed in Paragraph 1, Article 4 of the FIEL, has not been made in relation to the ADSs. The ADSs may only be transferred to QIIs.

For Non-QII Investors

Please note that the solicitation for newly issued or secondary securities (each as described in Paragraph 2, Article 4 of the FIEL) in relation to the ADSs constitutes either a "small number private placement" or a "small number private secondary distribution" (each as is described in Paragraph 4, Article 23-13 of the FIEL). Disclosure regarding any such solicitation, as is otherwise prescribed in Paragraph 1, Article 4 of the FIEL, has not been made in relation to the ADSs. The ADSs may only be transferred en bloc without subdivision to a single investor.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the ADSs may not be circulated or distributed, nor may the ADSs be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA"), (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275, of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the ADSs are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the ADSs pursuant to an offer made under Section 275 of the SFA except:

(a) to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(b) where no consideration is or will be given for the transfer;

(c) where the transfer is by operation of law;

(d) as specified in Section 276(7) of the SFA; or

(e) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018 of Singapore.

Singapore Securities and Futures Act Product Classification: Solely for the purposes of our obligations pursuant to sections 309B(1)(a) and 309B(1)(c) of the SFA, we have determined, and hereby notify all relevant persons (as defined in Section 309A of the SFA), that the ADSs are "prescribed capital markets products" (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

Switzerland

This document is not intended to constitute an offer or solicitation to purchase or invest in the ADSs described herein. The ADSs may not be publicly offered, directly or indirectly, in Switzerland within the meaning of the Swiss Financial Services Act ("FinSA") and will not be listed or admitted to trading on the SIX Swiss Exchange or on any trading venue (exchange or multilateral trading facility) in Switzerland. Neither this document nor any other offering or marketing material relating to the ADSs constitutes a prospectus as such term is understood pursuant to the FinSA, and neither this document nor any other offering or marketing material relating to the ADSs may be publicly distributed or otherwise made publicly available in Switzerland.

LEGAL MATTERS

The validity of the ADSs and our ordinary shares and certain other matters of U.S. federal law and English law will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts and Goodwin Procter (UK) LLP, London, United Kingdom, respectively. Legal counsel to the underwriters in connection with this offering are Davis Polk & Wardwell LLP, New York, New York with respect to U.S. federal law and Davis Polk & Wardwell London LLP, London, United Kingdom with respect to English law.

EXPERTS

The financial statements of Vaccitech (UK) Limited (formerly Vaccitech Limited) as of December 31, 2020 and 2019 and for the two periods ended December 31, 2020 included in this Prospectus and in the Registration Statement has been so included in reliance on the report of BDO LLP, an independent registered public accounting firm appearing elsewhere herein and in the Registration Statement, given on the authority of said firm as experts in auditing and accounting.

BDO LLP, London, United Kingdom, is a member of the Institute of Chartered Accountants in England and Wales.

SERVICE OF PROCESS AND ENFORCEMENT OF LIABILITIES

We are incorporated and currently existing under the laws of England and Wales. In addition, certain of our directors and officers reside outside of the United States and most of the assets of our non-U.S. subsidiaries are located outside of the United States. As a result, it may be difficult for investors to effect service of process on us or those persons in the United States or to enforce in the United States judgments obtained in United States courts against us or those persons based on the civil liability or other provisions of the United States securities laws or other laws.

In addition, uncertainty exists as to whether the courts of England and Wales would:

- recognize or enforce judgments of United States courts obtained against us or our directors or officers predicated upon the civil liabilities provisions of the securities laws of the United States or any state in the United States; or
- entertain original actions brought in England and Wales against us or our directors or officers predicated upon the securities laws of the United States or any state in the United States.

We have been advised by Goodwin Procter LLP that there is currently no treaty between (i) the United States and (ii) England and Wales providing for reciprocal recognition and enforcement of judgments of United States courts in civil and commercial matters (although the United States and the UK are both parties to the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards) and that a final judgment for the payment of money rendered by any general or state court in the United States based on civil liability, whether or not predicated solely upon the United States securities laws, would not be automatically enforceable in England and Wales. We have also been advised by Goodwin Procter LLP that any final and conclusive monetary judgment for a definite sum obtained against us in United States courts would be treated by the courts of England and Wales as a cause of action in itself and sued upon as a debt at common law so that no retrial of the issues would be necessary, provided that:

- the relevant U.S. court had jurisdiction over the original proceedings according to English conflicts of laws principles at the time when proceedings were initiated;
- the courts of England and Wales had jurisdiction over the matter on enforcement and we either submitted to such jurisdiction or were resident or carrying on business within such jurisdiction and were duly served with process;
- the U.S. judgment was final and conclusive on the merits in the sense of being final and unalterable in the court that pronounced it and being for a definite sum of money;
- the judgment given by the courts was not in respect of penalties, taxes, fines or similar fiscal or revenue obligations (or otherwise based on a U.S. law that the courts of England and Wales consider to relate to a penal, revenue or other public law);
- the judgment was not procured by fraud;
- recognition or enforcement of the judgment in England and Wales would not be contrary to public policy or the Human Rights Act 1998;
- the proceedings pursuant to which judgment was obtained were not contrary to natural justice;
- the U.S. judgment was not arrived at by doubling, trebling or otherwise multiplying a sum assessed as compensation for the loss or damages sustained and not being otherwise in breach of Section 5 of the UK Protection of Trading Interests Act 1980, or is a judgment based on measures designated by the Secretary of State under Section 1 of that Act;
- there is not a prior decision of the courts of England and Wales or the court of another jurisdiction on the issues in question between the same parties; and
- the English enforcement proceedings were commenced within the limitation period.

Whether these requirements are met in respect of a judgment based upon the civil liability provisions of the United States securities laws, including whether the award of monetary damages under such laws would constitute a penalty, is an issue for the court making such decision.

Subject to the foregoing, investors may be able to enforce in England and Wales judgments in civil and commercial matters that have been obtained from U.S. federal or state courts. Nevertheless, we cannot assure you that those judgments will be recognized or enforceable in England and Wales.

If the courts of England and Wales give a judgment for the sum payable under a U.S. judgment, the English judgment will be enforceable by methods generally available for this purpose. These methods generally permit the courts of England and Wales discretion to prescribe the manner of enforcement. In addition, it may not be possible to obtain an English judgment or to enforce that judgment if the judgment debtor is or becomes subject to any insolvency or similar proceedings, or if the judgment debtor has any set-off or counterclaim against the judgment creditor. Also note that, in any enforcement proceedings, the judgment debtor may raise any counterclaim that could have been brought if the action had been originally brought in England unless the subject of the counterclaim was in issue and denied in the U.S. proceedings. It should also be noted that in the courts of England and Wales system the usual rule is that the losing party is ordered to pay the legal costs of the litigation that were incurred by the successful party. These costs are assessed by the courts of England and Wales at the conclusion of the litigation.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement (including amendments and exhibits to the registration statement) on Form S-1 under the Securities Act. A related registration statement on Form F-6 will be filed with the SEC to register the ADSs. This prospectus, which forms a part of the registration statement, does not contain all of the information included in the registration statement and the exhibits and schedules to the registration statement. Certain information is omitted and you should refer to the registration statement and its exhibits and schedules for that information. If a document has been filed as an exhibit to the registration statement, we refer you to the copy of the document that has been filed. Each statement in this prospectus relating to a document filed as an exhibit is qualified in all respects by the filed exhibit.

The SEC maintains an Internet website (http://www.sec.gov) that contains reports, proxy and information statements and other information regarding issuers, like us, that file electronically with the SEC. We maintain a corporate website at www.vaccitech.co.uk. Information contained in, or that can be accessed through, our website is not a part of, and shall not be incorporated by reference into, this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

We intend to furnish the depositary with our annual reports, which will include a review of operations and annual audited consolidated combined financial statements prepared in conformity with U.S. GAAP, and all notices of shareholders' meetings and other reports and communications that are made generally available to our shareholders. The depositary will make such notices, reports and communications available to holders of ADSs and will mail to all record holders of ADSs the information contained in any notice of a shareholders' meeting received by the depositary from us.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Shareholders and Board of Directors
Vaccitech Limited
Oxford, United Kingdom

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Vaccitech Limited (the "Company") as of December 31, 2020 and 2019, the related consolidated statements of operations and comprehensive income (loss), changes in redeemable convertible preferred shares and shareholders' deficit, and cash flows for the year ended December 31, 2020 and for the eleven month period ended December 31, 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2020 and 2019, and the results of its operations and its cash flows for the year ended December 31, 2020 and for the eleven-month period ended December 31 2019**,** in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ BDO LLP

BDO LLP

We have served as the Company's auditor since 2017.

London, United Kingdom

March 22, 2021, except for Note 16(b), which is April 26, 2021

VACCITECH LIMITED AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	Pro forma Shareholders' Deficit	As at December 31, 2020	As at December 31, 2019
	(Unaudited)		
ASSETS			
Current assets:			
Cash and cash equivalents		$ 43,265,709	$ 11,432,139
Accounts receivable		518,077	991,371
Research and development incentives receivable		2,708,048	2,916,503
Prepaid expenses and other current assets		1,409,437	909,223
Total current assets		47,901,271	16,249,236
Property and equipment, net		629,105	520,303
Right of use assets, net		2,135,550	2,273,701
Total assets		$ 50,665,926	$ 19,043,240
LIABILITIES, REDEEMABLE CONVERTIBLE PREFERRED SHARES AND SHAREHOLDERS' DEFICIT			
Current liabilities:			
Accounts payable		$ 4,665,912	$ 3,888,523
Accrued expenses and other current liabilities		2,537,144	1,421,434
Deferred revenue		245,488	269,912
Current portion of lease liability		192,479	171,979
Total current liabilities		7,641,023	5,751,848
Convertible loan notes — non current		44,700,360	—
Lease liability — non current		1,471,594	1,605,794
Total liabilities		53,812,977	7,357,642
Commitments and contingencies (Note 13)			
Series A redeemable convertible preferred shares; £0.10 ($0.14) nominal value; 22,065 shares issued and outstanding; aggregate liquidation preference of $33,764,725 (December 31, 2019: issued and outstanding: 22,065); pro forma no shares issued and outstanding (unaudited)	$ —	33,764,725	$ 33,764,725
Shareholders' deficit:			
Ordinary shares, £0.01 $(0.01) nominal value; 25,762 shares authorized, issued and outstanding (December 31, 2019: authorized, issued and outstanding: 23,548); pro forma 47,817 shares issued and outstanding (unaudited)	$ 478	359	$ 330
Additional paid-in capital	53,295,468	19,530,862	15,905,975
Accumulated deficit	(55,667,469)	(55,591,326)	(37,885,261)
Accumulated other comprehensive loss — foreign currency translation adjustments	(1,243,990)	(1,242,478)	(467,358)
Noncontrolling interest	390,807	390,807	367,187
Total shareholders' deficit	$ (3,224,706)	(36,911,776)	$ (22,079,127)
Total liabilities, redeemable convertible preferred shares and shareholders' deficit		$ 50,665,926	$ 19,043,240

The accompanying notes are an integral part of these consolidated financial statements.

VACCITECH LIMITED AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

	Year ended December 31, 2020	Period ended December 31, 2019
License revenue	$ 2,552,549	$ 19,714
Service revenue	405,171	202,749
Sale of viral seeds	—	115,345
Research grants and contracts	1,862,537	6,507,228
Total revenue	4,820,257	6,845,036
Operating expenses		
Research and development	14,386,506	29,842,341
General and administrative	10,480,699	2,667,367
Total operating expenses	24,867,205	32,509,708
Loss from operations	(20,046,948)	(25,664,672)
Other income (expense):		
Change in fair value of derivatives	2,039,253	—
Unrealized foreign exchange gain on convertible loan notes	448,073	—
Interest expense	(3,599,686)	(132,750)
Interest income	265	40,199
Gain from disposal of property and equipment	—	3,461
Research and development incentives	3,278,805	2,975,872
Other income	41,690	79,991
Total other income	2,208,400	2,966,773
Tax expense	(95,010)	—
Net loss	(17,933,558)	(22,697,899)
Net loss attributable to noncontrolling interest	227,493	1,968,307
Net loss attributable to Vaccitech shareholders	$(17,706,065)	$(20,729,592)
Weighted-average ordinary shares outstanding, basic and diluted	25,581	23,469
Net loss per share attributable to ordinary shareholders, basic and diluted	$ (692.16)	$ (883.27)
Pro forma weighted-average ordinary shares outstanding, basic and diluted (unaudited)	47,646	45,534
Pro forma net loss per share, basic and diluted (unaudited)	$ (371.62)	$ (455.25)
Net loss	$(17,933,558)	$(22,697,899)
Other comprehensive loss — foreign currency translation adjustments	(774,945)	(54,822)
Comprehensive loss	(18,708,503)	(22,752,721)
Comprehensive loss attributable to noncontrolling interest	(227,317)	(1,951,033)
Comprehensive loss attributable to Vaccitech shareholders	$(18,481,186)	$(20,801,688)

The accompanying notes are an integral part of these consolidated financial statements.

VACCITECH LIMITED AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CHANGES IN REDEEMABLE CONVERTIBLE PREFERRED SHARES AND SHAREHOLDERS' DEFICIT

	Series A Redeemable Convertible Preferred Shares		Ordinary Shares		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total Shareholders' Deficit
	Shares	Amount	Shares	Amount					
Balance, January 1, 2020	**22,065**	**$ 33,764,725**	**23,548**	**$330**	**$15,905,975**	**$(37,885,261)**	**$ (467,358)**	**$ 367,187**	**$(22,079,127)**
Share based compensation					3,624,867				3,624,867
Issue of shares			2,214	29	20				49
Contributions from noncontrolling interest								250,938	250,938
Foreign currency translation adjustments							(775,120)	175	(774,945)
Net loss						(17,706,065)		(227,493)	(17,933,558)
Balance, December 31, 2020	**22,065**	**$ 33,764,725**	**25,762**	**$359**	**$19,530,862**	**$(55,591,326)**	**$ (1,242,478)**	**$ 390,807**	**$(36,911,776)**

	Series A Redeemable Convertible Preferred Shares		Ordinary Shares		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total Shareholders' Deficit
	Shares	Amount	Shares	Amount					
Balance, February 1, 2019	**22,065**	**$ 33,764,725**	**23,466**	**$329**	**$15,075,373**	**$(17,155,669)**	**$ (395,262)**	**$ 357,129**	**$ (2,118,100)**
Share based compensation					830,602				830,602
Exercise of stock options			82	1					1
Contributions from noncontrolling interest								1,961,091	1,961,091
Foreign currency translation adjustments							(72,096)	17,274	(54,822)
Net loss						(20,729,592)		(1,968,307)	(22,697,899)
Balance, December 31, 2019	**22,065**	**$ 33,764,725**	**23,548**	**$330**	**$15,905,975**	**$(37,885,261)**	**$ (467,358)**	**$ 367,187**	**$(22,079,127)**

The accompanying notes are an integral part of these consolidated financial statements.

VACCITECH LIMITED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended December 31, 2020	Period ended December 31, 2019
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$(17,933,558)	$(22,697,899)
Adjustments to reconcile net loss to net cash used in operating activities:		
Share based compensation	3,624,867	830,602
Depreciation and amortization	208,398	345,431
Fair valuation gain on embedded derivatives	(2,039,253)	—
Unrealized foreign exchange gain on convertible loan notes	(448,073)	—
Non cash interest expense on convertible loan notes	3,598,109	—
Non cash contributions from noncontrolling interest	—	(83,380)
Gain on disposal of property and equipment	—	(3,461)
Changes in operating assets and liabilities:		
Accounts receivable	478,434	(959,195)
Prepaid expenses and other current assets	(434,735)	1,050,010
Research and development incentives receivable	295,271	(776,607)
Accounts payable	585,997	2,965,133
Accrued expenses and other current liabilities	1,028,509	580,228
Deferred revenue	(32,148)	208,653
Lease liability	39,879	(141,522)
Net cash used in operating activities	(11,028,303)	(18,682,007)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment	(292,770)	(127,819)
Proceeds from sale of property and equipment	—	3,461
Net cash used in investing activities	(292,770)	(124,358)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Issue of shares and exercise of stock options	49	1
Contributions from noncontrolling interest	250,938	2,044,469
Transaction costs for convertible loan notes	(57,339)	—
Proceeds from convertible loan notes	41,240,835	—
Net cash provided by financing activities	41,434,483	2,044,470
EFFECT OF EXCHANGE RATES ON CASH AND CASH EQUIVALENTS	1,720,160	(444,021)
Net increase (decrease) in cash and cash equivalents	31,833,570	(17,205,916)
Cash and cash equivalents, beginning of the period	11,432,139	28,638,055
Cash and cash equivalents, end of the period	$ 43,265,709	$ 11,432,139
Supplemental cash flow disclosures:		
Cash paid for interest	$ 1,577	$ —
Cash paid for income taxes	$ —	$ —

The accompanying notes are an integral part of these consolidated financial statements.

VACCITECH LIMITED AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business and Basis of Presentation

Nature of business

Vaccitech Limited ("Vaccitech") is a clinical stage biopharmaceutical company incorporated in January 2016 under the laws of England and Wales. Vaccitech is engaged in the discovery and development of novel immunotherapeutics and vaccines that was Vaccitech is headquartered in Oxford, United Kingdom. Vaccitech and its four subsidiaries, Vaccitech Australia Pty Limited, Vaccitech Oncology Limited ("VOLT"), Vaccitech USA, Inc. and Vaccitech Italia S.R.L, are collectively referred to as the "Company".

The Company's operations to date has been focused on business planning; raising capital; acquiring and developing its technology; identifying potential vaccine candidates; and undertaking preclinical and clinical studies. The Company has financed its operations primarily through the issuance of ordinary, preferred shares, convertible loan notes and proceeds from research grants. The Company has not generated any revenues from sale of vaccine products to date, nor is there any assurance of any future revenues from product sales.

The Company operates in an environment of rapid technological change and substantial competition from pharmaceutical and biotechnology companies. The Company is subject to risks common to companies in the biopharmaceutical industry in similar stage of its life cycle including, but not limited to, the need to obtain adequate additional funding, possible failure of preclinical testing or clinical trials, the need to obtain marketing approval for its vaccine product candidates, competitors developing new technological innovations, the need to successfully commercialize and gain market acceptance of any of its products that are approved, and protection of proprietary technology. There can be no assurance that the Company's research and development will be successfully completed, that adequate protection for the Company's intellectual property will be obtained, that any products developed will obtain required regulatory approval or that any approved products will be commercially viable. Even if the Company's development efforts are successful, it is uncertain when, if ever, the Company will generate significant product sales. If the Company does not successfully commercialize any of its products or mitigate any of these other risks, it will be unable to generate revenue or achieve profitability.

The future viability of the Company is largely dependent on its ability to raise additional capital to finance its operations. The Company's failure to raise capital as and when needed could have a negative impact on its financial condition and its ability to pursue its business strategies. If adequate funds are not available to the Company, the Company may be required to delay, reduce or eliminate research and development programs, reduce or eliminate commercialization efforts, obtain funds through arrangements with collaborators on terms unfavorable to the Company or pursue merger or acquisition strategies. There is no assurance that the Company will be successful in obtaining sufficient funding on terms acceptable to the Company to fund continuing operations, if at all.

Basis of presentation

The Directors have prepared these consolidated financial statements for inclusion in a Form S-1 to be submitted to the United States Securities and Exchange Commission ("SEC"). The accompanying financial statements are prepared in conformity with accounting principles general accepted in the United States of America ("U.S. GAAP"). The Company's reporting currency is the U.S. dollar. The financial statements have been prepared on the basis of continuity of operations, realization of assets and the satisfaction of liabilities in the ordinary course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded assets and liabilities that might be necessary should the Company be unable to continue as a going concern.

Change of fiscal year end

In 2019, the board of directors approved the change of the Company's fiscal year end from January 31 to December 31, beginning with the fiscal period ended December 31, 2019. The change was intended to more closely align its fiscal year end with the Company's business cycle and that of the Company's industry. As a

result of this change, the accompanying comparative financial statements include the Company's consolidated financial results for the eleven-month period beginning on February 1, 2019 through December 31, 2019.

Guarantees and indemnifications

As permitted under the laws of England and Wales, the Company indemnifies its officers, directors, consultants and employees for certain events or occurrences that happen by reason of the relationship with, or position held at, the Company. Through the year ended December 31, 2020 and the period ended December 31, 2019, the Company had not experienced any losses related to these indemnification obligations, and no claims were outstanding. The Company does not expect significant claims related to these indemnification obligations and, consequently, concluded that the fair value of these obligations is negligible, and no related reserves were established.

Use of estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, and expenses, and the disclosure of contingent assets and liabilities as of and during the reporting periods. The Company bases estimates and assumptions on historical experience when available and on various factors that it believes to be reasonable under the circumstances. Significant estimates relied upon in preparing the accompanying financial statements related to revenue recognition, the fair value of ordinary shares and other equity instruments, noncontrolling interest, accounting for share based compensation, right of use asset, lease liability, income taxes, useful lives of long-lived assets, and accounting for certain accruals and convertible loan notes. The Company assesses the above estimates on an ongoing basis; however, actual results could materially differ from those estimates.

Reclassification

The company has reclassified certain items of the prior year to conform with the current year presentation.

2. Going Concern

The accompanying consolidated financial statements have been presented on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. The Company has historically financed its activities principally from the issuance of ordinary shares, Series A redeemable convertible preferred shares ("Series A Shares'') and convertible loan notes. The Company has experienced recurring losses since inception and expects to incur additional losses in the future in connection with research and development activities.

During the year ended December 31, 2020, the Company incurred a net loss of $17,933,558 (2019: $22,697,899) and used $11,028,303 in cash from operations (2019: $18,682,007). As of December 31, 2020, the Company had an accumulated deficit of $55,591,326 (2019: $37,885,261) and $43,265,709 (2019: $11,432,139) in cash and cash equivalents.

On March 15, 2021, the Company raised $125,239,025 in Series B funding (see note 16). As a result of this, and based on forecasts, management believes that the Company has sufficient cash to support its operations and to meet its obligations as they become due within one year after the date that the consolidated financial statements are issued. Accordingly, the accompanying consolidated financial statements have been presented on a going concern basis.

3. Summary of Significant Accounting Policies

Principles of consolidation

The accompanying consolidated financial statements include the accounts of Vaccitech and those entities in which it has a controlling interest. Intercompany amounts are eliminated in consolidation. Amounts

attributable to the noncontrolling interest are presented as a separate element of equity in the accompanying consolidated financial statements.

Comprehensive loss

Comprehensive loss for all periods presented is comprised primarily of net loss and other comprehensive loss, which solely relates to foreign currency translation adjustments.

Foreign currency translation

The Company's reporting currency is the U.S. dollar. The functional currency of the parent and each subsidiary is the currency of the country and economic environment in which it is located. Assets and liabilities of each legal entity are first translated into British pounds and consolidated. The consolidated balances are then converted into U.S. dollars at period-end exchange rates. Revenues and expenses are translated into British pounds, then into U.S. dollars at average exchange rates for each reporting period. Translation adjustments are reflected as accumulated other comprehensive income within shareholders' deficit. Gains and losses on foreign currency transactions are included in the consolidated statement of operations and comprehensive loss. The aggregate, net foreign exchange gain or loss included in determining net loss was a gain of $461,852 and gain of $68,280 for the year ended December 31, 2020 and the period ended December 31, 2019, respectively.

Segment information

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker, the Company's Chief Executive Officer, in making decisions regarding resource allocation and assessing performance. The Company views its operations and manages its business in one operating segment, the research and development of immunotherapies and vaccines.

Noncontrolling interest

Vaccitech established VOLT with a related party. As at December 31, 2020, Vaccitech contributed cash and intellectual property with an aggregate value of $10,949,602 for a 76% controlling interest. The related party contributed cash and intellectual property with an aggregate value of $3,457,754 for a 24% noncontrolling interest. The contributed intellectual properties were initially recorded at investment date fair value by VOLT and immediately expensed as research and development costs. The Company accounts for the noncontrolling interest in the accompanying consolidated financial statements initially at fair value with the subsequent carrying value adjusted for the noncontrolling shares of VOLT's comprehensive loss.

Cash and cash equivalents

The Company considers all highly liquid investments purchased with remaining maturities of three months or less on the purchase date to be cash and cash equivalents. Cash and cash equivalents include bank demand deposits and money market funds that are actively traded (a Level 1 input).

Revenue

The Company recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for an arrangement, the Company performs the following five step analysis:

- Identify the contract with a customer,
- Identify the performance obligations in the contract,
- Determine the transaction price,

- Allocate the transaction price to the performance obligations in the contract, and
- Recognize revenue when or as the Company satisfies a performance obligation.

The Company has entered into collaboration and license agreements, which are within the scope of Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 606, *Revenue from Contracts with Customers*, to discover, develop, manufacture and commercialize product candidates. The terms of these agreements typically contain multiple promises or obligations, which may include: (i) licenses, or options to obtain licenses, to product candidates or future product candidates and (ii) research and development activities to be performed on behalf of the collaboration partner related to the licensed targets. The Company also derives revenue from government grants.

As part of the accounting for these arrangements, the Company must use judgment to determine:

- The number of performance obligations and whether those performance obligations are distinct from other performance obligations in the contract,
- The transaction price, and
- The standalone selling price for each performance obligation identified in the contract for the allocation of transaction price.

The Company uses judgment to determine whether milestones or other variable consideration, except for sales-based royalties, should be included in the transaction price. The transaction price is allocated to each performance obligation on a relative standalone selling price basis, for which the Company recognizes revenue as or when the performance obligations under the contract are satisfied. In validating its estimated standalone selling price, the Company evaluates whether changes in the key assumptions used to determine its estimated standalone selling price will have a significant effect on the allocation of arrangement consideration between performance obligations.

Amounts received prior to revenue recognition are recorded as deferred revenue. Amounts expected to be recognized as revenue within the 12 months following the balance sheet date are classified as current portion of deferred revenue in the accompanying consolidated balance sheet. Amounts not expected to be recognized as revenue within the 12 months following the balance sheet date are classified as long-term deferred revenue, net of current portion. Amounts recognized as revenue, but not yet received or invoiced are generally recognized as accounts receivable.

License revenue

If the license to the Company's intellectual property is determined to be distinct from the other promises or performance obligations identified in the arrangement, which generally include research and development services, the Company recognizes revenue from nonrefundable, upfront fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license.

In assessing whether a license is distinct from the other promises, the Company considers relevant facts and circumstances of each arrangement, including the rights and obligations set out in the contract, the research and development capabilities of the collaboration partner and the availability of the associated expertise in the general marketplace. In addition, the Company considers whether the collaboration partner can benefit from the license for its intended purpose without the receipt of the remaining promises, whether the value of the license is dependent on the unsatisfied promises, whether there are other vendors that could provide the remaining promises, and whether it is separately identifiable from the remaining promises.

For licenses that are combined with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue.

The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition. The measure of progress, and thereby periods over which revenue should be recognized, are subject to estimates by management and may change over the course of the research and development and licensing agreement.

The Company's arrangements may provide the collaboration partner with the right to select a target for licensing either at the inception of the arrangement or in the future. Under these arrangements, fees may be due to the Company (i) at the inception of the arrangement as an upfront fee or payment, (ii) upon the exercise of an option to acquire a license or (iii) upon extending the selection period as an extension fee or payment. If an arrangement is determined to contain customer options that allow the customer to acquire additional goods or services, the goods and services underlying the customer options are not considered to be performance obligations at the outset of the arrangement, as they are contingent upon option exercise. The Company evaluates the customer options for material rights, or options to acquire additional goods or services for free or at a discount. If the customer options are determined to represent a material right, the material right is recognized as a separate performance obligation at the inception of the arrangement. The Company allocates the transaction price to material rights based on the relative standalone selling price, which is determined based on the identified discount and the probability that the customer will exercise the option. Amounts allocated to a material right are not recognized as revenue until, at the earliest, the option is exercised or expires.

For arrangements that include sales-based milestones and royalties, and the license is deemed to be the predominant item to which the royalties relate, the Company recognizes revenue at the later of (i) when the related sales occur or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). To date, the Company has not recognized any sales-based milestones or royalty revenue resulting from any of its arrangements.

Research and development services

The promises under the Company's collaboration and license agreements generally include research and development services to be performed by the Company on behalf of the collaboration partner. For performance obligations that include research and development services, the Company recognizes revenue allocated to such performance obligations based on an appropriate measure of progress. The Company utilizes judgment to determine the appropriate method of measuring progress for purposes of recognizing revenue, which may include input measure such as costs incurred during the reporting period or ratably over the service period.

Reimbursements from the partner are evaluated as to whether the Company acts as a principal or an agent in such relationships. The Company evaluates whether control over the underlying goods or services were obtained prior to transferring these goods or services to the collaboration partner. Where the Company does not control the goods or services prior to transferring these goods or services to the collaboration partner, such reimbursements are presented net of costs.

At the inception of each arrangement that includes development milestone payments in respect of development efforts, the Company evaluates whether the development milestones are considered probable of being achieved and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated development milestone value is included in the transaction price. Development milestone payments that are not within the control of the Company or the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. The Company evaluates factors such as the scientific, clinical, regulatory, commercial, and other risks that must be overcome to achieve the particular development milestone in making this assessment. There is judgment involved in determining whether it is probable that a significant revenue reversal would not occur.

At the end of each reporting period, the Company reevaluates the probability of achievement of all development milestones subject to constraint and, if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect

revenues and earnings in the period of adjustment. If a milestone or other variable consideration relates specifically to the Company's efforts to satisfy a single performance obligation or to a specific outcome from satisfying the performance obligation, the Company generally allocates the milestone amount entirely to that performance obligation once it is probable that a significant revenue reversal would not occur. To date, the Company has not recognized any development milestone revenue resulting from any of its arrangements.

Sale of viral seeds

In 2019, the Company sold viral seeds for a number of programs mainly to the University of Oxford. In the case of viral seeds for sale that were already in inventory, the revenue was recognized upon invoice which coincides with delivery and in the case it was necessary to produce those viral seeds, the revenue was recognized over the expected life of the contract.

Research grants

The Company receives certain government grants which support its research efforts in defined projects and include contributions towards the research and development costs. When there is reasonable assurance that the Company will comply with the conditions attached to a received grant, and when there is reasonable assurance that the grant will be received, government grants are recognized as revenue on a gross basis in the consolidated statement of operations and comprehensive loss on a systematic basis over the periods in which the Company recognizes expenses for the related costs for which the grants are intended to compensate. Government grant revenue may be subject to review by a government authority in periods subsequent to its recognition and may result in the reversal of grant revenue previously recognized. Payments received in advance of incurring reimbursable expenses are recorded as deferred revenue.

Concentrations of credit risk

Financial instruments that potentially subject the Company to significant concentration of credit risk consist primarily of cash and cash equivalents and accounts receivable. Periodically, the Company maintains deposits in financial institutions in excess of government insured limits. Management believes that the Company is not exposed to significant credit risk as the Company's deposits are held at financial institutions that management believes to be of high credit quality and the Company has not experienced any losses in these deposits.

The Company recognizes revenue earned in connection with the license and services provided to customers and grantors. The Company provides credit to the grantors in the normal course of providing such services based on evaluations of their financial condition and generally does not require collateral. To manage accounts receivable credit risk, the Company monitors the creditworthiness of its grantors. Historically, the Company has not experienced any credit losses related to accounts receivable and does not maintain allowances for uncollectible amounts.

Licensees and grantors that represented 10% of more of the Company's revenue and accounted for 10% or more of accounts receivable are presented below:

Revenue	Year ended December 31, 2020	Period ended December 31, 2019
Oxford University Innovation	51%	—
U.S. Biomedical Advanced Research and Development Authority ("BARDA")	34%	95%
Enara Bio	10%	2%

Accounts Receivable	As at December 31, 2020	As at December 31, 2019
U.S. Biomedical Advanced Research and Development Authority ("BARDA")	51%	74%
Department of Health and Social Care	49%	—

Allowance for credit losses

The Company evaluates its cash equivalents and accounts receivable for expected credit losses. Expected credit losses represent the portion of the amortized cost basis of a financial asset that an entity does not expect to collect. An allowance for expected credit losses is meant to reflect a risk of loss even if remote, irrespective of the expectation of collection from a particular issuer or debt security. The Company has not historically experienced any credit losses on any of its financial assets. With respect to cash equivalents and accounts receivable, given consideration of their short maturity, historical losses and the current market environment, the Company concluded there are no expected credit losses for these financial assets.

Property and equipment

Property and equipment are stated at cost, net of accumulated depreciation. Expenditures for maintenance and repairs are charged to operating expenses as incurred, whereas major betterments are capitalized as additions to property and equipment. Depreciation is recorded using the straight-line method over the estimated useful lives of the assets as follows:

Asset Category	Estimated Useful Life
Office furniture and equipment	3 years
Laboratory equipment	4 years
Leasehold improvements	Lesser of lease term or estimated useful lives

Impairment of long-lived assets

The Company reviews long-lived assets to be held and used, including property and equipment and operating lease right-of-use asset, for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets or asset group may not be recoverable. Evaluation of recoverability is first based on an estimate of undiscounted future cash flows resulting from the use of the asset or asset group and its eventual disposition. In the event such cash flows are not expected to be sufficient to recover the carrying amount of the asset or asset group, the assets are written down to their estimated fair values. No such impairments were recorded during the year ended December 31, 2020 and the period ended December 31, 2019.

Financial instruments

The Company's financial instruments consist of cash, cash equivalents, accounts receivable, accounts payable, certain accrued expenses, ordinary shares, and Series A Shares and convertible loan notes. The carrying amounts of cash, cash equivalents, accounts receivable, accounts payable, and accrued expenses approximate their fair value due to the short-term nature of those financial instruments. Ordinary shares are permanent equity initially recorded at their issuance date fair value which is not subsequently remeasured. Series A Shares are recorded at issuance date fair value net of discounts and issuance costs and adjusted to reflect their ultimate redemption value. Convertible loan notes are evaluated for embedded features that should be bifurcated and separately accounted for as freestanding derivatives. The proceeds, net of issuance costs from convertible loan notes are first allocated to the embedded derivatives at their initial fair values with the residual amount recorded as the initial net carrying value of the convertible loan notes. The convertible loan notes are subsequently measured at amortized cost using the effective interest method that results in recognition of interest expense equal to a constant rate of interest that is applied to the carrying amount of the convertible loan at the beginning of each period (i.e. the outstanding face amount less any unamortized discount plus any unamortized premium less deferred issuance costs).

Fair value measurements

The Company follows the guidance in ASC 820, *Fair Value Measurements and Disclosures*, which defines fair value and establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to

measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are described below:

- Level 1 — Inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.
- Level 2 — Valuations based on quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.
- Level 3 — Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable.

To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

Fair value is a market-based measure considered from the perspective of a market participant rather than an entity-specific measure. Therefore, even when market assumptions are not readily available, the Company's own assumptions are set to reflect those that market participants would use in pricing the asset or liability at the measurement date. The Company uses prices and inputs that are current as of the measurement date, including during periods of market dislocation. In periods of market dislocation, the observability of prices and inputs may change for many instruments. This condition could cause an instrument to be reclassified within levels in the fair value hierarchy. There were no transfers within the fair value hierarchy during the year ended December 31, 2020 and the period ended December 31, 2019.

Leases

Leases are accounted for under ASC 842, Leases ("ASC 842") resulting in the recognition of lease liabilities and right-of-use assets. The Company only has operating leases. The Company has elected the practical expedient allowed under ASC 842 to account for each lease component (e.g., the right to use office space) and the associated non-lease components (e.g., maintenance services) as a single lease component. The Company also elected the short-term lease accounting policy for all asset classes; therefore, the Company is not recognizing a lease liability or right-of-use asset for any lease that, at the commencement date, has a lease term of 12 months or less and does not include an option to purchase the underlying asset that the Company is reasonably certain to exercise.

Variable lease payments such as the Company's share of real estate taxes, utilities, and common area maintenance, are reported as non-lease operating expenses.

Right-of-use assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Right-of-use assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. As the Company's leases typically do not provide an implicit rate, the Company uses an estimate of its incremental borrowing rate based on the information available at the lease commencement date in determining the present value of lease payments.

Right-of-use assets also include the effect of any lease payments made and excludes lease incentives. The lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Operating lease expense is recognized as part of total operating expenses on a straight-line basis over the lease term. The difference between the value of the right of use asset and lease liability is due to the reclassification of prepaid rent and unamortized lease incentives.

Research and development

Research and development costs are expensed as incurred. Research and development costs include payroll and personnel expense, consulting costs, external contract research and development expenses, raw

materials, drug product manufacturing costs, and allocated overhead including depreciation and amortization, facility costs, and utilities. Research and development costs that are paid in advance of performance are capitalized as a prepaid expense and amortized over the service period as the services are provided.

Clinical trial costs

Clinical trial costs are a component of research and development expenses. The Company accrues and expenses clinical trial activities performed by third parties based on an evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activation, and other information provided to the Company by its vendors.

Patent and licensing costs

Patent and licensing costs are expensed as incurred because their realization is uncertain. These costs are classified as research and development expenses in the accompanying consolidated statement of operations and comprehensive loss.

Embedded derivatives

The Company reviews the terms of convertible loan notes and other financing arrangements to determine whether there are embedded derivative instruments, including embedded conversion options that are required to be bifurcated and accounted for separately as a derivative financial instrument.

Derivative financial instruments are initially measured at fair value, and then re-valued at each reporting date, with changes in the fair value reported as charges or credits to consolidated statement of operations and comprehensive loss. To the extent that the initial fair values of the freestanding and/or bifurcated derivative instrument exceed the total proceeds received an immediate charge to consolidated statement of operations and comprehensive loss is recognized in order to initially record the derivative instrument at fair value.

The discount from the face value of the convertible loan notes resulting from allocating some or all of the proceeds to the derivative instruments, together with the stated rate of interest on the instrument, is amortized over the life of the instrument through periodic charges to consolidated statement of operations and comprehensive loss, using the effective interest method.

Embedded derivatives bifurcated are presented along with the host contract on the balance sheet.

Ordinary shares valuation

Due to the absence of an active market for the Company's ordinary shares, the Company utilized methodologies in accordance with the framework of the American Institute of Certified Public Accountants Technical Practice Aid, *Valuation of Privately-Held Company Equity Securities Issued as Compensation*, to estimate the fair value of its ordinary shares. In determining the exercise prices for options to be issued, the estimated fair value of the Company's ordinary shares on each grant date was estimated based upon a variety of factors, including:

- The issuance price of ordinary shares
- The rights and preference of preferred shareholders
- The progress of the Company's research and development programs, including the status of preclinical studies and planned clinical trials
- The Company's stage of development and our business strategy
- External market conditions affecting the biotechnology industry and trends within the biotechnology industry

- The Company's financial position, including cash on hand
- The lack of any active public market for our ordinary shares
- The likelihood of achieving a liquidity event, such as an initial public offering or a sale of our Company's shares

Significant changes to the key assumptions underlying the factors used could result in different fair values of ordinary shares at each valuation date.

Ordinary shares are classified in shareholders' deficit and represent issued share capital.

Series A Shares

The Company's Series A Shares are redeemable and are classified as temporary equity in the accompanying balance sheet due to redemption rights granted to the holders that are outside of the Company's sole control. Series A Shares are initially recorded at the original issuance price net of issuance costs and discounts. The carrying value is adjusted for dividends expected to be paid upon conversion, redemption or liquidation according to the Series A Share terms. Series A Shares do not have stated redemption date and they are not currently redeemable. If and when the redemption contingency becomes probable of occurring, the carrying amount will be adjusted by either accreting the carrying amount up to the maximum redemption value over the period through the earliest redemption date using the interest method or adjusting the carrying value to the maximum redemption value at the end of each reporting period until redeemed.

Additional paid-in capital

Additional paid-in capital is classified in shareholders' deficit and represents the share premium account, where the difference between the price paid per share and the nominal value is recognized.

Share based compensation

The Company grants options over ordinary shares and restricted shares units to employees and accounts for share based compensation using the grant date fair value. Share based compensation awards are measured at the grant date fair value. For service-based awards, compensation expense is generally recognized over the requisite service period of the awards, usually the vesting period. The Company applies the "multiple option" method of allocating expense. In applying this method, each vesting tranche of an award is treated as a separate grant and recognized on a straight-line basis over that tranche's vesting period. For performance-based awards where the vesting of the awards may be accelerated upon the achievement of certain milestones, vesting and the related share-based compensation is recognized as an expense when it is probable the milestone will be met.

When awards are modified, the Company compares the fair value of the affected award measured immediately prior to modification to its value after modification. To the extent that the fair value of the modified award exceeds the original award, the incremental fair value of the modified award is recognized as compensation on the date of modification for vested awards, and over the remaining vesting period for unvested awards.

The Company has elected to recognize the effect of forfeitures on share-based compensation when they occur. Any differences in compensation recognized at the time of forfeiture are recorded as a cumulative adjustment in the period where the forfeiture occurs.

Income taxes

The financial statements reflect provisions for income taxes in the United Kingdom and foreign jurisdictions. Deferred tax assets and liabilities represent future tax consequences of temporary differences between the financial statement carrying amounts and the tax basis of assets and liabilities and for loss carryforwards using enacted tax rates expected to be in effect in the years in which the differences reverse. A valuation allowance is recorded when it is more likely than not that some or all of the deferred tax assets will not be realized.

The Company determines whether it is more likely than not that a tax position will be sustained upon examination. If it is not more likely than not that a position will be sustained, none of the benefit attributable to the position is recognized. The tax benefit to be recognized for any tax position that meets the more-likely-than-not recognition threshold is calculated as the largest amount that is more than 50% likely of being realized upon resolution of the contingency. The Company accounts for interest and penalties related to uncertain tax positions as part of its provision for income taxes. To date, the Company has not incurred interest and penalties related to uncertain tax positions nor has it recorded any unrecognized tax benefits.

Research and development incentives

In the United Kingdom, the Company is entitled to a research and development tax relief for small and medium-sized enterprises which allows for an enhanced deduction rate of 230% on qualifying research and development expenditure (the tax relief). If the Company incurs tax losses, the Company is entitled to surrender the lesser of unrelieved tax loss sustained and the tax relief. As the realization of the tax relief does not depend on our generation of future taxable income or the Company's ongoing tax status or tax position, the Company does not consider the tax relief as an element of income tax accounting under ASC 740, *Income taxes* and records the tax relief as a form of government grant or assistance. For the year ended December 31, 2020 and for the period ended December 31, 2019, the Company recognized research and development incentives of $3,278,805 and $2,975,872 respectively.

Net loss per share

Basic net loss per share is computed by dividing the net loss attributable to ordinary shareholders by the weighted-average number of ordinary shares outstanding for the reporting period without consideration for potentially dilutive securities. Net loss attributable to ordinary shareholders as if all of the net loss for the period had been distributed. During periods in which the Company incurred a net loss, the Company allocates no net loss to participating securities because they do not have a contractual obligation to share in the net loss of the Company. The Company's Series A Shares are non-participating securities.

The Company computes diluted net loss per ordinary share after giving consideration to all potentially dilutive ordinary equivalents, including stock options and Series A Shares outstanding during the period except where the effect of such non-participating securities would be antidilutive.

Diluted net loss per share is computed by dividing the net loss attributable to ordinary shareholders by the weighted-average number of ordinary shares and dilutive ordinary share equivalents outstanding for the period, determined using the treasury-stock and if-converted methods. Dilutive ordinary share equivalents for the year ended December 31, 2020 and the period ended December 31, 2019 are comprised of Series A Shares and share options.

Unaudited pro forma basic and diluted net loss per share for the year ended December 31, 2020 have been computed using the weighted-average ordinary shares outstanding after giving pro forma effect to the automatic conversion of all Series A Shares into ordinary shares as if such conversions had occurred at the beginning of the fiscal year ended December 31, 2020 or the date of original issuance, if later.

Contingent liabilities

A provision for contingent liabilities is recorded when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. With respect to legal matters, provisions are reviewed and adjusted to reflect the impact of negotiations, estimated settlements, legal rulings, advice of legal counsel and other information and events pertaining to a particular matter. The Company is a party to certain litigation and disputes arising in the normal course of business. As of December 31, 2020, the Company does not expect that such matters will have a material adverse effect on the Company's business, financial position, results of operations, or cash flows.

Deferred offering costs

Direct and incremental legal and accounting costs associated with the Company's proposed initial public offering are deferred and classified as a component of other assets in the consolidated balance sheets. Such costs will be offset against the proceeds received in the offering. If the proposed initial public offering is no longer probable of occurring, the deferred costs will be expensed at that time. There have been no deferred offering costs incurred during the year ended December 31, 2020 and the period ended December 31, 2019.

Unaudited pro forma shareholders' deficit

The unaudited pro forma shareholders' deficit as of December 31, 2020 reflects the automatic conversion of each Series A Share into one ordinary share upon completion of the proposed initial public offering.

Recently issued accounting pronouncements

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* ("ASU 2018-15"). ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a cloud-based hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). This ASU is effective for fiscal years beginning after December 15, 2020. The Company does not expect the impact of adopting ASU 2018-15 will be material.

In December 2019, the FASB issued amended guidance on the accounting and reporting of income taxes. The guidance is intended to simplify the accounting for income taxes by removing exceptions related to certain intraperiod tax allocations and deferred tax liabilities; clarifying guidance primarily related to evaluating the step-up tax basis for goodwill in a business combination; and reflecting enacted changes in tax laws or rates in the annual effective tax rate. The amended guidance is effective for fiscal years beginning after December 15, 2021, and interim periods within fiscal years beginning after December 15, 2022. Early adoption is permitted. The application of the amendments in the new guidance are to be applied on a retrospective basis, on a modified retrospective basis through a cumulative-effect adjustment to retained earnings or prospectively, depending on the amendment. The Company is currently evaluating the impact of adoption on its consolidated financial statements.

In August 2020, the FASB issued ASU No. 2020-06, *Debt — Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging — Contracts in Entity's Own Equity (Subtopic 815-40)* ("ASU No. 2020-06"). The new guidance eliminates two of the three models in ASC 470-20 that require separating embedded conversion features from convertible instruments. As a result, only conversion features accounted for under the substantial premium model in ASC 470-20 and those that require bifurcation in accordance with ASC 815-15 will be accounted for separately. For contracts in an entity's own equity, the new guidance eliminates some of the requirements in ASC 815-40 for equity classification. The guidance also addresses how convertible instruments are accounted for in the diluted earnings per share calculation and requires enhanced disclosures about the terms of convertible instruments and contracts in an entity's own equity. ASU 2020-06 is effective for the Company after December 15, 2023. Early adoption is permitted for fiscal periods beginning after December 15, 2020. The Company is currently evaluating the effect of adopting ASU 2020-06 on its financial statements.

4. Net Loss Per Share

Because the Company has reported a net loss attributable to ordinary shareholders for the period presented, basic and diluted net loss per share attributable to ordinary shareholders are the same for the period presented. All Series A Shares and stock options have been excluded from the computation of diluted weighted-average shares outstanding because such securities would have an antidilutive impact.

VACCITECH LIMITED AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table sets forth the computation of basic and diluted net loss per share for the year ended December 31, 2020 and the period ended December 31, 2019:

	Year ended December 31, 2020	Period ended December 31, 2019
Numerator:		
Net loss	$(17,933,558)	$(22,697,899)
Net loss attributable to noncontrolling interest	227,493	1,968,307
Net loss attributable to Vaccitech shareholders	$(17,706,065)	$(20,729,592)
Denominator:		
Weighted-average ordinary shares outstanding, basic and diluted	25,581	23,469
Net loss per share attributable to ordinary shareholders, basic and diluted	$ (692.16)	$ (883.27)

Potential ordinary shares issuable upon conversion or exercise of Series A Shares and stock options that are excluded from the computation of diluted weighted-average shares outstanding are as follows:

	Year ended December 31, 2020	Period ended December 31, 2019
Series A Shares	22,065	22,065
Stock options	3,742	3,601

The unaudited pro forma basic and diluted net loss per share attributable to ordinary shareholders for the year ended December 31, 2020 has been computed using the weighted average ordinary shares outstanding after giving pro forma effect to the automatic conversion of Series A Shares into ordinary shares as if such conversions had occurred at the beginning of the period or the date of original issuance, if later.

Unaudited pro forma basic and diluted net loss per share for the year ended December 31, 2020 are computed as follows:

	Year ended December 31, 2020	Period ended December 31, 2019
Numerator:		
Net loss	$(17,933,558)	$(22,697,899)
Net loss attributable to noncontrolling interest	227,493	(1,968,307)
Net loss attributable to Vaccitech shareholders	$(17,706,065)	$(20,729,592)
Denominator:		
Weighted-average ordinary shares outstanding, basic and diluted	25,581	23,469
Adjustment for assumed effect of conversion of Series A Shares	22,065	22,065
Pro forma weighted-average ordinary shares outstanding, basic and diluted	47,646	45,534
Pro forma net loss per share, basic and diluted	$ (371.62)	$ (455.25)

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5. Property and Equipment, Net

Property and equipment, net consists of the following as at:

	December 31, 2020	December 31, 2019
Office furniture and equipment	$ 167,855	$ 143,604
Laboratory equipment	890,253	624,589
Leasehold improvements	49,606	—
Property and equipment, at cost	1,107,714	768,193
Less: accumulated depreciation	(478,609)	(247,890)
Property and equipment, net	$ 629,105	$ 520,303

Depreciation expense for the year ended December 31, 2020 was $208,398 (period ended December 31, 2019: $167,622).

6. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following:

	December 31, 2020	December 31, 2019
Accrued manufacturing and clinical expenses	$ 461,561	$ 734,893
Accrued board of director compensation	4,554	160,096
Accrued bonus	749,301	213,794
Accrued payroll and employee benefits	250,184	235,869
Accrued professional fees	805,694	34,316
Accrued other	265,850	42,466
Total	$2,537,144	$1,421,434

7. Out-licenses and Grants

Enara research collaboration and license agreement

In 2017, the Company entered into a research collaboration and license agreement with Enara Bio (the "Enara Agreement") to provide research services and granted a nonexclusive license to Enara to produce and characterize potential product candidates using the Company's viral vector technology. In June 2019, the Enara Agreement was amended to grant Enara additional license rights. Under the Enara Agreement, as amended, the Company is to provide enhanced research services to Enara during the research term which commenced on June 2019 through the end of 66 months and for up to six vaccine products based on antigens discovered via Enara's proprietary platform. The Enara Agreement, as amended, is effective until the later of termination by either party; expiry of relevant patents covering a product generated under the enhanced research services; or ten years following first commercial sale of the product on a country-by-country basis generated under the enhanced research services.

Under the Enara Agreement, as amended, the Company received non-refundable upfront payments of $317,062 (£250,000) which is recognized as revenue over the research term. The Company may receive up to $30,000,000 (£22,500,000) in additional milestone payments and tiered 1.5-4.0% royalties on net sales of each product candidate selected for further development by Enara. The Enara Agreement, as amended, also provides for the Company to receive prespecified payments in return for the provision of research services to Enara. During the year ended December 31, 2020, the Company recognized service revenue totaling $385,560 (period ended December 31, 2019: $126,204) and license revenue totaling $69,519 (period ended December 31, 2019: $19,714).

BARDA contract

BARDA is a division of the U.S. Department of Health and Human Services in the Office of the Assistant Secretary for Preparedness and Response that supports the advanced research and development, manufacturing, acquisition and stockpiling of medical countermeasures. Our contracts with BARDA, like those awarded by other U.S. government agencies, contain provisions not typically found in commercial contracts. Most notably, BARDA, or the U.S. government acting through BARDA, may terminate, modify or amend our contract, in whole or in part, for nearly any reason or no reason.

In February 2019, the Company entered into an agreement with BARDA to fund its clinical development of an influenza vaccine known as VTP-100. Under the contract, BARDA will reimburse the Company up to $8,592,886 over two years for the research and development of VTP-100 through Investigational New Drug application, regulatory review, and development and execution of a Phase 2b human challenge protocol to assess safety, immunogenicity and efficacy as compared to placebo. The Company owns the intellectual property rights to inventions made in the performance of work under the BARDA contract, provided that the Company discloses such inventions to the U.S. government and notifies the U.S. government of the Company's election to retain title. The U.S. government will have a nonexclusive, nontransferable, irrevocable, paid-up license to practice, or have practiced for or on its behalf, such inventions throughout the world, in addition to other rights customarily reserved by the U.S. government for intellectual property generated using government funds. During the year ended December 31, 2020, the Company recognized $1,650,920 (period ended December 31, 2019: $6,507,228) in revenue under the BARDA contract and had outstanding receivable of $262,585 as of December 31, 2020 (2019: $730,468).

OUI license

In April 2020, the Company entered into an Amendment, Assignment and Revenue Sharing Agreement ("License Agreement Amendment") with Oxford University Innovation, or OUI, which vested and assigned all intellectual property rights in relation to any ChAdOx1 or ChAdOx2 vector-based vaccine jointly owned by the Company and OUI in OUI in order to facilitate the license of vaccines based on the ChAdOx1 by OUI to AstraZeneca plc ("AstraZeneca"). Under this agreement, the Company is entitled to receive from OUI a share of all payments received by OUI from AstraZeneca in respect of the vaccine based on the ChAdOx1. On December 30, 2020, AstraZeneca announced that the vaccine based on the ChAdOx1 which we refer to as AZD1222 had been approved for emergency supply in the United Kingdom by the United Kingdom Medicines and Healthcare products Regulatory Agency.

The Company determined that the intellectual property vested and assigned under the License Agreement Amendment is a functional intellectual property (that is, it has significant standalone functionality in the form of its ability to treat a disease or condition) and there is no expectation under the License Agreement Amendment that the Company will undertake activities to change the functionality. Consequently, the Company concluded that the nature of the Company's promise in transferring the intellectual property is to provide a right to use the Company's functional intellectual property. Accordingly, the Company recognizes revenue in manner that depicts, the Company's progress toward satisfying its performance obligation of providing access to its intellectual property throughout the license period based on the terms of OUI's agreement with AstraZeneca.

During the year ended December 31, 2020, the Company recognized revenue amounting to $2,483,030.

8. Convertible loan notes

In 2020, the Company entered into a series of unsecured convertible loan notes arrangements on various dates between July through November 2020 for a total amount of $41,183,496, net of transaction costs of $57,339.

The convertible loan notes accrue interest daily at 8% per annum, which is payable in (a) cash upon an event of default or (b) cash or shares at the Board's discretion upon conversion. The convertible loan notes will mature on June 6, 2023. On maturity, the lenders can elect cash redemption in lieu of conversion, in an

amount that equals all outstanding principal plus a redemption premium. The convertible loan notes may not be prepaid without the consent of the lenders.

The convertible loan notes are automatically converted (a) upon an equity financing occurring after the issuance date and before maturity raising at least £10 million ("qualified equity financing"); or (b) upon an exit event, including a change of control or an initial public offering, if the cash value to be received for the converted shares is greater than the redemption value or if the lenders do not elect cash redemption for an exit event that settles in noncash consideration.

The convertible loan notes are also convertible at the lenders' option upon a nonqualified equity financing. If an exit occurs within six months of a nonqualified financing event where the lenders had elected to convert, the lenders will receive consideration in cash or other assets so that the aggregate value they receive equals the greater of:

- The as-converted value of the convertible loan notes that the lenders would have received if the convertible loan notes were converted upon the exit event, or
- The amount of outstanding principal plus the redemption premium.

All conversion features, the cash redemption feature on maturity and the cash redemption feature upon an exit event that settles in noncash consideration; meet the characteristics of embedded derivatives in accordance with ASC 815 Derivatives and Hedging, that are required to be bifurcated and accounted for as separate derivative liabilities. The derivative liabilities are originally recorded at its estimated fair value and are required to be revalued at each conversion event and reporting period. Changes in the derivative liabilities' fair value are reported in consolidated statement of operations and comprehensive loss at each reporting period.

On initial recognition of the convertible loan notes, the Company fair valued the conversion and redemptions features resulting in an initial fair value of $20,943,851. The proceeds, net of financing costs from convertible loan notes of $41,183,496 was first allocated to the compound embedded derivatives at its initial fair values, the residual amount of $20,239,646 was recorded as the initial net carrying value of the convertible loan notes. The Company valued the cash redemption features based on the difference of the present value of cash flows with and without the redemption features. The conversion features upon a nonqualified equity financing and qualified equity financing were valued based on the conversion formula stated in the convertible agreement, present valued at the risk-free rate for the expected period until the nonqualified equity financing and qualified equity financing (assumed and adjusted for the present value of cash flows of debt without the feature. The conversion features upon an exit event or maturity were valued using a Monte Carlo simulation model to fair value the convertible loan notes upon an exit event and maturity adjusted for the cash redemption value discounted at the risk free rate. The probability of exercise of conversion feature or the cash redemption upon an exit event, nonqualified equity financing, qualified equity financing and maturity ranged from 5% -75%, the risk free rate was 0.22% and the market cost of debt without the features was 11.80%. As of December 31, 2020, the Company had an embedded derivative liability of $20,109,386 related to the convertible loan notes. The fair value of the embedded derivatives is a Level 3 valuation with the significant unobservable inputs being the probability of exercise of conversion and cash redemption features. Significant judgment is employed in determining the appropriateness of certain of these inputs. Changes to the inputs described above could have a material impact on the Company's financial position and results of operations in any given period.

The changes in the fair value of the embedded derivatives was as follows:

	Year ended December 31, 2020	Period ended December 31, 2019
Beginning balance	$ —	$—
Additions	20,943,850	—
Change in fair value recognized in the net loss	(2,039,253)	—
Foreign exchange translation	1,204,789	—
Ending balance	$20,109,386	$—

9. Series A Shares

On November 10, 2017, January 10, 2018 and December 21, 2018, the Company issued 13,790, 4,597, and 3,678 shares, respectively, of its £0.10 ($0.14) nominal value, Series A Shares. The November 2017 and January 2018 Series A Shares were issued at £1,087.72 per share ($1,432.49 on November 10, 2017 and $1,471.01 on January 10, 2018) and the December 2018 Series A Shares were issued at £1,631.48 per share ($2,064.26 on December 21, 2018) for total gross proceeds of £14,999,659 ($19,754,216), £5,000,249 ($6,532,695) and £6,000,583 ($7,592,334), respectively.

The rights, preferences, and privileges of the Series A Shares are summarized below:

Voting

Series A shareholders have full voting rights and powers similar to the rights and powers of the ordinary shareholders on an as-converted basis. Certain significant actions, including board size, mergers, acquisition, liquidation, dissolution, wind up of business, and deemed liquidation events, must be approved by at least a simple majority of Series A and ordinary shareholders voting as a single class on an as-converted basis.

Dividends

Series A shareholders are entitled to dividends when and if declared by the Company's board of directors. In the event of optional or mandatory conversion, holders of Series A Shares may receive unpaid accrued dividends if the Company has sufficient funds available for distribution. Series A Share dividends are non-cumulative at an annual rate of 6% of the Series A Share issuance price.

Optional conversion

Each Series A Share is convertible into one ordinary share and nine deferred shares at the holders' option at any time.

Mandatory conversion

Each Series A Share is automatically converted into one ordinary share and nine deferred shares upon a vote by a simple majority of the Series A shareholders or upon the completion of a qualified public offering at a price per share of at least three times the original Series A Share issuance price (adjusted for stock splits or stock dividends) and aggregate gross proceeds of at least $50,000,000.

Liquidation preference

Upon liquidation, dissolution, or winding up of business, Series A Shares have liquidation preference in priority to holders of ordinary shares at their original issuance price. If assets available for distribution are insufficient to satisfy the liquidation payment amounts in full, assets available for distribution will be

allocated among Series A shareholders ratably based on their original investment. When Series A shareholders are satisfied in full, any excess assets available for distribution will be allocated ratably among ordinary shareholders based on the number of ordinary shares held by each shareholder.

Classification

The Company has classified Series A Shares outside of permanent equity in the accompanying consolidated balance sheets. Series A Shares are contingently redeemable upon a deemed liquidation event such as a change in control that is not solely within the Company's control and there is no guarantee that all shareholders would be entitled to receive the same form of consideration.

10. Ordinary Shares

Ordinary shareholders are entitled to one vote for each ordinary share held at all shareholder meetings. Ordinary shareholders are entitled to receive dividends declared out of funds legally available, subject to the payment in full of all preferential dividends to which the Series A shareholders are entitled. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company, after the payment of all preferential amounts that the holders of Series A Shares are entitled, the ordinary shareholders share ratably in the remaining assets of the Company available for distribution.

As of December 31, 2020, the Company has reserved the following shares of ordinary shares for future issuance:

Conversion of Series A Shares	22,065
Exercise of stock options	4,998
Exercise of restricted stock units	1,709
Shares available for future stock incentive plan awards	2,423
Total	31,195

11. Share-Based Compensation

In 2017, the Company's board of directors adopted the Enterprise Management Incentive Share Option Scheme (the "Plan") which provided for the grant of incentive stock options and nonqualified stock options to non-director employees of the Company. The Company also has a nonqualified stock option plan for officers and directors. The awards generally vest based on the grantee's continued service with the Company during a specified period following grant as determined by the board of directors and generally expire ten years from the grant date. Option awards generally vest over four years but vesting conditions can vary at the discretion of the Company's board of directors. A total of 11,426 ordinary shares were reserved for issuance in accordance with the provisions of the Plan and restricted stock unit ("RSUs") plan. As of December 31, 2020, 744 options and 1,552 RSUs have been exercised to date with 2,423 available for future grants.

The fair value of each stock option issued to employees was estimated at the date of grant using Black-Scholes with the following weighted-average assumptions:

	Year ended December 31, 2020	Period ended December 31, 2019
Expected volatility	117.73%	102.68%
Expected term (years)	6.40	6.25
Risk-free interest rate	1.10%	2.43%
Expected dividend yield	0.00%	0.00%

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The fair value of RSUs issued to employees was estimated at the date of grant using Black-Scholes with the following assumptions:

	Year ended December 31, 2020	Period ended December 31, 2019
Expected volatility	110.8%	—%
Expected term (years)	2.75	—
Risk-free interest rate	1.6%	—%
Expected dividend yield	0.00%	—%

The Company applies a discount for lack of marketability calculated using the Finnerty model.

Exercise price: In determining the exercise prices for stock options granted, the board of directors considered the fair value of ordinary shares as of each grant date based upon a variety of factors, including the results obtained from independent third-party valuations, the Company's financial position and historical financial performance, the status of technological developments within the Company's products, the composition and ability of the current clinical and management team, an evaluation or benchmark of the Company's competition, the current business climate in the marketplace, the illiquid nature of ordinary shares, arm's length sales of the Company's capital shares, the effect of the rights and preferences of the Series A shareholders, and the prospects of a liquidity event, among others.

Expected volatility: Since there is no trading history for the Company's ordinary shares, the expected price volatility for our ordinary shares was estimated using the average historical volatility of industry peers' shares as of the grant date of our options over a period of history commensurate with the expected life of the options. To the extent that volatility of our share price increases in the future, our estimates of the fair value of options to be granted in the future could increase, thereby increasing share-based payment expense in future periods. When selecting industry peers to be used in measuring implied volatility, the Company considered the similarity of their products and business lines, as well as their stage of development, size and financial leverage. The Company intends to continue to consistently apply this process using the same or similar public companies until sufficient historical information on volatility of its share price becomes available.

Expected term (years): Expected term represents the period that the Company's option grants are expected to be outstanding. There is not sufficient historical share exercise data to calculate the expected term of the stock options. Therefore, the Company elected to utilize the simplified method to value option grants. Under this approach, the weighted-average expected life is presumed to be the average of the vesting term and the contractual term of the option.

Risk-free interest rate: The Company determined the risk-free interest rate by using a weighted-average equivalent to the expected term based on the daily U.S. Treasury yield curve rate in effect as of the date of grant.

Expected dividend yield: The Company does not anticipate paying any dividends in the foreseeable future.

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A summary of stock option activity under the Plan is presented below:

	Number of Stock Options	Weighted-average Exercise Price	Weighted-average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding, January 1, 2020	3,601	$0.09	8.35	$ 5,867,947
Granted	2,470	0.12		
Exercised	(662)	0.04		
Forfeited/expired	(411)	0.13		
Outstanding, December 31, 2020	4,998	$0.11	8.85	$11,021,183
Exercisable, December 31, 2020	1,778	$0.07	8.16	$ 5,186,525
Vested and expected to vest, December 31, 2020	3,220	$0.12	9.03	$ 7,100,450

The weighted-average grant date per-share fair value of stock options granted during the year ended December 31, 2020 was $1,748 (period ended December 31, 2019: $1,395). The aggregate intrinsic value of stock options exercised during the year ended December 31, 2020 was $1,000,159 (period ended December 31, 2019: $131,983). At December 31, 2020, there was $3,089,344 (2019: $2,597,946) of unrecognized compensation cost related to stock options, which is expected to be recognized over a weighted-average period of 2.67 years.

On January 9, 2020, the Company granted 1,552 restricted stock units (“RSUs”) to an employee which vest in two equal tranches of 776 each. The grant date fair value of the RSUs was $1,615. The first tranche vests on IPO Filing Date which is defined as the date on which the Company makes a confidential submission to the U.S. Securities and Exchange Commission or its equivalent under the listing rules of the relevant comparable exchange and the second tranche vests on the IPO Resolution Date which is defined as the date on which the board of the Company resolves to initiate an initial public offering on any recognized exchange after (x) completion of all registration and other listing formalities and (y) agreement on pricing and quantum of the offer. The grant contains a nondiscretionary antidilution provision which entitles the grantee to additional RSUs to ensure that the aggregate RSUs granted equal 1.5% of the total fully diluted share capital of the Company. During the year a further 157 RSUs were granted as a result of this antidilution provision. The grant of additional RSUs was treated as a modification as it results in changes in the fair-value-based measure of the award. The incremental compensation cost as a result of the modification was $147,338. At December 31, 2020 1,709 RSUs were outstanding with a remaining contractual term of 9.03 years of which 855 were vested and exercisable with an intrinsic value of $1,884,377. No compensation cost has been recognized in respect the second tranche which vests on the IPO Resolution Date as the initial public offering is not considered probable until it occurs.

Share based compensation expense is classified in the consolidated statement of operations and comprehensive loss as follows:

	Year ended December 31, 2020	Period ended December 31, 2019
Research and development	$ 613,860	$394,003
General and administrative	3,011,007	436,599
Total	$3,624,867	$830,602

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12. Income Taxes

The components of income tax benefit are as follows:

	Year ended December 31, 2020	Period ended December 31, 2019
United Kingdom	$ —	$—
Foreign	95,010	—
Total income tax benefit, current	$95,010	$—

A reconciliation of income tax benefit computed at the UK statutory income tax rate to income tax benefit as reflected in the financial statements is as follows:

	Year ended December 31, 2020	Period ended December 31, 2019
Statutory tax rate	19.00%	19.00%
Increase (decreases) resulting from:		
Permanent differences	10.57	(2.07)
Provision to return adjustments	1.24	1.27
Research and development credits	(18.73)	(4.96)
Foreign rate differential	0.20	3.15
Change in valuation allowance	(11.37)	(20.08)
Other	(1.44)	3.68
Effective tax rate	(0.53)%	(0.01)%

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income and for tax carryforwards. Significant components of the Company’s deferred tax assets and liabilities are as follows:

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	December 31, 2020	December 31, 2019
Deferred tax assets:		
Net operating loss carryforwards	$ 3,758,531	$ 2,759,099
Research and development credit carryforwards	3,533,260	3,215,002
Deferred revenue	46,643	51,283
Share based compensation	1,043,559	308,647
Lease liability	350,036	337,777
Other	133,287	57,633
Gross deferred tax asset	8,865,316	6,729,441
Valuation allowance	(7,282,931)	(6,240,951)
Net deferred tax assets	1,582,385	488,490
Deferred tax liabilities:		
Depreciation	(101,868)	(56,487)
Right-of-use lease asset	(447,682)	(432,003)
Unrealized gain on investment	(1,032,835)	—
Net deferred tax liabilities	(1,582,385)	(488,490)
Total net deferred tax	$ —	$ —

As of December 31, 2020, the Company had a valuation allowance of $7,282,931 (2019: $6,240,951) against its deferred tax assets, which consisted principally of net operating loss and research and development credit carryforwards. The Company considered the positive and negative evidence bearing upon its ability to realize the deferred tax assets. In addition to the Company's history of cumulative losses, the Company cannot be certain that future taxable income will be sufficient to realize its deferred tax assets. Accordingly, a full valuation allowance has been provided against its net deferred tax assets. When the Company changes its determination as to the amount of its deferred tax assets that can be realized, the valuation allowance is adjusted with a corresponding impact to the provision for income taxes in the period in which such determination is made.

At December 31, 2020, the Company had NOL carryforwards totaling approximately $19,509,995 which have an unlimited carryforward period. At December 31, 2020, the Company had $3,533,260 of research and development tax credit carryforwards which also have an unlimited carryforward period.

As of December 31, 2020, the Company does not have any material unrecognized tax benefit liabilities. The Company files income tax returns in the United Kingdom, Australia, and the United States. The associated tax filings remain subject to examination by applicable tax authorities for a certain length of time following the tax year to which those filings relate. In the United Kingdom, tax years from 2019 remain subject to examination by Her Majesty's Revenue and Customs. In all other jurisdictions, the tax years since inception remain subject to examination by the applicable taxing authorities as of December 31, 2020.

13. Commitments and Contingencies

In-License Agreements

The Company is party to a number of licensing agreements most of which are with related parties. These agreements serve to provide the Company with the right to develop and exploit the counterparties' intellectual property for certain medical indications. As part of execution of these arrangements, the Company paid certain upfront fees, which have been expensed as incurred because the developing technology has not yet reached technical feasibility, the lack of alternative use, and the lack of proof of potential value. The agreements cover a variety of fields, including influenza, cancer, HPV, HBV and

MERS. The Company's obligations for future payments under these arrangements are dependent on its ability to develop promising drug candidates, the potential market for these candidates and potential competing products, and the payment mechanisms in place in countries where the Company retains the right to sell. Each agreement provides for specific milestone payments, typically triggered by achievement of certain testing phases in human candidates, and future royalties ranging from 1 to 5% for direct sales of a covered product to 3 to 7% of net payments received for allowable sublicenses of technology developed by the Company. The obligation to make these payments is contingent upon the Company's ability to develop candidates for submission for phased testing and approvals, and for the development of markets for the products developed by the Company. The Company has not made any material payments under these license agreements during the year ended December 31, 2020.

Leases

The Company leases an office and laboratory space from a related party in Oxford, England under an operating lease with a contractual term expiring in 2028. The lease does not contain renewal terms. Variable payments include amounts due to the lessor for additional services and cost reimbursements.

The Company recorded a right-of-use asset and a lease liability on the effective date of the lease term. The Company's right-of-use asset and lease liability are as follows:

	December 31, 2020	December 31, 2019
Right-of-use asset	$2,135,550	$2,273,701
Lease liability, current	$ 192,479	$ 171,979
Lease liability, noncurrent	$1,471,594	$1,605,794
Other information		
Operating cash flows from operating leases	$ 300,985	$ 223,111

During the year ended December 31, 2020, the Company recorded $340,860 (period ended December 31, 2019: $310,559) in operating lease costs (including short-term lease expense and variable lease costs).

Maturities of the Company's minimum lease liability as of December 31, 2020 were as follows:

Maturity of lease liabilities:	
2021	$ 320,416
2022	320,416
2023	320,416
2024	320,416
2025	320,416
Thereafter	587,457
Total minimum lease payments	2,189,537
Less: imputed interest	(525,464)
Total lease liability	$1,664,073

The weighted-average remaining lease terms are 7.33 years, and the weighted-average discount rate is 8% which approximates the Company's incremental borrowing rate.

Non-lease and other costs paid to the lessor are primarily related to services provided by the lessor in operating the premises that includes fees, operating costs, taxes, and insurance related to the leased premises.

Other contingencies

The Company is a party in various contractual disputes, litigation, and potential claims arising in the ordinary course of business. The Company does not believe that the resolution of these matters will have a material adverse effect on its financial position or results of operations.

14. Employee Benefit Plans

In the United Kingdom, the Company has adopted a defined contribution plan (the U.K. Plan) which qualifies under the rules established by HM Revenue & Customs. The U.K. Plan allows all U.K. employees to contribute a minimum of 5% of salary with no maximum limit. The contribution is matched by the Company, up to a maximum of 5% of salary. Contributions to the U.K. Plan are charged to the consolidated statement of operations and comprehensive income in the year to which they relate.

The Company has a 401(k) defined contribution retirement plan in which all its employees located in the U.S. are eligible to participate. Eligible employees may elect to contribute up to the maximum limits, as set by the Internal Revenue Service, of their eligible compensation. Contributions to the plan are charged to the consolidated statement of operations and comprehensive income in the year to which they relate.

During the year ended December 31, 2020, the Company provided a total of $142,813 (period ended December 31, 2019: $103,105) in matching contribution under both the U.K. Plan and the 401(k) plan.

15. Related Party Transactions

During the year ended December 31, 2020, Company incurred expenses of $281,453 (period ended December 31, 2019: $302,786) to its shareholder, Oxford Sciences Innovation Plc, mostly related to the lease of a laboratory and office space in Oxford (see note 13). At December 31, 2020, the Company owed $0 (2019: $74,052) to Oxford Sciences Innovation Plc.

During the year ended December 31, 2020, the Company incurred expenses of $477,766 (period ended December 31, 2019: $857,245) to its shareholder, the University of Oxford, related to clinical study costs. At December 31, 2020, the Company owed $300,408 (2019: $119,742).

During the year ended December 31, 2020, the Company incurred expenses of $208,629 (period ended December 31, 2019: $177,714) for services from Oxford University Innovation Limited which is a wholly owned subsidiary of the Company's shareholder, the University of Oxford. At December 31, 2020, the Company owed $25,175 (2019: $48,874) to Oxford University Innovation Limited. During the period ended December 31, 2020, the Company also received license fees of $2,483,030 (period ended December 31, 2019: $0) from Oxford University Innovation Limited for assigning all intellectual property rights in relation to any ChAdOx1 or ChAdOx2 vector-based vaccine jointly owned by the Company and Oxford University Innovation Limited to Oxford University Innovation Limited.

On July 8, 2020, Oxford Sciences Innovation PLC and the University of Oxford subscribed to the Company's convertible loan notes in an amount of $5,929,755 (£4,750,000) and $312,092 (£250,000) respectively. At December 31, 2020 these convertible loan notes including the embedded derivative was $7,355,522 (2019:$0).

16. Subsequent Events

(a) In February 2021, the Company granted 1,180 options to employees and directors.

On March 15, 2021, the Company issued 28,957 Series B preferred shares (''Series B Shares'') amounting to $125,239,025. Series B shareholders have full voting rights and powers similar to the rights and powers of Series A and ordinary shareholders. Each Series B Share is convertible into one ordinary share and nine deferred shares at the holders' option at any time. Each Series B Share is automatically converted into one ordinary share and nine deferred shares upon a vote by a simple majority of the Series B shareholders or upon the completion of a qualified public offering at a price per share of at least 1.2 times the Series B

VACCITECH LIMITED AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Share issuance price (adjusted for stock splits or stock dividends) and aggregate gross proceeds of at least $100,000,000. Upon liquidation, dissolution, or winding up of business, Series B Shares have liquidation preference in priority to holders of Series A Shares and ordinary shares.

The Series B funding constituted a qualified equity financing in accordance with the terms of the convertible loan notes. As a result, the convertible loan notes were converted on March 15, 2021 into 12,421 Series B Shares with the conversion price being 0.8 times the Series B Shares issue price.

Consequent to the issue of Series B Shares, the aggregate gross proceeds required for a mandatory conversion upon the completion of a qualified public offering for Series A Shares has been increased from at least $50,000,000 to at least $100,000,000.

As of March 22, 2021, AstraZeneca has announced that AZD1222 has been granted a conditional marketing authorization or emergency use authorization in more than 70 countries, including the United Kingdom, India and Brazil, and that the Emergency Use Listing granted by the World Health Organization (“WHO”) in February 2021 will expand access to AZD1222 in up to 142 countries through the WHO’s COVAX initiative.

(b) On March 31, 2021, the shareholders of the Company exchanged each of their ordinary shares, Series A Shares and Series B Shares of the Company for the same quantity of ordinary shares, series A shares (“Vaccitech plc Series A Shares”) and series B shares (“Vaccitech plc Series B Shares”) in Vaccitech plc (formerly Vaccitech Rx Limited) resulting in the shareholders of the Company holding the same percentage and class of shares in Vaccitech plc (formerly Vaccitech Rx Limited) as they had in the Company. As a result of this share exchange, Vaccitech plc became the owner of the Company.

On April 6, 2021, the Company changed its name to Vaccitech (UK) Limited.

It is anticipated that immediately prior to the closing of its initial public offering and pursuant to the terms of its articles of association all of the Vaccitech plc Series A Shares and the Vaccitech plc Series B Shares will be converted into ordinary shares and deferred B shares of Vaccitech plc. On the same date, Vaccitech plc will thereafter effect a 309-for-1 stock split (the “Stock Split”) of Vaccitech plc’s ordinary shares. Each resultant ordinary share from the Stock Split will be redesignated as one ordinary share and one deferred C share in order to ensure that the nominal value of Vaccitech plc’s ordinary shares at the time of its initial public offering is £0.000025.

(c) Stock Split (Unaudited)

As discussed in Note 16(b), it is anticipated that immediately prior to the closing of the initial public offering, Vaccitech plc (formerly Vaccitech Rx Limited) will effect the Stock Split.

The Stock Split will have the following impact on the Company’s ordinary shares, outstanding employee equity awards, Series A Shares outstanding as of December 31, 2020 and Series B Shares issued on March 15, 2021, which includes the conversion of the convertible loan notes outstanding as of December 31, 2020:

	Pre-Split	Post Split
Weighted average number of shares outstanding – basic and diluted	25,581	7,904,529
Ordinary shares outstanding	25,762	7,960,458
Series A Shares outstanding	22,065	6,818,085
Pro forma weighted-average ordinary shares outstanding, basic and diluted	47,646	14,722,614
Series B Shares outstanding in March 2021	41,378	12,785,802
Employee stock options including RSUs and options granted in February 2021	7,887	2,437,083
Shares available for future stock incentive plan awards (excluding the option granted in February 2021)	1,243	384,087

The financial statements have not been retroactively adjusted to reflect the effects of the Stock Split that will occur at closing of the initial public offering.

6,500,000 American Depositary Shares

Representing 6,500,000 Ordinary Shares

Morgan Stanley *Jefferies* *Barclays* *William Blair*

H.C. Wainwright & Co.