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

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2020

Or

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

Commission file number: 001-35676

PROTHENA CORPORATION PUBLIC LIMITED COMPANY
(Exact name of registrant as specified in its charter)

Ireland	**98-1111119**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

77 Sir John Rogerson's Quay, Block C
Grand Canal Docklands
Dublin 2, D02 T804, Ireland
(Address of principal executive offices including Zip Code)

Registrant's telephone number, including area code: 011-353-1-236-2500

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

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Ordinary Shares, par value $0.01 per share	**PRTA**	**The Nasdaq Global Select Market**

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

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

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

Large accelerated filer	o	Accelerated filer	x
Non-accelerated filer	o	Smaller reporting company	x
		Emerging growth company	o

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

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

The number of ordinary shares outstanding was 39,911,413 as of May 1, 2020.

PROTHENA CORPORATION PLC
Form 10-Q – QUARTERLY REPORT
For the Quarter Ended March 31, 2020

TABLE OF CONTENTS

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

Prothena Corporation plc and Subsidiaries
Condensed Consolidated Balance Sheets (unaudited)
(in thousands, except share and per share data)

	March 31, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 352,685	$ 375,723
Accounts receivable	174	68
Prepaid expenses and other current assets	6,832	2,584
Total current assets	359,691	378,375
Non-current assets:		
Property and equipment, net	3,531	3,874
Operating lease right-of-use assets	21,929	23,274
Deferred tax assets	10,451	9,956
Restricted cash, non-current	2,704	2,704
Other non-current assets	1,115	1,085
Total non-current assets	39,730	40,893
Total assets	$ 399,421	$ 419,268
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	$ 3,297	$ 1,242
Accrued research and development	5,223	5,826
Income taxes payable, current	—	5
Lease liability, current	5,202	5,101
Other current liabilities	3,364	5,540
Total current liabilities	17,086	17,714
Non-current liabilities:		
Deferred revenue, non-current	110,242	110,242
Lease liability, non-current	16,501	17,838
Other liabilities	553	553
Total non-current liabilities	127,296	128,633
Total liabilities	144,382	146,347
Commitments and contingencies (Note 6)		
Shareholders' equity:		
Euro deferred shares, €22 nominal value:	—	—
Authorized shares — 10,000 at March 31, 2020 and December 31, 2019		
Issued and outstanding shares — none at March 31, 2020 and December 31, 2019		
Ordinary shares, $0.01 par value:	399	399
Authorized shares — 100,000,000 at March 31, 2020 and December 31, 2019		
Issued and outstanding shares — 39,911,413 and 39,898,561 at March 31, 2020 and December 31, 2019, respectively		
Additional paid-in capital	950,094	944,407
Accumulated deficit	(695,454)	(671,885)
Total shareholders' equity	255,039	272,921
Total liabilities and shareholders' equity	$ 399,421	$ 419,268

See accompanying Notes to Condensed Consolidated Financial Statements.

Prothena Corporation plc and Subsidiaries
Condensed Consolidated Statements of Operations
(in thousands, except per share data)
(unaudited)

	Three Months Ended March 31,	
	2020	**2019**
Collaboration revenue	$ 141	$ 186
Total revenue	141	186
Operating expenses:		
Research and development	15,248	13,296
General and administrative	9,741	9,905
Restructuring credits	—	(61)
Total operating expenses	24,989	23,140
Loss from operations	(24,848)	(22,954)
Other income (expense):		
Interest income	1,137	2,304
Other expense, net	(24)	(17)
Total other income, net	1,113	2,287
Loss before income taxes	(23,735)	(20,667)
Provision for (benefit from) income taxes	(166)	198
Net loss	$ (23,569)	$ (20,865)
Basic and diluted net loss per share	$ (0.59)	$ (0.52)
Shares used to compute basic and diluted net loss per share	39,909	39,864

See accompanying Notes to Condensed Consolidated Financial Statements.

Prothena Corporation plc and Subsidiaries
Condensed Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Three Months Ended March 31,	
	2020	**2019**
Operating activities		
Net loss	$ (23,569)	$ (20,865)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation and amortization	384	385
Share-based compensation	5,536	6,205
Deferred income taxes	(495)	(195)
Amortization of right-of-use assets	1,345	1,296
Changes in operating assets and liabilities:		
Accounts receivable	(106)	(5)
Prepaid and other assets	(4,278)	(54)
Accounts payable, accruals and other liabilities	(748)	(2,598)
Restructuring liability	—	(461)
Operating lease liabilities	(1,236)	(1,143)
Net cash used in operating activities	(23,167)	(17,435)
Investing activities		
Purchases of property and equipment	(22)	(131)
Proceeds from disposal of fixed assets	—	8
Net cash used in investing activities	(22)	(123)
Financing activities		
Proceeds from issuance of ordinary shares upon exercise of stock options	151	5
Net cash provided by financing activities	151	5
Net decrease in cash, cash equivalents and restricted cash	(23,038)	(17,553)
Cash, cash equivalents and restricted cash, beginning of the year	378,427	431,715
Cash, cash equivalents and restricted cash, end of the period	$ 355,389	$ 414,162
Supplemental disclosures of cash flow information		
Cash paid for income taxes, net	$ 417	$ 54
Supplemental disclosures of non-cash investing and financing activities		
Acquisition of property and equipment included in accounts payable and accrued liabilities	$ 24	$ 8
Right-of-use assets recorded upon adoption of ASC 842	$ —	$ 28,530
Reduction of build-to-suit lease obligation upon adoption of ASC 842	$ —	$ (51,546)
Reduction of amounts capitalized under build-to-suit lease upon adoption of ASC 842	$ —	$ (46,760)
Reduction of capitalized interest under build-to-suit lease upon adoption of ASC 842	$ —	$ (1,099)

See accompanying Notes to Condensed Consolidated Financial Statements.

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the statement of financial position that sum to the total of the same such amounts shown in the Condensed Consolidated Statements of Cash Flows.

	Three Months Ended March 31,	
	2020	**2019**
Cash and cash equivalents	$ 352,685	$ 410,106
Restricted cash, current	—	1,352
Restricted cash, non-current	2,704	2,704
Total cash, cash equivalents and restricted cash, end of the period	$ 355,389	$ 414,162

Prothena Corporation plc and Subsidiaries
Condensed Consolidated Statements of Shareholders' Equity
(in thousands, except share data)
(unaudited)

	Three Months Ended March 31, 2020				
	Ordinary Shares		Additional Paid-in Capital	Accumulated Deficit	Total Shareholders' Equity
	Shares	Amount			
Balances at December 31, 2019	**39,898,561**	**$ 399**	**$ 944,407**	**$ (671,885)**	**$ 272,921**
Share-based compensation	—	—	5,536	—	5,536
Issuance of ordinary shares upon exercise of stock options	12,852	—	151	—	151
Net loss	—	—	—	(23,569)	(23,569)
Balances at March 31, 2020	**39,911,413**	**$ 399**	**$ 950,094**	**$ (695,454)**	**$ 255,039**

	Three Months Ended March 31, 2019				
	Ordinary Shares		Additional Paid-in Capital	Accumulated Deficit	Total Shareholders' Equity
	Shares	Amount			
Balances at December 31, 2018	**39,863,711**	**$ 399**	**$ 920,594**	**$ (597,995)**	**$ 322,998**
Cumulative adjustment to accumulated deficit upon adoption of ASC 842	—	—	—	3,787	3,787
Share-based compensation	—	—	6,205	—	6,205
Issuance of ordinary shares upon exercise of stock options	850	—	5	—	5
Net loss	—	—	—	(20,865)	(20,865)
Balances at March 31, 2019	**39,864,561**	**$ 399**	**$ 926,804**	**$ (615,073)**	**$ 312,130**

See accompanying Notes to Consolidated Financial Statements.

1. Organization

Description of Business

Prothena Corporation plc ("Prothena" or the "Company") is a clinical-stage neuroscience company with expertise in protein misfolding, focused on the discovery and development of novel therapies with the potential to fundamentally change the course of devastating diseases.

Fueled by our deep scientific expertise built over decades of research, the Company is advancing a pipeline of therapeutic candidates for a number of indications and novel targets for which our ability to integrate scientific insights around neurological dysfunction and the biology of misfolded proteins can be leveraged. Prothena's partnered programs include prasinezumab (PRX002/RG7935), in collaboration with Roche for the potential treatment of Parkinson's disease and other related synucleinopathies, and programs that target tau, TDP-43 and an undisclosed target in collaboration with Bristol-Myers Squibb for the potential treatment of Alzheimer's disease, amyotrophic lateral sclerosis (ALS), frontotemporal dementia (FTD) or other neurodegenerative diseases. The Company's proprietary programs include PRX004 for the potential treatment of ATTR amyloidosis, and programs that target Aβ (Amyloid beta) for the potential treatment of Alzheimer's disease.

The Company was formed on September 26, 2012, under the laws of Ireland and re-registered as an Irish public limited company on October 25, 2012. The Company's ordinary shares began trading on The Nasdaq Global Market under the symbol "PRTA" on December 21, 2012, and currently trade on The Nasdaq Global Select Market.

Liquidity and Business Risks

As of March 31, 2020, the Company had an accumulated deficit of $695.5 million and cash and cash equivalents of $352.7 million.

Based on the Company's business plans, management believes that the Company's cash and cash equivalents at March 31, 2020, are sufficient to meet its obligations for at least the next twelve months. To operate beyond such period, or if the Company elects to increase its spending on research and development programs significantly above current long-term plans or enters into potential licenses and or other acquisitions of complementary technologies, products or companies, the Company may need additional capital. The Company expects to continue to finance future cash needs that exceed its cash from operating activities primarily through its current cash and cash equivalents, its collaborations with Roche and Bristol-Myers Squibb, and, to the extent necessary, through proceeds from public or private equity or debt financings, loans and other collaborative agreements with corporate partners or other arrangements.

The Company is subject to a number of risks, including but not limited to: the uncertainty of the Company's research and development ("R&D") efforts resulting in future successful commercial products; obtaining regulatory approval for its product candidates; its ability to successfully commercialize its product candidates, if approved; significant competition from larger organizations; reliance on the proprietary technology of others; dependence on key personnel; uncertain patent protection; dependence on corporate partners and collaborators; the outbreak of the novel strain of coronavirus SARS-CoV-2; and possible restrictions on reimbursement from governmental agencies and healthcare organizations, as well as other changes in the healthcare industry.

2. Summary of Significant Accounting Policies

Basis of Preparation and Presentation of Financial Information

These accompanying Unaudited Interim Condensed Consolidated Financial Statements have been prepared in accordance with the accounting principles generally accepted in the U.S. ("GAAP") and with the instructions for Form 10-Q and Regulation S-X statements. Accordingly, they do not include all of the information and notes required for complete financial statements. These interim Condensed Consolidated Financial Statements should be read in conjunction with the Consolidated Financial Statements and Notes thereto contained in the Company's Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission (the "SEC") on March 3, 2020 (the "2019 Form 10-K"). These Unaudited Interim Condensed Consolidated Financial Statements are presented in U.S. dollars, which is the functional currency of the Company and its consolidated subsidiaries. These Unaudited Interim Condensed Consolidated Financial Statements include the accounts of the Company and its consolidated subsidiaries. All intercompany balances and transactions have been eliminated in consolidation. Certain amounts in the Condensed Consolidated Financial Statements have been reclassified to conform to the current year presentation.

Unaudited Interim Financial Information

The accompanying Unaudited Interim Condensed Consolidated Financial Statements and related disclosures are unaudited, have been prepared on the same basis as the annual consolidated financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for a fair presentation of the results of operations for the periods presented. The year-end condensed consolidated balance sheet data was derived from audited financial statements, however certain information and footnote disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted. The condensed consolidated results of operations for any interim period are not necessarily indicative of the results to be expected for the full year or for any other future year or interim period.

Use of Estimates

The preparation of the Condensed Consolidated Financial Statements in conformity with GAAP requires management to make judgments, estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosures. On an ongoing basis, management evaluates its estimates, including critical accounting policies or estimates related to revenue recognition, share-based compensation, research and development expenses and leases. The Company bases its estimates on historical experience and on various other market specific and other relevant assumptions that management believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Because of the uncertainties inherent in such estimates, actual results may differ materially from these estimates.

Significant Accounting Policies

There were no significant changes to the accounting policies during the three months ended March 31, 2020, from the significant accounting policies described in Note 2 of the Notes to Consolidated Financial Statements in the 2019 Form 10-K.

Segment and Concentration of Risks

The Company operates in one segment. The Company’s chief operating decision maker (the “CODM”), its Chief Executive Officer, manages the Company’s operations on a consolidated basis for purposes of allocating resources. When evaluating the Company’s financial performance, the CODM reviews all financial information on a consolidated basis.

Financial instruments that potentially subject the Company to concentration of credit risk consist of cash and cash equivalents and accounts receivable. The Company places its cash equivalents with high credit quality financial institutions and, by policy, limits the amount of credit exposure with any one financial institution. Deposits held with banks may exceed the amount of insurance provided on such deposits. The Company has not experienced any losses on its deposits of cash and cash equivalents and its credit risk exposure is up to the extent recorded on the Company's Consolidated Balance Sheet.

The receivables recorded in the Condensed Consolidated Balance Sheet include amounts due from a Roche entity located in Switzerland. Revenue recorded in the Condensed Consolidated Statements of Operations consists of reimbursement from Roche for research and development services. The Company's credit risk exposure is up to the extent recorded on the Company's Condensed Consolidated Balance Sheet.

As of March 31, 2020, $3.5 million of the Company’s property and equipment, net were held in the U.S. and none were in Ireland. As of December 31, 2019, $3.9 million of the Company's property and equipment, net were held in the U.S. and none were in Ireland.

The Company does not own or operate facilities for the manufacture, packaging, labeling, storage, testing or distribution of nonclinical or clinical supplies of any of its drug candidates. The Company instead contracts with and relies on third-parties to manufacture, package, label, store, test and distribute all preclinical development and clinical supplies of our drug candidates, and it plans to continue to do so for the foreseeable future. The Company also relies on third-party consultants to assist in managing these third-parties and assist with its manufacturing strategy.

Recent Accounting Pronouncements

On December 18, 2019, the Finance Accounting Standards Board ("FASB") issued Accounting Standards Update 2019-12 ("ASU 2019-12"), Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes, which simplifies the accounting for income taxes as part of the FASB’s overall initiative to reduce complexity in accounting standards. Amendments include removal of certain exceptions to the general principles of ASC 740, Income Taxes, and simplification in several other areas such as accounting for a franchise tax (or similar tax) that is partially based on income. While not required to be adopted until 2021 for most calendar year public business entities (and 2022 for other entities), early adoption is permitted for any financial statements. The Company does not expect the adoption of ASU 2019-12 to have a significant impact on its consolidated financial statements. The Company will continue to evaluate the impact of ASU 2019-12 on its consolidated financial statements.

3. Fair Value Measurements

The Company measures certain financial assets and liabilities at fair value on a recurring basis, including cash equivalents. Fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or a liability. A three-tier fair value hierarchy is established as a basis for considering such assumptions and for inputs used in the valuation methodologies in measuring fair value:

Level 1 — Observable inputs such as quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 — Include other inputs that are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant inputs are observable in the market or can be derived from observable market data. Where applicable, these models project future cash flows and discount the future amounts to a present value using market-based observable inputs including interest rate curves, foreign exchange rates, and credit ratings.

Level 3 — Unobservable inputs that are supported by little or no market activities, which would require the Company to develop its own assumptions.

The fair value hierarchy also requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The carrying amounts of certain financial instruments, such as cash equivalents, accounts receivable, accounts payable and accrued liabilities, approximate fair value due to their relatively short maturities, and low market interest rates, if applicable.

Based on the fair value hierarchy, the Company classifies its cash equivalents within Level 1. This is because the Company values its cash equivalents using quoted market prices. The Company's Level 1 securities consisted of $312.8 million and $338.2 million in money market funds included in cash and cash equivalents at March 31, 2020, and December 31, 2019, respectively.

4. Composition of Certain Balance Sheet Items

Property and Equipment, net

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

	March 31, 2020	December 31, 2019
Machinery and equipment	$ 9,334	$ 9,312
Leasehold improvements	1,261	1,261
Purchased computer software	1,327	1,308
	11,922	11,881
Less: accumulated depreciation and amortization	(8,391)	(8,007)
Property and equipment, net	$ 3,531	$ 3,874

Depreciation expense was $0.4 million and $0.4 million for the three months ended March 31, 2020, and 2019, respectively.

Other Current Liabilities

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

	March 31, 2020	December 31, 2019
Payroll and related expenses	$ 2,434	$ 4,818
Professional services	372	400
Other	558	322
Other current liabilities	$ 3,364	$ 5,540

5. Net Loss Per Ordinary Share

Basic net income (loss) per ordinary share is calculated by dividing net income (loss) by the weighted-average number of ordinary shares outstanding during the period. Shares used in diluted net income per ordinary share would include the dilutive effect of ordinary shares potentially issuable upon the exercise of stock options outstanding. However, potentially issuable ordinary shares are not used in computing diluted net loss per ordinary share as their effect would be anti-dilutive due to the loss recorded during the three months ended March 31, 2020, and 2019, and therefore diluted net loss per share is equal to basic net loss per share.

Net loss per ordinary share was determined as follows (in thousands, except per share amounts):

	Three Months Ended March 31,	
	2020	2019
Numerator:		
Net loss	$ (23,569)	$ (20,865)
Denominator:		
Weighted-average ordinary shares outstanding	39,909	39,864
Net loss per share:		
Basic and diluted net loss per share	$ (0.59)	$ (0.52)

The equivalent ordinary shares not included in diluted net loss per share because their effect would be anti-dilutive are as follows (in thousands):

	Three Months Ended March 31,	
	2020	2019
Stock options to purchase ordinary shares	8,412	7,253

6. Commitments and Contingencies

Lease Commitments

The Company adopted ASC 842, Leases effective January 1, 2019. Prior period amounts have not been adjusted and continued to be reported in accordance with the Company’s historical accounting under ASC 840. For lease arrangements entered prior to the adoption of ASC 842, right-of-use asset and lease liability are determined based on the present value of minimum lease payments over the remaining lease term and the Company’s incremental borrowing rate based on information available as of January 1, 2019. The right-of-use asset also includes any lease prepayments made and excludes unamortized lease incentives including rent abatements and/or concessions and rent holidays. Tenant improvements made by the Company as a lessee, in which such improvements are deemed to be owned by the lessor, are viewed as lease prepayments by the Company and are included in the right-of-use asset. Lease expense is recognized on a straight-line basis over the expected lease term. Total operating lease cost was $1.6 million and $1.6 million for the three months ended March 31, 2020 and 2019, respectively. Total cash paid against the operating lease liability was $1.5 million and $1.4 million for the three months ended March 31, 2020 and 2019, respectively.

For the purpose of estimating the incremental borrowing rate in the adoption of ASC 842, the Company inquired with banks that had a business relationship with the Company to determine the Company's collateralized incremental borrowing rate. The discount rate used to determine the lease liability was 4.25%. There was no change in the accounting of the Sub-Sublease (as defined below) of the Current SSF Facility (as defined below) upon adoption of ASC 842. Furthermore, the Company's operating lease in Dublin is not included in the lease liability and right-of-use asset recorded due to its nominal amount.

As of March 31, 2020, the Company performed an evaluation of its other contracts with customers and suppliers in accordance with ASC 842 and have determined that, except for the leases described below, a nominal operating lease for medical monitoring equipment and a nominal operating lease for office equipment, none of the Company’s contracts contain a lease.

Current SSF Facility

In March 2016, the Company entered into a noncancelable operating sublease (the “Lease”) to lease 128,751 square feet of office and laboratory space in South San Francisco, California, U.S. (the “Current SSF Facility”). Subsequently, in April 2016, the Company took possession of the Current SSF Facility. The Lease includes a free rent period and escalating rent payments and has a remaining lease term of 3.75 years that expires on December 31, 2023, unless terminated earlier. The Company's obligation to pay rent commenced on August 1, 2016. The Company is obligated to make lease payments totaling approximately $39.2 million over the lease term. The Lease further provides that the Company is obligated to pay to the sublandlord and master landlord certain costs, including taxes and operating expenses. The Lease is considered an operating lease under ASC 842. Prior to the Company's adoption of ASC 842, this Lease was considered a build-to-suit lease.

In connection with this Lease, the Company received a tenant improvement allowance of $14.2 million from the sublandlord and the master landlord, for the costs associated with the design, development and construction of tenant improvements for the Current SSF Facility. The Company is obligated to fund all costs incurred in excess of the tenant improvement allowance. The initial measurement of right-of-use asset for the Lease includes the tenant improvement added by the Company wherein the lessor was deemed the accounting owner, net of the tenant improvement allowance received from the sublandlord and the master landlord.

The Company obtained a standby letter of credit in April 2016 in the initial amount of $4.1 million, which may be drawn down by the sublandlord in the event the Company fails to fully and faithfully perform all of its obligations under the Lease and to compensate the sublandlord for all losses and damages the sublandlord may suffer as a result of the occurrence of any default on the part of Company not cured within the applicable cure period. This standby letter of credit is collateralized by a certificate of deposit of the same amount which is classified as restricted cash. The Company was entitled to a $1.4 million reduction in the face amount of the standby letter of credit on the third anniversary of the contractual rent commencement, which was received in 2019, and another $1.4 million on the fifth anniversary of the contractual rent commencement. As a condition to the reduction of the standby letter of credit amount, no uncured default by the Company shall then exist under the Lease. As of March 31, 2020, none of the remaining standby letter of credit amount of $2.7 million has been used.

Sub-Sublease of Current SSF Facility

On July 18, 2018, the Company entered into a Sub-Sublease Agreement (the “Sub-Sublease”) with Assembly Biosciences, Inc. (the “Sub-Subtenant”) to sub-sublease approximately 46,641 square feet of office and laboratory space of the Current SSF Facility to the Sub-Subtenant. The Sub-Sublease is considered an operating lease under ASC 842. There was no change in the accounting of the Sub-Sublease of the Current SSF Facility upon the Company's adoption of ASC 842. For the three months ended March 31, 2020 and 2019, the Company recorded $0.7 million and $0.7 million, respectively, for sub-lease rental income as an offset to its operating expenses.

The Sub-Sublease provides for initial annual base rent for the complete Sub-Subleased Premises of approximately $2.7 million, with increases of approximately 3.5% in annual base rent on September 1, 2019 and each anniversary thereof. The Sub-Sublease rental income excludes reimbursements for executory costs received from the Sub-Subtenant. The Sub-Sublease became effective on September 24, 2018, and has a term of 5.2 years which terminates on December 15, 2023. The Sub-Sublease will terminate if the Lease or the corresponding master lease terminates. The Company or the Sub-Subtenant may elect, subject to limitations set forth in the Sub-Sublease, to terminate the Sub-Sublease following a material casualty or condemnation affecting the Subleased Premises. The Company may terminate the Sub-Sublease following an event of default, which is defined in the Sub-Sublease to include, among other things, non-payment of amounts owing by the Sub-Subtenant under the Sub-Sublease.

The Company is required under the Lease to pay to the sublandlord 50% of that portion of the cash sums and other economic consideration received from the Sub-Subtenant that exceeds the base rent paid by the Company to the sublandlord after deducting certain of the Company’s costs.

Dublin

The Company entered into an agreement to lease 133 square feet of office space in Dublin, Ireland (the "Dublin Lease"). The current one year lease term expires on November 30, 2020. The Dublin Lease also has an automatic renewal clause, pursuant to which the agreement will be extended automatically for successive periods equal to the current term but no less than three months, unless the agreement is cancelled by the Company. This operating lease is not included in the lease liability and operating lease right-of-use asset recorded due to its nominal amount.

As of March 31, 2020, the Company is obligated to make lease payments over the remaining term of the Dublin Lease of approximately €16,000, or $18,000 as converted using an exchange rate as of March 31, 2020.

Future minimum payments under the above-described noncancelable operating leases, including a reconciliation to the lease liabilities recognized in the Consolidated Balance Sheets, and future minimum rentals to be received under the Sub-Sublease as of March 31, 2020, are as follows (in thousands):

Year Ended December 31,	Operating Leases	Sub-Sublease Rental
2020 (9 months)	4,522	2,140
2021	6,165	2,944
2022	6,350	3,047
2023	6,535	3,019
Total	23,572	$ 11,150
Less: Present value adjustment	(1,851)	
Nominal lease payments	(18)	
Lease liability	$ 21,703	

Indemnity Obligations

The Company has entered into indemnification agreements with its current and former directors and officers and certain key employees. These agreements contain provisions that may require the Company, among other things, to indemnify such persons against certain liabilities that may arise because of their status or service and advance their expenses incurred as a result of any indemnifiable proceedings brought against them. The obligations of the Company pursuant to the indemnification agreements continue during such time as the indemnified person serves the Company and continues thereafter until such time as a claim can be brought. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited; however, the Company has a director and officer liability insurance policy that limits its exposure and enables the Company to recover a portion of any future amounts paid. As a result of its insurance policy coverage, the Company believes the estimated fair value of these indemnification agreements is minimal. Accordingly, the Company had no liabilities recorded for these agreements as of March 31, 2020 and 2019.

Other Commitments

In the normal course of business, the Company enters into various firm purchase commitments primarily related to research and development activities. As of March 31, 2020, the Company had non-cancelable purchase commitments to suppliers for $4.5 million of which $0.4 million is included in accrued current liabilities, and contractual obligations under license agreements of $1.0 million of which $0.1 million is included in accrued current liabilities. The following is a summary of the Company's non-cancelable purchase commitments and contractual obligations as of March 31, 2020 (in thousands):

	Total	2020	2021	2022	2023	2024	Thereafter
Purchase Obligations [1]	$ 4,459	$ 4,459	$ —	$ —	$ —	$ —	$ —
Contractual obligations under license agreements [2]	955	165	95	80	80	70	465
Total	$ 5,414	$ 4,624	$ 95	$ 80	$ 80	$ 70	$ 465

[1] *Purchase obligations consist of non-cancelable purchase commitments to suppliers.*

[2] *Excludes future obligations pursuant to the cost-sharing arrangement under the Company's License Agreement with Roche. Amounts of such obligations, if any, cannot be determined at this time.*

7. Significant Agreements

Roche License Agreement

In December 2013, the Company through its wholly owned subsidiary Prothena Biosciences Limited and Prothena Biosciences Inc entered into a License, Development, and Commercialization Agreement (the “License Agreement”) with F. Hoffmann-La Roche Ltd. and Hoffmann-La Roche Inc. (together, “Roche”) to develop and commercialize certain antibodies that target α-synuclein, including prasinezumab, which are referred to collectively as “Licensed Products.” Upon the effectiveness of the License Agreement in January 2014, the Company granted to Roche an exclusive, worldwide license to develop, make, have made, use, sell, offer to sell, import and export the Licensed Products. The Company retained certain rights to conduct development of the Licensed Products and an option to co-promote prasinezumab in the U.S. During the term of the License Agreement, the Company and Roche will work exclusively with each other to research and develop antibody products targeting alpha-synuclein (or α-synuclein) potentially including incorporation of Roche’s proprietary Brain Shuttle™ technology to potentially increase delivery of therapeutic antibodies to the brain. The License Agreement provided for Roche making an upfront payment to the Company of $30.0 million, which was received in February 2014; making a clinical milestone payment of $15.0 million upon initiation of the Phase 1 study for prasinezumab, which was received in May 2014; and making a clinical milestone payment of $30.0 million upon dosing of the first patient in the Phase 2 study for prasinezumab, which was achieved in June 2017.

For prasinezumab, Roche is also obligated to pay:

- up to $350.0 million upon the achievement of development, regulatory and various first commercial sales milestones;
- up to an additional $175.0 million upon achievement of ex-U.S. commercial sales milestones; and
- tiered, high single-digit to high double-digit royalties in the teens on ex-U.S. annual net sales, subject to certain adjustments.

Roche bore 100% of the cost of conducting the research collaboration under the License Agreement during the research term, which expired December 31, 2017. In the U.S., the parties share all development and commercialization costs, as well as profits, all of which will be allocated 70% to Roche and 30% to the Company, for prasinezumab in the Parkinson's disease indication, as well as any other Licensed Products and/or indications for which the Company opts in to participate in co-development and co-funding. After the completion of specific clinical trial activities, the Company may opt out of the co-development and cost and profit sharing on any co-developed Licensed Products and instead receive U.S. commercial sales milestones totaling up to $155.0 million and tiered, single-digit to high double-digit royalties in the teens based on U.S. annual net sales, subject to certain adjustments, with respect to the applicable Licensed Product.

The Company filed an Investigational New Drug Application ("IND") with the FDA for prasinezumab and subsequently initiated a Phase 1 study in 2014. Following the Phase 1 studies, Roche became primarily responsible for developing, obtaining and maintaining regulatory approval for and commercializing Licensed Products. Roche also became responsible for the clinical and commercial manufacture and supply of Licensed Products.

In addition, the Company has an option under the License Agreement to co-promote prasinezumab in the U.S. in the Parkinson's disease indication. If the Company exercises such option, it may also elect to co-promote additional Licensed Products in the U.S. approved for Parkinson's disease. Outside the U.S., Roche will have responsibility for developing and commercializing the Licensed Products. Roche bears all costs that are specifically related to obtaining or maintaining regulatory approval outside the U.S. and will pay the Company a variable royalty based on annual net sales of the Licensed Products outside the U.S.

While Roche will record product revenue from sales of the Licensed Products, the Company and Roche will share in the net profits and losses of sales of the prasinezumab for the Parkinson's disease indication in the U.S. on a 70%/30% basis with the Company receiving 30% of the profit and losses provided that the Company has not exercised its opt-out right.

The License Agreement continues on a country-by-country basis until the expiration of all payment obligations under the License Agreement. The License Agreement may also be terminated (i) by Roche at will after the first anniversary of the effective date of the License Agreement, either in its entirety or on a Licensed Product-by-Licensed Product basis, upon 90 days' prior written notice to the Company prior to first commercial sale and 180 days' prior written notice to Prothena after first commercial sale, (ii) by either party, either in its entirety or on a Licensed Product-by-Licensed Product or region-by-region basis, upon written notice in connection with a material breach uncured 90 days after initial written notice, and (iii) by either party, in its entirety, upon insolvency of the other party. The License Agreement may be terminated by either party on a patent-by-patent and country-by-country basis if the other party challenges a given patent in a given country. The Company's rights to co-develop Licensed Products under the License Agreement will terminate if the Company commences certain studies for certain types of competitive products. The Company's rights to co-promote Licensed Products under the License Agreement will terminate if the Company commences a Phase 3 study for such competitive products.

The License Agreement cannot be assigned by either party without the prior written consent of the other party, except to an affiliate of such party or in the event of a merger or acquisition of such party, subject to certain conditions. The License Agreement also includes customary provisions regarding, among other things, confidentiality, intellectual property ownership, patent prosecution, enforcement and defense, representations and warranties, indemnification, insurance, and arbitration and dispute resolution.

Collaboration Accounting

The License Agreement was evaluated under ASC 808, Collaborative Agreements. At the outset of the License Agreement, the Company concluded that it did not qualify as collaboration under ASC 808 because the Company does not share significant risks due to the net profit and loss split (under which Roche incurs substantially more of the costs of the collaboration) and because of the Company's opt-out provision. The Company believes that Roche will be the principal in future sales transactions with third parties as Roche will be the primary obligor bearing inventory and credit risk. The Company will record its share of pre-tax commercial profit generated from the collaboration as collaboration revenue once the Company can conclude it is probable that a significant revenue reversal will not occur in future periods. Prior to commercialization of a Licensed Product, the Company's portion of the expenses related to the License Agreement reflected on its income statement will be limited to R&D expenses. After commercialization, if the Company opts-in to co-detail commercialization, expenses related to commercial capabilities, including expenses related to the establishment of a field sales force and other activities to support the Company's commercialization efforts, will be recorded as sales, general and administrative ("SG&A") expense and will be factored into the computation of the profit and loss share. The Company will record the receivable related to commercialization activities as collaboration revenue once the Company can conclude it is probable that a significant revenue reversal will not occur in future periods.

Adoption of ASC 606, Revenue from Contracts with Customers

The Company adopted ASC 606, Revenue from Contracts with Customers, as of January 1, 2018, using the modified retrospective transition method. The Company recognized the cumulative effect of applying the new revenue standard as an adjustment to the opening balance of the accumulated deficit as of January 1, 2018.

As of January 1, 2018, the Company did not record any changes to the opening balance of the accumulated deficit since the cumulative effect of applying the new revenue standard was the same as applying ASC 605. The impact of the adoption of ASC 606 to revenues for the year ended December 31, 2018, was an increase of $1.0 million, which represents the revenue recognized for the development services provided by the Company during the period that is reimbursable by Roche. Historically, the Company recorded such reimbursement as an offset against its R&D expenses under ASC 605. Upon the adoption of ASC 606, the reimbursement for development services is now included as part of the Company's collaboration revenue.

Performance Obligations

The License Agreement was evaluated under ASC 606. The License Agreement includes the following distinct performance obligations: (1) the Company's grant of an exclusive royalty bearing license, with the right to sublicense to develop and commercialize certain antibodies that target α-synuclein, including prasinezumab, and the initial know how transfer which was delivered at the effective date (the "Royalty Bearing License"); (2) the Company's obligation to supply clinical material as requested by Roche for a period up to twelve months (the "Clinical Product Supply Obligation"); (3) the Company's obligation to provide manufacturing related services to Roche for a period up to twelve months (the "Supply Services Obligation"); (4) the Company's obligation to prepare and file the IND (the "IND Obligation"); and (5) the Company's obligation to provide development activities under the development plan during Phase 1 clinical trials (the "Development Services Obligation"). Revenue allocated to the above performance obligations under the License Agreement are recognized when the Company has satisfied its obligations either at a point in time or over a period of time.

The Company concluded that the Royalty Bearing License and the Clinical Product Supply Obligation were satisfied at a point in time. The Royalty Bearing License is considered to be a functional intellectual property, in which the revenue would be recognized at the point in time since (a) the Company concluded that the license to Roche has a significant stand-alone functionality, (b) the Company does not expect the functionality of the intellectual property to be substantially changed during the license period as a result of activities of Prothena, and (c) Prothena's activities transfer a good or service to Roche. The Clinical Product Supply Obligation does not meet criteria for over time recognition; as such, the revenue related to such performance obligation was recognized the point in time at which Roche obtained control of manufactured supplies, which occurred during the first quarter of 2014.

The Company concluded that the Supply Services Obligation, the IND Obligation and the Development Services Obligation were satisfied over time. The Company utilized an input method measure of progress by basing the recognition period on the efforts or inputs towards satisfying the performance obligation (i.e. costs incurred and the time elapsed to complete the related performance obligations). The Company determined that such input method provides an appropriate measure of progress toward complete satisfaction of such performance obligations.

As of March 31, 2020, and December 31, 2019, there were no remaining performance obligations under License Agreement since the obligations related to research and development activities were only for the Phase 1 clinical trial and the remaining obligations were delivered or performed.

Transaction Price

According to ASC 606-10-32-2, the transaction price is the amount of consideration to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer, excluding amounts collected on behalf of third parties (for example, some sales taxes). The consideration promised in a contract with a customer may include fixed amounts, variable amounts, or both. Factors considered in the determination of the transaction price include, among other things, estimated selling price of the license and costs for clinical supply and development costs.

The initial transaction price under the License Agreement, pursuant to ASC 606, was $55.1 million, including $45.0 million for the Royalty Bearing License, $9.1 million for the IND and Development Services Obligations, and $1.1 million for the Supply Services Obligation. The $45.0 million for the Royalty Bearing License included the upfront payment of $30.0 million and the clinical milestone payment of $15.0 million upon initiation of the Phase 1 clinical trial of prasinezumab, both of which were made in 2014. The remaining transaction price amounts the Company expected to receive as reimbursements were based on costs expected to be paid to third parties and other costs to be incurred by the Company in order to satisfy its performance obligations. They are considered to be variable considerations not subject to constraint. The Company did not incur any incremental costs, such as commissions, to obtain or fulfill the License Agreement.

Under ASC 606, the transaction price was allocated to the performance obligations as follows: $48.9 million to the Royalty Bearing License; $4.6 million to the IND and Development Services Obligations; $1.1 million to the Clinical Product Supply Obligation; and $0.6 million to the Supply Services Obligation. As of March 31, 2020, the aggregate amount of the transaction price allocated to the performance obligations that are unsatisfied is $nil. Prior to the adoption of ASC 606, the transaction price was allocated to the deliverables as follows: $35.6 million to the Royalty Bearing License; $3.3 million to the IND and Development Services Obligations; $0.8 million to the Clinical Product Supply Obligation; and $0.4 million to the Supply Services Obligation.

The Company allocated the initial transaction price to the Royalty Bearing License and other performance obligations using the relative selling price method based on its best estimate of selling price for the Royalty Bearing License and third party evidence for the remaining performance obligations. The best estimate of selling price for the Royalty Bearing License was based on a discounted cash flow model. The key assumptions used in the discounted cash flow model used to determine the best estimate of selling price for the Royalty Bearing License included the market opportunity for commercialization of prasinezumab in the U.S. and the royalty territory (for licensed products that are jointly funded the royalty territory is worldwide except for the U.S., and for all licensed products that are not jointly funded the Royalty Territory is worldwide), the probability of successfully developing and commercializing prasinezumab, the estimated remaining development costs for prasinezumab, and the estimated time to commercialization of prasinezumab. The Company concluded that a change in the assumptions used to determine the best estimate of selling price (“BESP”) of the license deliverable would not have a significant effect on the allocation of arrangement consideration.

The Company’s discounted cash flow model included several market conditions and entity-specific inputs, including the likelihood that clinical trials for prasinezumab will be successful, the likelihood that regulatory approval will be obtained and the product commercialized, the appropriate discount rate, the market locations, size and potential market share of the product, the expected life of the product, and the competitive environment for the product. The market assumptions were generated using a patient-based forecasting approach, with key epidemiological, market penetration, dosing, compliance, length of treatment and pricing assumptions derived from primary and secondary market research, referenced from third-party sources.

Significant Payment Terms

Payments for development services are due within 45 days after receiving an invoice from the Company. Variable considerations related to clinical and regulatory milestone payments are constrained due to high likelihood of a revenue reversal. The payment term for all milestone payments are due within 45 days after the achievement of the relevant milestone and receipt by Roche of an invoice for such an amount from the Company.

According to ASC 606-10-32-17, a significant financing component does not exist if a substantial amount of the consideration promised by the customer is variable, and the amount or timing of that consideration varies on the basis of the occurrence or nonoccurrence of a future event that is not substantially within the control of the customer or the entity. Since a “substantial amount of the consideration” promised by Roche to the Company is variable (i.e., is in the form of either milestone payments or sales-based royalties) and the amount of such variable consideration varies based upon the occurrence or nonoccurrence of future events that are not within the control of either Roche or the Company (i.e., are largely subject to regulatory approval), the License Agreement does not have a significant financing component.

Optional Goods and Services

An option for additional goods or services exists when a customer has a present contractual right that allows it to choose the amount of additional distinct goods or services that are purchased. Prior to the customer's exercise of that right, the vendor is not presently obligated to provide those goods or services. ASC 606-10-25-18(j) requires recognition of an option as a distinct performance obligation when the option provides a customer with a material right.

In addition to the distinct performance obligations noted above, the Company was obligated to provide indeterminate research services for up to three years ending in 2017 at rates that were not significantly discounted and fully reimbursable by Roche (the "Research Services"). The amount for any such Research Services was not fixed and determinable and was not at a significant incremental discount. There were no refund rights, concessions or performance bonuses to consider.

The Company evaluated the obligation to perform Research Services under ASC 606-10-55-42 and 55-43 to determine whether it gave Roche a "material right". According to ASC 606-10-55-43, if a customer has the option to acquire an additional good or services at a price that would reflect the standalone selling price for that good or service, that option does not provide the customer with a material right even if the option can be exercised only by entering into a previous contract.

The Company concluded that Roche's option to have the Company perform Research Services did not represent a "material right" to Roche that it would not have received without entering into the License Agreement. As a result, Roche's option to acquire additional Research Services was not considered a performance obligation at the outset of the License Agreement under ASC 606. Accordingly, this deliverable will become new performance obligation for Prothena when Roche asks Prothena to conduct such Research Services. As of March 31, 2020, there were no remaining Research Services performance obligations.

Post Contract Deliverables

Any development services provided by the Company after performance of the Development Service Obligation are not considered a contractual performance obligation under the License Agreement, since the License Agreement does not require the Company to provide any development services after completion of the Development Service Obligation. However, the collaboration's Joint Steering Committee approved continued funding for additional development services to be provided by the Company (the "Additional Development Services"). Under the License Agreement and upon the adoption of ASC 606, the Company recognizes the reimbursements for Additional Development Services as collaboration revenue as earned.

Revenue and Expense Recognition

The Company recognized $0.1 million and $0.2 million as collaboration revenue from Roche for the three months ended March 31, 2020 and 2019, respectively. Cost sharing payments to Roche are recorded as R&D expenses. The Company recognized $3.9 million and $2.8 million in R&D expenses for payments made to Roche during the three months ended March 31, 2020 and 2019, respectively. The Company had accounts receivable from Roche of $2,000 and $2,000 at March 31, 2020 and December 31, 2019, respectively.

Milestone Accounting

Under the License Agreement, only if the U.S. and or global options are exercised, the Company is eligible to receive milestone payments upon the achievement of development, regulatory and various first commercial sales milestones. Milestone payments are evaluated under ASC Topic 606. Factors considered in this determination included scientific and regulatory risk that must be overcome to achieve each milestone, the level of effort and investment required to achieve the milestone, and the monetary value attributed to the milestone. Accordingly, the Company estimates payments in the transaction price based on the most likely approach, which considers the single most likely amount in a range of possible amounts related to the achievement of these milestones. Additionally, milestone payments are included in the transaction price only when the Company can conclude it is probable that a significant revenue reversal will not occur in future periods when the milestone is achieved.

The Company excludes the milestone payments and royalties in the initial transaction price calculation because such payments are considered to be variable considerations with constraint. Such milestone payments and royalties will be recognized as revenue once the Company can conclude it is probable that a significant revenue reversal will not occur in future periods.

The clinical and regulatory milestones under the License Agreement after the point at which the Company could opt-out are considered to be variable considerations with constraint due to the fact that active participation in the development activities that generate the milestones is not required under the License Agreement, and the Company can opt-out of these activities. There are no refunds or claw-back provisions and the milestones are uncertain of occurrence even after the Company has opted out. Based on this determination, these milestones will be recognized when the Company can conclude it is probable that a significant revenue reversal will not occur in future periods.

Collaboration Agreement with Bristol-Myers Squibb

Overview

On March 20, 2018, the Company, through its wholly owned subsidiary Prothena Biosciences Limited, entered into a Master Collaboration Agreement (the “Collaboration Agreement”) with Celgene Switzerland LLC (“Celgene”), a subsidiary of Celgene Corporation (which was acquired by Bristol-Myers Squibb ("BMS") in November 2019), pursuant to which Prothena granted to Celgene a right to elect in its sole discretion to exclusively license rights both in the U.S. (the “US Rights”) and on a global basis (the “Global Rights”), with respect to the Company’s programs to develop and commercialize antibodies targeting Tau, TDP-43 and an undisclosed target (the “Collaboration Targets”). For each such program, BMS may exercise its US Rights at the IND filing, and if it so exercises such US Rights would also have a right to expand the license to Global Rights. If BMS exercises its US Rights for a program, then following the first to occur of (a) completion by the Company, in its discretion and at its cost, of Phase 1 clinical trials for such program or (b) the date on which BMS elects to assume responsibility for completing such Phase 1 clinical trials (at its cost), BMS would have decision making authority over development activities and all regulatory, manufacturing and commercialization activities in the U.S.

The Collaboration Agreement provided for Celgene making an upfront payment to the Company of $100.0 million, which was received in April 2018, plus future potential license exercise payments and regulatory and commercial milestones for each program under the Collaboration Agreement, as well as royalties on net sales of any resulting marketed products. In connection with the Collaboration Agreement, the Company and Celgene entered into a Share Subscription Agreement on March 20, 2018, under which Celgene subscribed to 1,174,536 of the Company’s ordinary shares for a price of $42.57 per share, for a total of approximately $50.0 million.

BMS US and Global Rights and Licenses

On a program-by-program basis, beginning on the effective date of the Collaboration Agreement and ending on the date that the IND Option term expires for such program (which generally occurs sixty days after the date on which Prothena delivers to BMS the first complete data package for an IND that was filed for a lead candidate from the relevant program), BMS may elect in its sole discretion to exercise its US Rights to receive an exclusive license to develop, manufacture and commercialize antibodies targeting the applicable Collaboration Target in the U.S. (the “US License”). If BMS exercises its US Rights for a collaboration program, it is obligated to pay the Company an exercise fee of approximately $80.0 million per program. Thereafter, following the first to occur of (a) completion by the Company, in its discretion and at its cost, of Phase 1 clinical trials for such program or (b) BMS’s election to assume responsibility to complete such Phase 1 clinical trials (at its cost), BMS would have the sole right to develop, manufacture and commercialize antibody products targeting the relevant Collaboration Target for such program (the “Collaboration Products”) in the U.S.

On a program-by-program basis, following completion of a Phase 1 clinical trial for a collaboration program for which BMS has previously exercised its US Rights, BMS may elect in its sole discretion to exercise its Global Rights with respect to such collaboration program to receive a worldwide, exclusive license to develop, manufacture and commercialize antibodies targeting the applicable Collaboration Target (the “Global License”). If BMS exercises its Global Rights, BMS would be obligated to pay the Company an additional exercise fee of $55.0 million for such collaboration program. The Global Rights would then replace the US Rights for that collaboration program, and BMS would have decision making authority over developing, obtaining and maintaining regulatory approval for, manufacturing and commercializing the Collaboration Products worldwide.

After BMS’s exercise of Global Rights for a collaboration program, the Company is eligible to receive up to $562.5 million in regulatory and commercial milestones per program. Following an exercise by BMS of either US Rights or Global Rights for such collaboration program, the Company will also be eligible to receive tiered royalties on net sales of Collaboration Products ranging from high single digit to high teen percentages, on a weighted average basis depending on the achievement of certain net sales thresholds. Such exercise fees, milestones and royalty payments are subject to certain reductions as specified in the Collaboration Agreement, the agreement for US Rights and the agreement for Global Rights.

BMS will continue to pay royalties on a Collaboration Product-by-Collaboration Product and country-by-country basis, until the latest of (i) expiration of certain patents covering the Collaboration Product, (ii) expiration of all regulatory exclusivity for the Collaboration Product, and (iii) an agreed period of time after the first commercial sale of the Collaboration Product in the applicable country (the “Royalty Term”).

Term and Termination

The research term under the Collaboration Agreement continues for a period of six years, which BMS may extend for up to two additional 12-month periods by paying an extension fee of $10.0 million per extension period. The term of the Collaboration Agreement continues until the last to occur of the following: (i) expiration of the research term; (ii) expiration of all US Rights terms; and (iii) expiration of all Global Rights terms.

The term of any US License or Global License would continue on a Licensed Product-by-Licensed Product and country-by-country basis until the expiration of all Royalty Terms under such agreement.

The Collaboration Agreement may be terminated (i) by either party on a program-by-program basis if the other party remains in material breach of the Collaboration Agreement following a cure period to remedy the material breach, (ii) by BMS at will on a program-by-program basis or in its entirety, (iii) by either party, in its entirety, upon insolvency of the other party, or (iv) by Prothena, in its entirety, if BMS challenges a patent licensed by Prothena to BMS under the Collaboration Agreement.

Share Subscription Agreement

Pursuant to the terms of the Collaboration Agreement, the Company entered into a Share Subscription Agreement (the "SSA") with Celgene, pursuant to which the Company issued, and Celgene subscribed for, 1,174,536 of the Company's ordinary shares (the "Shares") for an aggregate subscription price of approximately $50.0 million, pursuant to the terms and conditions thereof.

Under the SSA, BMS (formerly Celgene) is subject to certain transfer restrictions. In addition, BMS will be entitled to request the registration of the Shares with the U.S. Securities and Exchange Commission on Form S-3ASR or Form S-3 following termination of the transfer restrictions if the Shares cannot be resold without restriction pursuant to Rule 144 promulgated under the U.S. Securities Act of 1933, as amended.

Collaboration Accounting

The Collaboration Agreement was evaluated under ASC 808, Collaborative Agreements. At the outset of the Collaboration Agreement, the Company concluded that it does not qualify as collaboration under ASC 808 because the Company does not share significant risks due to economics of the collaboration.

Performance Obligations

The Company assessed the Collaboration Agreement and concluded that it represented a contract with a customer within the scope of ASC 606. Per ASC 606, a performance obligation is defined as a promise to transfer a good or service or a series of distinct goods or services. At inception of the Collaboration Agreement, the Company is not obligated to transfer the US License or Global License to BMS unless BMS exercises its US Rights or Global Rights, respectively, and the Company is not obligated to perform development activities under the development plan during preclinical and Phase 1 clinical trials including the regulatory filing of the IND.

The discovery, preclinical and clinical development activities performed by the Company are to be performed at the Company's discretion and are not promised goods or services and therefore are not considered performance obligations under ASC 606, unless and until the Company agrees to perform the Phase 1 clinical studies (after the IND option exercise) that are determined to be performance obligations at the time the option is exercised. Per the terms of the Collaboration Agreement, the Company may conduct discovery activities to characterize, identify and generate antibodies to become collaboration candidates that target such Collaboration Target, and thereafter may pre-clinically develop collaboration candidates to identify lead candidates that target such Collaboration Target and file an IND with the U.S. Food and Drug Administration (the "FDA") for a Phase 1 clinical trial for such lead candidates. In the event the Company agrees to be involved in a Phase 1 clinical study, the Company will further evaluate whether any such promise represents a performance obligation at the time the option is exercised. If it is concluded that the Company has obligated itself to an additional performance obligation besides the license granted at IND option exercise, then the effects of the changes in the arrangement will be evaluated under the modification guidance of ASC 606.

The Company is not obligated to perform manufacturing activities. Per the terms of the Collaboration Agreement, to the extent that the Company, at its discretion, conducts a program, the Company shall be responsible for the manufacture of collaboration candidates and collaboration products for use in such program, as well as the associated costs. Delivery of manufactured compound (clinical product supply) is not deemed a performance obligation under ASC 606 as the Company is not obligated to transfer supply of collaboration product to BMS unless BMS exercises its right to participate in the Phase 1 development.

Compensation for the Company's provision of inventory supply, to the extent requested by BMS would be paid to Prothena by BMS at a reasonable stand-alone selling price for such supply. Given that (i) there is substantial uncertainty about the development of the programs, (ii) the pricing for the inventory is at its standalone selling price and (iii) the manufacturing services require the entity to transfer additional goods or services that are incremental to the goods and services provided prior to the resolution of the contingency, the Company's supply of product is not a material right. Therefore, the inventory supply is not considered a performance obligation unless and until, requested by BMS.

In addition to the grant of the US License after BMS exercises its US Rights for a program, BMS is entitled to receive certain ancillary development services from the Company, such as technology transfer assistance, regulatory support, safety data reporting activities and transition supply, if requested by BMS.

In addition to the grant of the Global License after BMS exercises the Global Rights for a program, BMS is entitled to receive certain ancillary development services from Prothena, such as ongoing clinical trial support upon request by BMS, transition supply, if requested by BMS, and regulatory support for coordination of pharmacovigilance matters.

The Company evaluated the potential obligations to transfer the US Licenses and Global Licenses and performance of the ancillary development services subsequent to exercise of the US Rights and Global Rights, if the options are exercised by BMS, under ASC 606-10-55-42 and 55-43 to determine whether the US Rights or the Global Rights provided BMS a "material right" and concluded that BMS's options to exercise its US Rights and Global Rights represented "material rights" to BMS that it would not have received without entering into the Agreement.

There are a total of six options including US Rights and Global Rights to acquire a US License and a Global License, respectively, and rights to request certain development services (following exercise of the US Rights and Global Rights, respectively) for each of the three programs. Per ASC 606, the US Rights and Global Rights are material rights and therefore are performance obligations. The goods and services underlying the options are not accounted for as separate performance obligations, but rather become performance obligations, if and when, an option is exercised.

Transaction Price

According to ASC 606-10-32-2, the transaction price is the amount of consideration to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer, excluding amounts collected on behalf of third parties (for example, some sales taxes). The consideration promised in a contract with a customer may include fixed amounts, variable amounts, or both. Factors considered in the determination of the transaction price included, among other things, estimated selling price of the license and costs for clinical supply and development costs.

The initial transaction price under the Collaboration Agreement, pursuant to ASC 606, was $110.2 million, including the $100.0 million upfront payment and $10.2 million premium on the ordinary shares purchased under the SSA. The Company expects that the initial transaction price will be allocated across the US Rights and Global Rights for each program in a range of approximately $15-$25 million and $10-$18 million, respectively.

The Company did not include the option fees in the initial transaction price because such fees are contingent on the options to the US Rights and the Global Rights being exercised. Upon the exercise of the US Rights and the Global Rights for a program, the Company will have the obligation to deliver the US License and Global License and provide certain ancillary development services if requested by BMS, subsequent to its exercise of the US Rights and Global Rights, respectively, for such program. The Company will include the option fees in the transaction price at the point in time a material right is exercised. In addition, the Company did not include in the initial transaction price certain clinical and regulatory milestone payments since they relate to licenses for which BMS has not yet exercised its option to obtain and these variable considerations are constrained due to the likelihood of a significant revenue reversal.

At the inception of the Collaboration Agreement, the Company did not transfer any goods or services to BMS (formerly Celgene) that are material. Accordingly, the Company has concluded that the initial transaction price will be recognized as contract liability and will be deferred until the Company transfers control of goods or services to BMS (which would be when BMS exercises the US Right or Global Right and receives control of the US License or Global License for at least one of the programs), or when the IND Option term expires if BMS does not exercise the US Right (which is generally sixty days after the date on which Prothena delivers to BMS the first complete data package for an IND that was filed for a lead candidate from the relevant program), or when the Phase 1 Option term expires if BMS does not exercise the Global Right (which is generally ninety days after the date on which Prothena delivers to BMS the first complete data package for a Phase 1 clinical trial for a lead candidate from the relevant program) or at the termination of the Collaboration Agreement, whichever occurs first. At such point that the Company transfers control of goods or services to BMS, or when the option expires, the Company will recognize revenue as a continuation of the original contract. Under this approach, the Company will treat the consideration allocated to the material right as an addition to the consideration for the goods or services underlying the contract option.

At inception of the Collaboration Agreement, the Company estimated the standalone selling price for each performance obligation (i.e., the US Rights and Global Rights by program). The estimate of standalone selling price for the US Rights and Global Rights by program was based on the adjusted market assessment approach using a discounted cash flow model. The key assumptions used in the discounted cash flow model included the market opportunity for commercialization of each program in the U.S. or globally depending on the license, the probability of successfully developing and commercializing a given program target, the estimated remaining development costs for the respective program, the estimated time to commercialization of the drug for that program and a discount rate.

Significant Payment Terms

The upfront payment of $100.0 million was due within ten business days after the effective date of the Collaboration Agreement and was received in April 2018, while all option fees and milestone payments are due within 30 days after the achievement of the relevant milestone by BMS or receipt by BMS of an invoice for such an amount from the Company.

The Collaboration Agreement does not have a significant financing component since a substantial amount of consideration promised by BMS to the Company is variable and the amount of such variable consideration varies based upon the occurrence or non-occurrence of future events that are not within the control of either BMS or the Company. Variable considerations related to clinical and regulatory milestone payments and option fees are constrained due to the likelihood of a significant revenue reversal.

Milestone and Royalties Accounting

The Company is eligible to receive milestone payments of up to $90.0 million per program upon the achievement of certain specified regulatory milestones and milestone payments of up to $375.0 million per program upon the achievement of certain specified commercial sales milestones under the US License for such program. The Company is also eligible to receive milestone payments of up to $187.5 million per program upon the achievement of certain specified regulatory milestones and milestone payments of up $375.0 million per program upon the achievement of certain specified commercial sale milestones under the Global License for such program. Milestone payments are evaluated under ASC Topic 606. Factors considered in this determination included scientific and regulatory risk that must be overcome to achieve each milestone, the level of effort and investment required to achieve the milestone, and the monetary value attributed to the milestone. Accordingly, the Company estimates payments in the transaction price based on the most likely approach, which considers the single most likely amount in a range of possible amounts related to the achievement of these milestones. Additionally, milestone payments are included in the transaction price only when the Company can conclude it is probable that a significant revenue reversal will not occur in future periods.

The Company excluded the milestone payments and royalties in the initial transaction price because such payments are considered to be variable considerations with constraint. Such milestone payments and royalties will be recognized as revenue at a point in time when the Company can conclude it is probable that a significant revenue reversal will not occur in future periods.

The Company did not achieve any clinical and regulatory milestones under the Collaboration Agreement during the three months ended March 31, 2020, and 2019.

8. Shareholders' Equity

Ordinary Shares

As of March 31, 2020, the Company had 100,000,000 ordinary shares authorized for issuance with a par value of $0.01 per ordinary share and 39,911,413 ordinary shares issued and outstanding. Each ordinary share is entitled to one vote and, on a pro rata basis, to dividends when declared and the remaining assets of the Company in the event of a winding up.

Euro Deferred Shares

As of March 31, 2020, the Company had 10,000 Euro Deferred Shares authorized for issuance with a nominal value of €22 per share. No Euro Deferred Shares are outstanding at March 31, 2020. The rights and restrictions attaching to the Euro Deferred Shares rank *pari passu* with the ordinary shares and are treated as a single class in all respects.

9. Share-Based Compensation

2018 Long Term Incentive Plan

In May 2018, the Company’s shareholders approved the 2018 Long Term Incentive Plan (the “2018 LTIP”), which provides for the grant of ISOs, NQSOs, SARs, restricted shares, RSUs, performance bonus awards, performance share units awards, dividend equivalents and other share or cash-based awards to eligible individuals. Options under the 2018 LTIP may be granted for periods up to ten years. All options issued to date have had a ten year life. Under the 2018 LTIP, the number of ordinary shares authorized for issuance under the 2018 LTIP is equal to the sum of (a) 1,800,000 shares, (b) 1,177,933 shares that were available for issuance under the 2012 LTIP as of the May 15, 2018, effective date of the 2018 LTIP, and (c) any shares subject to issued and outstanding awards under the 2012 Long Term Incentive Plan (the “2012 LTIP”) that expire, are cancelled or otherwise terminate following the effective date of the 2018 LTIP; provided, that no more than 2,500,000 shares may be issued pursuant to the exercise of ISOs.

Amended and Restated 2012 Long Term Incentive Plan

Prior to the effective date of the 2018 LTIP, employees and consultants of the Company, its subsidiaries and affiliates, as well as members of the Company’s Board of Directors, received equity awards under the 2012 LTIP. Options under the 2012 LTIP were granted for periods up to ten years. All options issued to date have had a ten year life.

2020 Employment Inducement Incentive Plan

On February 25, 2020, the Company's Board of Directors approved the 2020 Employment Inducement Incentive Plan (the ‘‘2020 EIIP’’). The 2020 EIIP provides for the grant of NQSOs, SARs, restricted shares, RSUs, performance bonus awards, performance share units awards, or other share or cash-based awards to eligible individuals. Options under the 2020 EIIP may be granted for periods up to ten years. All options issued to date have had a ten year life. As of March 31, 2020, the number of ordinary shares authorized for issuance under the 2020 EIIP was 240,000 and no ordinary shares remained available for future awards under the 2020 EIIP, although the Company's Board of Directors reserves the right to amend the 2020 EIIP to increase the number of ordinary shares available and to make additional awards to key new hires.

Shares Available for Grant

The Company granted 1,455,450 and 852,975 options during the three months ended March 31, 2020, and 2019, respectively, in aggregate under its equity plans. The Company’s option awards generally vest over four years. As of March 31, 2020, 41,972 ordinary shares remained available for grant under the 2018 LTIP, and options to purchase 8,412,412 ordinary shares in aggregate under the Company's equity plans were outstanding with a weighted-average exercise price of approximately $21.41 per share.

Share-based Compensation Expense

The Company estimates the fair value of share-based compensation on the date of grant using an option-pricing model. The Company uses the Black-Scholes model to value share-based compensation, excluding RSUs, which the Company values using the fair market value of its ordinary shares on the date of grant. The Black-Scholes option-pricing model determines the fair value of share-based payment awards based on the share price on the date of grant and is affected by assumptions regarding a number of complex and subjective variables. These variables include, but are not limited to, the Company’s share price, volatility over the expected life of the awards and actual and projected employee stock option exercise behaviors. Since the Company does not have sufficient historical employee share option exercise data, the simplified method has been used to estimate the expected life of all options. The Company uses its historical volatility for the Company’s stock to estimate expected volatility starting January 1, 2018. Although the fair value of share options granted by the Company is estimated by the Black-Scholes model, the estimated fair value may not be indicative of the fair value observed in a willing buyer and seller market transaction.

As share-based compensation expense recognized in the Condensed Consolidated Financial Statements is based on awards ultimately expected to vest, it has been reduced for estimated forfeitures. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from estimates. Forfeitures were estimated based on estimated future turnover and historical experience.

Share-based compensation expense will continue to have an adverse impact on the Company’s results of operations, although it will have no impact on its overall financial position. The amount of unearned share-based compensation currently estimated to be expensed from now through the year 2024 related to unvested share-based payment awards at March 31, 2020, is $45.6 million. The weighted-average period over which the unearned share-based compensation is expected to be recognized is 2.77 years. If there are any modifications or cancellations of the underlying unvested securities, the Company may be required to accelerate and/or increase any remaining unearned share-based compensation expense. Future share-based compensation expense and unearned share-based compensation will increase to the extent that the Company grants additional equity awards.

Share-based compensation expense recorded in these Condensed Consolidated Financial Statements for the three months ended March 31, 2020, and 2019 was based on awards granted under the 2012 LTIP, the 2018 LTIP, and the 2020 EIIP. The following table summarizes share-based compensation expense for the periods presented (in thousands):

	Three Months Ended March 31, 2020	Three Months Ended March 31, 2019
Research and development	$ 2,017	$ 2,099
General and administrative	3,519	4,106
Total share-based compensation expense	$ 5,536	$ 6,205

The Company recognized tax benefits from share-based awards of $1.1 million and $1.2 million for the three months ended March 31, 2020, and 2019, respectively.

The fair value of the options granted to employees and non-employee directors during the three months ended March 31, 2020, and 2019 was estimated as of the grant date using the Black-Scholes option-pricing model assuming the weighted-average assumptions listed in the following table:

	Three Months Ended March 31, 2020	Three Months Ended March 31, 2019
Expected volatility	81.5%	81.5%
Risk-free interest rate	1.2%	2.5%
Expected dividend yield	—%	—%
Expected life (in years)	6.0	6.0
Weighted average grant date fair value	$8.32	$9.48

The fair value of employee stock options is being amortized on a straight-line basis over the requisite service period for each award. Each of the inputs discussed above is subjective and generally requires significant management judgment to determine.

The following table summarizes the Company's stock option activity during the three months ended March 31, 2020:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2019	7,008,403	$ 23.34	7.24	$ 11,901
Granted	1,455,450	12.00		
Exercised	(12,852)	11.76		
Forfeited	(20,960)	11.44		
Expired	(17,629)	34.36		
Outstanding at March 31, 2020	8,412,412	$ 21.41	7.54	$ 2,666
Vested and expected to vest at March 31, 2020	7,882,058	$ 21.87	7.43	$ 2,631
Vested at March 31, 2020	4,106,979	$ 27.03	6.08	$ 2,246

The total intrinsic value of options exercised was approximately $35,000 and $6,100 during the three months ended March 31, 2020, and 2019, respectively, determined as of the date of exercise.

10. Income Taxes

The major taxing jurisdictions for the Company are Ireland and the U.S. The Company recorded an income tax benefit of $166,000 and an income tax provision of $198,000 for the three months ended March 31, 2020, and 2019, respectively. The provision for income taxes differs from the statutory tax rate of 12.5% applicable to Ireland primarily due to Irish net operating losses for which a tax provision benefit is not recognized, U.S. income taxed at different rates, and net tax shortfall from cancellations of stock options. The income tax provision reflects the estimate of the effective tax rate expected to be applicable for the full year and the Company re-evaluates this estimate each quarter based on its forecasted tax expense for the full year. Jurisdictions with a projected loss for the year where no tax benefit can be recognized are excluded from the estimated annual effective tax rate.

Pursuant to ASU 2016-09, the Company recorded a net tax shortfall of $0.1 million and $0.7 million for the three months ended March 31, 2020, and 2019, respectively, all of which were recorded as part of its income tax provision in the Condensed Consolidated Statements of Operations. The Company's income tax expense will continue to be impacted by fluctuations in stock price between the grant dates and the exercise dates of its option awards.

On January 1, 2019, the Company adopted ASC 842, and it recorded a reduction in deferred tax assets of $1.0 million as part of the $3.8 million change in the opening balance of the accumulated deficit for the cumulative effect of applying ASC 842.

Deferred income taxes reflect the net tax effect of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The Company's deferred tax assets are composed primarily of its Irish subsidiaries' net operating loss carryovers, state net operating loss carryforwards available to reduce future taxable income of the Company's U.S. subsidiaries, federal and California tax credit carryforwards, share-based compensation and other temporary differences. The Company maintains a valuation allowance against certain U.S. federal and state and Irish deferred tax assets. Each reporting period, the Company evaluates the need for a valuation allowance on its deferred tax assets by jurisdiction.

No provision for income tax in Ireland has been recognized on undistributed earnings of the Company's U.S. and Swiss subsidiaries. The Company considers the U.S. earnings to be indefinitely reinvested. The Company's Swiss subsidiary, Prothena Switzerland GmbH ("PSG") has ceased operations and the Company expects to finalize the liquidation of PSG in 2020. Upon such a liquidation, the Company expects no incremental taxes to be due. Unremitted earnings may be subject to withholding taxes (potentially at 5% in the U.S.) and Irish taxes (potentially at a rate of 12.5%) if they were to be distributed as dividends. However, Ireland allows a credit against Irish taxes for U.S. taxes withheld, and as of March 31, 2020, the Company's current year net operating losses in Ireland are sufficient to offset any potential dividend income received from its overseas subsidiaries.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

In addition to historical information, this Quarterly Report on Form 10-Q, including this Management's Discussion and Analysis of Financial Condition and Results of Operations, contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements may include words such as "aim," "anticipate," "assume," "believe," "contemplate," "continue," "could," "due," "estimate," "expect," "goal," "intend," "may," "objective" "plan," "predict," "potential," "positioned," "seek," "should," "target," "will," "would" and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology. In addition, any statements that refer to expectations, projections, or other characterizations of future events or circumstances are forward-looking statements.

These forward-looking statements, which reflect our beliefs, objectives, and expectations as of the date hereof, are estimates based on our best judgment. These statements relate to, among other things, our expected increase in research and development ("R&D") and general and administrative ("G&A") expenses in 2020; the sufficiency of our cash and cash equivalents to meet our obligations; our anticipated need for additional capital; our current intention not to repatriate funds to Ireland; and our estimates of certain future contractual obligations.

Forward-looking statements are subject to risks and uncertainties, and actual events or results may differ materially. You should bear this in mind as you consider forward-looking statements, and you are cautioned not to place undue reliance on forward-looking statements. Factors that could cause our actual results to differ materially include, but are not limited to, the risks and uncertainties listed below as well as those discussed under Part II Item 1A - Risk Factors of this Form 10-Q:

- our ability to obtain additional financing in future offerings and/or obtain funding from future collaborations;
- our operating losses;
- our ability to successfully complete research and development of our drug candidates;
- our ability to develop, manufacture and commercialize products;
- our collaborations with third parties, including Roche and Bristol-Myers Squibb;
- our ability to protect our patents and other intellectual property;
- our ability to hire and retain key employees;
- tax treatment of our separation from Elan and subsequent distribution of our ordinary shares;
- our ability to maintain financial flexibility and sufficient cash, cash equivalents and investments and other assets capable of being monetized to meet our liquidity requirements;
- potential disruptions in the U.S. and global capital and credit markets;
- government regulation of our industry;
- the volatility of the market price of our ordinary shares;
- the outbreak of the novel strain of coronavirus SARS-CoV-2; and
- business disruptions.

Except as required by law or by the rules and regulations of the U.S. Securities and Exchange Commission (the "SEC"), we undertake no obligation to revise or update any forward-looking statements to reflect any event or circumstance that arises after the date of this Quarterly Report on Form 10-Q.

This discussion should be read in conjunction with the Condensed Consolidated Financial Statements and Notes presented in this Quarterly Report on Form 10-Q and the Consolidated Financial Statements and Notes contained in our Annual Report on Form 10-K filed with the SEC on March 3, 2020 (the "2019 Form 10-K").

Overview

Prothena Corporation plc ("Prothena" or the "Company") is a clinical-stage neuroscience company with expertise in protein misfolding, focused on the discovery and development of novel therapies with the potential to fundamentally change the course of devastating diseases.

Fueled by our deep scientific expertise built over decades of research, we are advancing a pipeline of therapeutic candidates for a number of indications and novel targets for which our ability to integrate scientific insights around neurological dysfunction and the biology of misfolded proteins can be leveraged. Our partnered programs include prasinezumab (PRX002/RG7935), in collaboration with Roche for the potential treatment of Parkinson's disease and other related synucleinopathies, and programs that target tau, TDP-43 and an undisclosed target in collaboration with Bristol-Myers Squibb for the potential treatment of Alzheimer's disease, amyotrophic lateral sclerosis (ALS), frontotemporal dementia (FTD) or other neurodegenerative diseases. Our proprietary programs include PRX004 for the potential treatment of ATTR amyloidosis, and programs that target Aβ (Amyloid beta) for the potential treatment of Alzheimer's disease.

We were formed on September 26, 2012, under the laws of Ireland and re-registered as an Irish public limited company on October 25, 2012. Our ordinary shares began trading on The Nasdaq Global Market under the symbol "PRTA" on December 21, 2012, and currently trade on The Nasdaq Global Select Market.

Recent Developments

Prasinezumab (PRX002/RG7935) for the Potential Treatment of Parkinson's Disease and other synucleinopathies

Prasinezumab is an investigational monoclonal antibody targeting alpha-synuclein designed to slow the progressive neurodegeneration associated with synuclein misfolding and/or the cell-to-cell transmission of the pathogenic, aggregated forms of synuclein in Parkinson's disease and other synucleinopathies. Prasinezumab is the focus of a worldwide collaboration between Prothena and Roche, and Roche is conducting the ongoing Phase 2 PASADENA study in patients with early Parkinson's disease.

In April, Roche provided an update on Part 1 of the Phase 2 PASADENA study. As announced by Roche, the study did not meet the primary objective, but showed signals of efficacy. These signals were observed on multiple prespecified secondary and exploratory clinical endpoints. Roche has begun further clinical development planning activities and is evaluating the data from Part 1 of the PASADENA study to determine next steps.

The study was designed with 80% power and a one-sided alpha of 0.10 to detect a 37.5% relative between group reduction from baseline to week 52 on the primary endpoint (i.e., the Movement Disorder Society-Unified Parkinson's Disease Rating Scale (MDS-UPDRS) total score (parts I, II and III) vs placebo in Part 1 of the study). Part 2 of the study is ongoing. [Prasinezumab was generally well tolerated with a favorable safety profile.]

Baseline data from Part 1 of the PASADENA study was presented in a virtual oral presentation at the Advances in Alzheimer’s and Parkinson’s Therapies AAT-AD/PD Focus Meeting (AAT-AD/PD) in April. The presentation noted that the PASADENA study population can be considered representative of a wider Parkinson’s disease population, such as the one studied in the Parkinson's Progression Markers Initiative (PPMI) and is therefore suitable for testing the potential beneficial effect of drugs acting on disease progression, such as prasinezumab.

Critical Accounting Policies and Estimates

Management’s discussion and analysis of our financial condition and results of operations is based on our condensed consolidated financial statements, which have been prepared in accordance with the accounting principles generally accepted in the U.S. (“GAAP”). The preparation of these condensed consolidated financial statements requires us to make estimates and assumptions for the reported amounts of assets, liabilities, revenues, expenses and related disclosures.

There were no significant changes to our critical accounting policies and estimates during the three months ended March 31, 2020, from the critical accounting policies and estimates disclosed in Management's Discussion and Analysis of Financial Condition and Results of Operations in our 2019 Form 10-K.

Recent Accounting Pronouncements

There have been no new accounting pronouncements or changes to accounting pronouncements during the three months ended March 31, 2020, as compared to the recent accounting pronouncements described in our 2019 Form 10-K, that are of significance or potential significance to us.

Results of Operations

Comparison of Three Months Ended March 31, 2020 and 2019

Revenue

	Three Months Ended March 31,		Percentage Change
	2020	2019	
	(Dollars in thousands)		
Collaboration revenue	$ 141	$ 186	(24)%
Total revenue	$ 141	$ 186	(24)%

Total revenue was $0.1 million and $0.2 million for the three months ended March 31, 2020 and 2019, respectively.

Collaboration revenue includes reimbursements under our License Agreement with Roche. See Note 7, “Significant Agreements” to the Condensed Consolidated Financial Statements regarding the Roche License Agreement for more information.

Operating Expenses

	Three Months Ended March 31,		Percentage Change
	2020	2019	
	(Dollars in thousands)		
Research and development	15,248	13,296	15 %
General and administrative	9,741	9,905	(2)%
Restructuring credits	—	(61)	(100)%
Total operating expenses	24,989	23,140	8 %

Total operating expenses consist of R&D expenses, G&A expenses and restructuring charges (credits). Our operating expenses were $25.0 million and $23.1 million for the three months ended March 31, 2020 and 2019, respectively.

Our R&D expenses primarily consist of personnel costs and related expenses, including share-based compensation and external costs associated with nonclinical activities and drug development related to our drug programs, including NEOD001, prasinezumab, PRX004 and our discovery programs. Pursuant to our License Agreement with Roche, we make payments to Roche for our share of the development expenses incurred by Roche related to the prasinezumab program, which is included in our R&D expense.

Our G&A expenses primarily consist of professional service expenses and personnel costs and related expenses, including share-based compensation.

Research and Development Expenses

Our R&D expense increased by $2.0 million, or 15%, for the three months ended March 31, 2020, compared to the same period in the prior year. The increase for the three months ended March 31, 2020, compared to the prior year, was primarily due to higher collaboration expense with Roche related to the prasinezumab program, higher manufacturing costs (primarily related to the tau program and the Aβ program), and higher clinical costs (primarily associated with PRX004).

Our research activities are aimed at developing new drug products. Our development activities involve the translation of our research into potential new drugs. R&D expenses include personnel costs and related expenses, external expenses associated with nonclinical and drug development and materials, equipment and facilities costs that are allocated to clearly related R&D activities.

The following table sets forth the R&D expenses for our major programs (specifically, any program with successful first dosing in a Phase 1 clinical trial, which were NEOD001, prasinezumab, PRX003 and PRX004) and other R&D expenses for the three months ended March 31, 2020 and 2019 and the cumulative amounts to date (in thousands):

	Three Months Ended March 31,		Cumulative to Date
	2020	2019	
NEOD001 [1]	$ 1,060	$ 619	$ 311,336
Prasinezumab (PRX002/RG7935)[2]	4,344	3,415	83,746
PRX003 [3]	(288)	64	58,879
PRX004 [4]	3,828	4,345	67,436
Other R&D [5]	6,304	4,853	
	$ 15,248	$ 13,296	

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(1) Cumulative R&D costs to date for NEOD001 include the costs incurred from the date when the program was separately tracked in preclinical development. Expenditures in the early discovery stage are not tracked by program and accordingly have been excluded from this cumulative amount. In April 2018, we announced that we were discontinuing development of

NEOD001. Since that date we have incurred costs associated with the close out of NEOD001 studies and ongoing evaluation of NEOD001.

(2) *Cumulative R&D costs to date for prasinezumab and related antibodies include the costs incurred from the date when the program was separately tracked in nonclinical development. Expenditures in the early discovery stage are not tracked by program and accordingly have been excluded from this cumulative amount. Prasinezumab costs include payments to Roche for our share of the development expenses incurred by Roche related to prasinezumab programs and, through December 31, 2017, is net of reimbursements from Roche for development and supply services recorded as an offset to R&D expense. For the three months ended March 31, 2020 and 2019, $0.1 million and $0.2 million of reimbursements from Roche for development services were recorded as part of collaboration revenue as a result of the adoption of new revenue standard.*

(3) *Cumulative R&D costs to date for PRX003 include the costs incurred from the date when the program was separately tracked in nonclinical development. Expenditures in the early discovery stage are not tracked by program and accordingly have been excluded from this cumulative amount. Based on the Phase 1b multiple ascending dose study results announced in September 2017, we announced that we will not advance PRX003 into mid-stage clinical development for psoriasis or psoriatic arthritis as previously planned.*

(4) *Cumulative R&D costs to date for PRX004 include the costs incurred from the date when the program was separately tracked in nonclinical development. Expenditures in the early discovery stage are not tracked by program and accordingly have been excluded from this cumulative amount.*

(5) *Other R&D is comprised of preclinical development and discovery programs that have not progressed to first patient dosing in a Phase 1 clinical trial.*

We expect our R&D expenses to increase in 2020 over the prior year, primarily due to investments in our neuroscience programs.

General and Administrative Expenses

Our G&A expenses decreased by $0.2 million, or 2%, for the three months ended March 31, 2020, compared to the same period in the prior year. The decrease for the three months ended March 31, 2020, compared to the prior year, was primarily due to lower personnel costs (including share-based compensation expense), and lower legal and accounting fees, which was offset in part by higher costs for our director and officer insurance premiums.

We expect our G&A expenses to increase in 2020 compared to the prior year, primarily related to increases in our director and officer insurance premiums.

Restructuring Credits

In May 2018, we commenced a reorganization plan to reduce our operating costs and better align our workforce with the needs of our business following our decision in April 2018 to discontinue further development of NEOD001. For the three months ended March 31, 2019, we recorded a restructuring credit of approximately $61 thousand primarily due to an adjustment in previously recorded employee termination benefits.

Other Income (Expense)

	Three Months Ended March 31,		Percentage Change
	2020	2019	
	(Dollars in thousands)		
Interest income	$ 1,137	$ 2,304	(51)%
Other expense, net	(24)	(17)	41 %
Total other income, net	$ 1,113	$ 2,287	(51)%

Interest income decreased by $1.2 million, or 51%, for the three months ended March 31, 2020, compared to the same period in the prior year, primarily due to lower interest income in our cash and money market accounts associated with lower cash balance and lower interest rates. Other income (expense), net for the three months ended March 31, 2020 and 2019, was primarily foreign exchange gains from transactions with vendors denominated in Euros.

Provision for (benefit from) Income Taxes

	Three Months Ended March 31,		
	2020	2019	Percentage Change
	(Dollars in thousands)		
Provision for (benefit from) income taxes	$ (166)	$ 198	(184)%

The provision for income taxes decreased by $0.4 million for the three months ended March 31, 2020, compared to the same period in the prior year. The change in provision for (benefit from) income taxes for the three months ended March 31, 2020, as compared to the same period in the prior year, was primarily due to a decrease in tax shortfall related to higher stock option cancellations in the prior year, offset in part by a higher projected effective tax rate largely driven by an increase in the amount disallowed as tax deductions related to compensation of certain executives during the year. Our income tax expense will continue to be impacted by fluctuations in stock price between the grant dates and the exercise or cancellation dates of stock options.

The tax provisions for all periods presented reflect U.S. federal taxes associated with recurring profits attributable to intercompany services that our U.S. subsidiary performs for the Company. No tax benefit has been recorded related to tax losses recognized in Ireland and any deferred tax assets for those losses are offset by a valuation allowance.

Liquidity and Capital Resources

Overview

	March 31, 2020	December 31, 2019
Working capital	$ 342,605	$ 360,661
Cash and cash equivalents	352,685	375,723
Total assets	399,421	419,268
Total liabilities	144,382	146,347
Total shareholders’ equity	255,039	272,921

Working capital was $342.6 million as of March 31, 2020, a decrease of $18.1 million from working capital of $360.7 million as of December 31, 2019. This decrease in working capital during the three months ended March 31, 2020, was primarily due to cash use of $25.0 million for operating expenses (adjusted to exclude non-cash charges).

As of March 31, 2020, we had $352.7 million in cash and cash equivalents. Although we believe, based on our current business plans, that our existing cash and cash equivalents will be sufficient to meet our obligations for at least the next twelve months, we anticipate that we will require additional capital in the future in order to continue the research and development of our drug candidates. As of March 31, 2020, $125.9 million of our outstanding cash and cash equivalents related to U.S. operations are considered permanently reinvested. We do not intend to repatriate these funds. However, if these funds were repatriated back to Ireland, we would incur a withholding tax from the dividend distribution.

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. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the development of our product candidates. Our future capital requirements will depend on numerous factors, including, without limitation, the timing of initiation, progress, results and costs of our clinical trials; the results of our research and nonclinical studies; the costs of clinical manufacturing and of establishing commercial manufacturing arrangements; the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property-related claims; the costs and timing of capital asset purchases; our ability to establish research collaborations, strategic collaborations, licensing or other arrangements; the costs to satisfy our obligations under current and potential future collaborations; the costs of any in-licensing transactions; and the timing, receipt, and amount of revenues or royalties, if any, from any approved drug candidates. Pursuant to the License Agreement with Roche, in the U.S., we and Roche share all development and commercialization costs, as well as profits, all of which will be allocated 70% to Roche and 30% to us, for prasinezumab, as well as any other Licensed Products and/or indications for which we opt in to co-develop and co-fund. Pursuant to the Collaboration Agreement with BMS (formerly Celgene), the Company is eligible to receive payments for commercial and regulatory milestones and royalties on net sales of Collaboration Products. In order to develop and obtain regulatory approval for our potential products we will need to raise substantial additional funds. We expect to raise any such additional funds through public or private equity or debt financings, collaborative agreements with corporate partners or other arrangements. We cannot assume that such additional financings will be available on acceptable terms, if at all, and such financings may only be available on terms dilutive to our shareholders.

Cash Flows for the Three Months Ended March 31, 2020 and 2019

The following table summarizes, for the periods indicated, selected items in our Condensed Consolidated Statements of Cash Flows (in thousands):

	Three Months Ended March 31,	
	2020	2019
Net cash used in operating activities	$ (23,167)	$ (17,435)
Net cash used in operating activities	(22)	(123)
Net cash provided by financing activities	151	5
Net decrease in cash, cash equivalents and restricted cash	$ (23,038)	$ (17,553)

Cash Used in Operating Activities

Net cash used in operating activities was $23.2 million for the three months ended March 31, 2020, primarily due to use of $25.0 million for operating expenses (adjusted to exclude non-cash charges), cash paid for prepaid expenses and other current assets and operating lease payments.

Net cash used in operating activities was $17.4 million for the three months ended March 31, 2019, was primarily due to $23.1 million for operating expenses (adjusted to exclude non-cash charges) and a decrease in accounts payable, accruals and other liabilities and restructuring liabilities.

Cash Used in Investing Activities

Net cash used in investing activities was $22 thousand and $123 thousand for the three months ended March 31, 2020 and 2019, respectively. Net cash used in investing activities for the three months ended March 31, 2020 and 2019 primarily related to purchases of property and equipment.

Cash Provided by Financing Activities

Net cash provided by financing activities was $151 thousand and $5 thousand for the three months ended March 31, 2020 and 2019, respectively, which were proceeds from issuances of ordinary shares upon exercises of stock options.

Off-Balance Sheet Arrangements

At March 31, 2020, we were not a party to any off-balance sheet arrangements that have, or are reasonably likely to have, a current or future effect on our financial condition, changes in financial condition, revenue or expenses, results of operations, liquidity, capital expenditures or capital resources.

Contractual Obligations

Our contractual obligations as of March 31, 2020, consisted of minimum cash payments under operating leases of $23.6 million, purchase obligations of $4.5 million (of which $0.4 million is included in accrued current liabilities), and contractual obligations under license agreements of $1.0 million (of which $0.1 million is included in accrued current liabilities). Purchase obligations consist of non-cancelable purchase commitments to suppliers. Operating leases represent our future minimum rental commitments under our non-cancelable operating leases.

In March 2016, we entered into a noncancelable operating sublease to lease 128,751 square feet of office and laboratory space in South San Francisco, California. We are obligated to make lease payments totaling approximately $39.2 million over the lease term. Of this obligation, approximately $23.6 million remains outstanding as of March 31, 2020.

In September 2018, we entered into an agreement to lease an office space in Dublin, Ireland. The initial lease term expired in November 2019. We renewed such lease in August 2019 for one year and the current term expires on November 30, 2020. As of March 31, 2020, we are obligated to make lease payments over the remaining term of the lease of approximately €16,000, or $18,000 as converted using an exchange rate as of March 31, 2020.

The following is a summary of our contractual obligations as of March 31, 2020 (in thousands):

	Total	2020	2021	2022	2023	2024	Thereafter
Operating leases [1]	$ 23,572	$ 4,522	$ 6,165	$ 6,350	$ 6,535	$ —	$ —
Purchase obligations	4,459	4,459	—	—	—	—	—
Contractual obligations under license agreements [2]	955	165	95	80	80	70	465
Total	$ 28,986	$ 9,146	$ 6,260	$ 6,430	$ 6,615	$ 70	$ 465

[1] *See Note 6, "Commitments and Contingencies" to our Condensed Consolidated Financial Statements.*

[2] *Excludes future obligations pursuant to the cost-sharing arrangement under our License Agreement with Roche. Amounts of such obligations, if any, cannot be determined at this time.*

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Currency Risk

Our business is primarily conducted in U.S. dollars except for our agreements with contract manufacturers for drug supplies which are denominated in Euros. We recorded a loss on foreign currency exchange rate differences of approximately $23 thousand and $16 thousand during the three months ended March 31, 2020, and 2019, respectively. If we increase our business activities that require the use of foreign currencies, we may be exposed to losses if the Euro and other such currencies continue to strengthen against the U.S. dollar.

Interest Rate Risk

Our exposure to interest rate risk is limited to our cash equivalents, which consist of accounts maintained in money market funds. We have assessed that there is no material exposure to interest rate risk given the nature of money market funds. In general, money market funds are not subject to interest rate risk because the interest paid on such funds fluctuates with the prevailing interest rate. Accordingly, our interest income fluctuates with short-term market conditions.

In the future, we anticipate that our exposure to interest rate risk will primarily be related to our investment portfolio. We intend to invest any surplus funds in accordance with a policy approved by our board of directors which will specify the categories, allocations, and ratings of securities we may consider for investment. The primary objectives of our investment policy are to preserve principal and maintain proper liquidity to meet our operating requirements. Our investment policy also specifies credit quality standards for our investments and limits the amount of credit exposure to any single issue, issuer or type of investment.

Credit Risk

Our receivable from Roche are amounts due from a Roche entity located in Switzerland.

Financial instruments that potentially subject us to concentration of credit risk consist of cash and cash equivalents and accounts receivable. We place our cash and cash equivalents with high credit quality financial institutions and pursuant to our investment policy, we limit the amount of credit exposure with any one financial institution. Deposits held with banks may exceed the amount of insurance provided on such deposits. We have not experienced any losses on our deposits of cash and cash equivalents. The Company's credit risk exposure is up to the extent recorded on the Company's Condensed Consolidated Balance Sheet.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer ("CEO") and chief financial officer ("CFO") evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as of the end of the period covered by this Form 10-Q. Based on this evaluation, our CEO and

CFO concluded that, as of March 31, 2020, our disclosure controls and procedures are designed and are effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in management's evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during our first fiscal quarter ended March 31, 2020, that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

Internal control over financial reporting has inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements will not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management necessarily applies its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are not currently a party to any material legal proceedings. We may at times be party to ordinary routine litigation incidental to our business. When appropriate in management's estimation, we may record reserves in our financial statements for pending legal proceedings.

ITEM 1A. RISK FACTORS

Investing in our ordinary shares involves a high degree of risk. Our Annual Report on Form 10-K for 2019 (filed with the SEC on March 3, 2020) includes a detailed discussion of our business and the risks to our business. You should carefully read that Form 10-K. You should also read and carefully consider the risks described below and the other information in this Quarterly Report on Form 10-Q. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations and/or growth prospects. In such an event, the market price of our ordinary shares 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 Relating to Our Financial Position, Our Need for Additional Capital and Our Business

We anticipate that we will incur losses for the foreseeable future and we may never sustain profitability.

We may not generate the cash that is necessary to finance our operations in the foreseeable future. We incurred net losses of $77.7 million, $155.6 million, and $153.2 million for the years ended December 31, 2019, 2018, and 2017, respectively. We expect to continue to incur substantial losses for the foreseeable future as we:

- support completion of the Phase 2 PASADENA clinical trial for prasinezumab (PRX002/RG7935) being conducted by Roche, conduct our Phase 1 clinical trial for PRX004, and possibly initiate additional clinical trials for these and other programs;
- develop and possibly commercialize our product candidates, including prasinezumab and PRX004;
- undertake nonclinical development of other product candidates and initiate clinical trials, if supported by nonclinical data; and
- pursue our early stage research and seek to identify additional drug candidates; and
- potentially acquire rights from third parties to drug candidates or technologies through licenses, acquisitions or other means.

We must generate significant revenue to achieve and maintain profitability. Even if we succeed in discovering, developing and commercializing one or more drug candidates, we may not be able to generate sufficient revenue and we may never be able to achieve or sustain profitability.

We will require additional capital to fund our operations, and if we are unable to obtain such capital, we will be unable to successfully develop and commercialize drug candidates.

As of March 31, 2020, we had cash and cash equivalents of $352.7 million. Although we believe, based on our current business plans, that our existing cash and cash equivalents will be sufficient to meet our obligations for at least the next twelve months, we anticipate that we will require additional capital in the future in order to continue the research and development, and eventual commercialization, of our drug candidates. Our future capital requirements will depend on many factors that are currently unknown to us, including, without limitation:

- the timing of progress, results and costs of our clinical trials, including the Phase 2 clinical trial for prasinezumab and our Phase 1 clinical trial for PRX004;
- the timing, initiation, progress, results and costs of these and our other research, development and possible commercialization activities;
- the results of our research, nonclinical and clinical studies;

- the costs of manufacturing our drug candidates for clinical development as well as for future commercialization needs;
- if and when appropriate, the costs of preparing for commercialization of our drug candidates;
- the costs of preparing, filing, and prosecuting patent applications, and maintaining, enforcing, and defending intellectual property-related claims;
- our ability to establish research, development, commercialization and/or strategic collaborations, licensing or other arrangements;
- the timing, receipt and amount of any capital investments, cost-sharing contributions or reimbursements, milestone payments or royalties that we might receive under current or potential future collaborations;
- the costs to satisfy our obligations under current and potential future collaborations; and
- the timing, receipt and amount of revenues or royalties, if any, from any approved drug candidates.

We have based our expectations relating to liquidity and capital resources on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the development and commercialization of our current product candidates.

In the pharmaceutical industry, the research and development process is lengthy and involves a high degree of risk and uncertainty. This process is conducted in various stages and, during each stage, there is substantial risk that product candidates in our research and development pipeline will experience difficulties, delays or failures. This makes it difficult to estimate the total costs to complete our ongoing clinical trials and to estimate anticipated completion dates with any degree of accuracy, which raises concerns that attempts to quantify costs and provide estimates of timing may be misleading by implying a greater degree of certainty than actually exists.

In order to develop and obtain regulatory approval for our product candidates we will need to raise substantial additional funds. We expect to raise any such additional funds through public or private equity or debt financings, collaborative agreements with corporate partners or other arrangements. We cannot assure that additional funds will be available when we need them on terms that are acceptable to us, or at all. General market conditions may make it very difficult for us to seek or obtain financing from the capital markets. If we raise additional funds by issuing equity securities, substantial dilution to existing shareholders would result. If we raise additional funds by incurring debt financing, the terms of the debt may involve significant cash payment obligations as well as covenants and specific financial ratios that may restrict our ability to operate our business. We may be required to relinquish rights to our technologies or drug candidates or grant licenses on terms that are not favorable to us in order to raise additional funds through strategic alliances, joint ventures or licensing arrangements.

If adequate funds are not available on a timely basis, we may be required to:

- terminate or delay clinical trials or other development activities for one or more of our drug candidates;
- delay arrangements for activities that may be necessary to commercialize our drug candidates;
- curtail or eliminate our drug research and development programs that are designed to identify new drug candidates; or
- cease operations.

In addition, if we do not meet our payment obligations to third parties as they come due, we may be subject to litigation claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and distract management, and may have unfavorable results that could further adversely impact our financial condition.

The COVID-19 pandemic could have a material adverse effect on our liquidity, results of operations, financial condition or business, including our nonclinical and clinical development programs.

The outbreak of the novel strain of coronavirus SARS-CoV-2, which causes coronavirus disease (“COVID-19”), has evolved into a global pandemic. While it is not possible at this time to estimate the overall impact that COVID-19 could have on our business, the continued rapid spread of COVID-19 and the measures taken by the governments of countries and local authorities affected could disrupt and delay our ongoing or planned clinical studies, our preclinical activities, the manufacture or shipment of both drug substance and finished drug product for our product candidates for preclinical testing and clinical trials and materially adversely impact our liquidity, results of operations, financial condition or business, including in the event of the following:

- we experience delays or interruptions in our business operations due to our key personnel, or a significant number of our personnel, becoming infected with COVID-19 and therefore being unable to work, even remotely, for an extended period of time;
- the clinical development programs pursued by us and our collaboration partners (including the development of PRX004 and prasinezumab) are delayed or interrupted, including as a result of (1) interruptions of supply to clinical study sites of drug candidate or other equipment or materials, (2) inability or unwillingness of site investigators or other study personnel to travel to study sites, dispense drug candidate, or otherwise treat or monitor study participants or follow study protocols, or conduct necessary data collection or verification, (3) inability or unwillingness of study participants to travel to clinical study sites, receive infusions, or otherwise continue to participate in the study or (4) 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;
- we, or our collaboration partners, are delayed in or prevented from initiating new clinical studies of current or prospective drug candidates because of (1) delays or difficulties contracting with essential third-party vendors (such as contract research organizations), (2) delays or difficulties enlisting site investigators or initiating clinical study sites, (3) delays or difficulties recruiting or enrolling study participants, or (4) delays or difficulties supplying drug candidate to clinical study sites;
- interruption or delays in the operations of the U.S. Food and Drug Administration (the “FDA”) and comparable foreign regulatory agencies which impact review, inspection, and approval timelines for any of our development programs;
- the pandemic adversely affects our collaboration partners, Roche and/or Celgene (now part of Bristol-Myers Squibb (“BMS”)), in way that adversely impacts our collaborations with them;
- business development opportunities become more limited or difficult to undertake;
- our costs significantly increase to manage impacts to our business to complete our planned operations within our projected timelines;
- changes in local regulations as part of a response to COVID-19 which may require us to change the ways in which our clinical trials are conducted, which may result in unexpected costs, or discontinuation of the clinical trials altogether;
- we experience 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; or
- our liquidity needs are adversely impacted by the economic effects of the pandemic on financial markets.

Any one or more of these risks, if realized, could have a material adverse effect on our liquidity, results of operations, financial condition or business, including the progress of, and timelines for, our nonclinical and clinical development programs.

In addition, the spread of COVID-19 has caused a broad impact globally, and may materially affect us economically. While the potential economic impact brought by, and the duration of, COVID-19 may be difficult to assess or predict, a widespread pandemic could result in significant disruption of global financial markets, reducing our ability to access capital, which could in the future negatively affect our liquidity. In addition, a recession or market correction resulting from the spread of COVID-19 could materially affect our business and the market price of our ordinary shares.

The United Kingdom’s withdrawal from the European Union could have a negative effect on global economic conditions and financial markets, European Union regulatory procedures and our business.

Following a national referendum and enactment of legislation by the government of the United Kingdom, the United Kingdom formally withdrew from the European Union on January 31, 2020, and entered into a transition period during which it will continue its ongoing and complex negotiations with the European Union relating to the future trading relationship between the parties. Significant political and economic uncertainty remains about whether the terms of the relationship will differ materially from the terms before withdrawal, as well as about the possibility that a so-called “no deal” separation will occur if negotiations are not completed by the end of the transition period. These developments, or the perception that any of them could occur, have had and may continue to have a material adverse effect on global economic conditions and the stability of global financial markets, and may significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets. Any of these factors could depress economic activity and restrict access to capital, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Our future success depends on our ability to retain key personnel and to attract, retain and motivate qualified personnel.

We are highly dependent on key personnel, including Dr. Gene G. Kinney, our President and Chief Executive Officer. There can be no assurance that we will be able to retain Dr. Kinney or any of our key personnel. The loss of the services of Dr. Kinney or any other person on whom we are highly dependent might impede the achievement of our research, development and commercial objectives.

Recruiting and retaining qualified scientific and other personnel are critical to our growth and future success. Competition for qualified personnel in our industry is intense. We may not be able to attract and retain these personnel on acceptable terms given that competition. Failure to recruit and retain qualified personnel could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Our collaborators, prospective collaborators and suppliers may need assurances that our financial resources and stability on a stand-alone basis are sufficient to satisfy their requirements for doing or continuing to do business with us.

Some of our collaborators, prospective collaborators and suppliers may need assurances that our financial resources and stability on a stand-alone basis are sufficient to satisfy their requirements for doing or continuing to do business with us. If our collaborators, prospective collaborators or suppliers are not satisfied with our financial resources and stability, it could have a material adverse effect on our ability to develop our drug candidates, enter into licenses or other agreements and on our business, financial condition or results of operations.

The agreements we entered into with Elan involve conflicts of interest and therefore may have materially disadvantageous terms to us.

We entered into certain agreements with Elan in connection with our separation from Elan, which set forth the main terms of the separation and provided a framework for our initial relationship with Elan. These agreements may have terms that are materially disadvantageous to us or are otherwise not as favorable as those that might be negotiated between unaffiliated third parties. In December 2013, Elan was acquired by Perrigo Company plc ("Perrigo"), and in February 2014 Perrigo caused Elan to sell all of its shares of Prothena in an underwritten offering. As a result of the acquisition of Elan by Perrigo and the subsequent sale of all of its shares of Prothena, Perrigo may be less willing to collaborate with us in connection with the agreements to which we and Elan are a party and other matters.

We may be adversely affected by earthquakes or other natural disasters.

Our key facility and almost all of our operations are in the San Francisco Bay Area of Northern California, which in the past has experienced severe earthquakes. If an earthquake, other natural disaster or similar event were to occur and prevent us from using all or a significant portion of those operations or local critical infrastructure, or that otherwise disrupts our operations, it could be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. We have disaster recovery and business continuity plans, but they may prove to be inadequate in the event of a natural disaster or similar event. We may incur substantial expenses if our disaster recovery and business continuity plans prove to be inadequate. We do not carry earthquake insurance. Furthermore, third parties upon which we are materially dependent upon may be vulnerable to natural disasters or similar events. Accordingly, such a natural disaster or similar event could have an adverse effect on our business, financial condition or results of operations.

We may experience breaches or similar disruptions of our information technology systems or data.

Our business is increasingly dependent on critical, complex and interdependent information technology systems to support business processes as well as internal and external communications. The size and complexity of those systems make them vulnerable to breakdown, malicious intrusion and computer viruses. We have developed systems and processes that are designed to protect our information technology systems and prevent data loss and other security breaches, including systems and processes designed to reduce the impact of a security breach. However, such measures cannot provide absolute security. Any breakdown, malicious intrusion or computer virus could result in the impairment of key business processes or breach of data security, which could cause us to lose trade secrets or other intellectual property or lead to unauthorized disclosure of personal data of our employees, third parties with which we do business, clinical trial participants or others. Such an event could have an adverse effect on our business, financial condition or results of operations.

We are subject to increasingly complex data protection laws and regulations.

We are subject to various data protection laws and regulations, which are expanding and becoming more complex. In May 2018, the EU General Data Protection Regulation (the "GDPR") was adopted in the EU and superseded the previous EU data protection legislation. Under the GDPR, enhanced data protection requirements as well as substantial fines for breaches of personal data apply and increase our obligations and potential liabilities for the personal data that we process or control. We may be required to implement additional controls to facilitate compliance with the GDPR and other new or evolving data protection laws and regulations. Ensuring our compliance with these laws and regulations involves substantial costs, and it is possible that governmental authorities or third parties will assert that our business practices fail to comply with these laws and regulations. If our operations are found to be in violation of any of such laws and regulations, we may be subject to significant civil, criminal and administrative damages, penalties and fines, as well as reputational harm, which could have a material adverse effect on our business, financial condition or results of operations.

Risks Related to the Discovery, Development and Regulatory Approval of Drug Candidates

Our success is largely dependent on the success of our research and development programs. Our drug candidates are in various stages of development and we may not be able to successfully discover, develop, obtain regulatory approval for or commercialize any drug candidates.

The success of our business depends substantially upon our ability to discover, develop, obtain regulatory approval for and commercialize our drug candidates successfully. Our research and development programs are prone to the significant and likely risks of failure inherent in drug development, which can result from the failure of the drug candidate to be sufficiently effective, the safety profile of the drug candidate, a clinical trial that is not sufficiently enrolled or powered or adequately designed to detect a drug effect, or other reasons. We intend to continue to invest most of our time and financial resources in our research and development programs.

Although the Phase 2 clinical trial for prasinezumab is in the process of being completed and we have an ongoing Phase 1 clinical trial for PRX004, there is no assurance that the results of these trials will support further development of these drug candidates. In addition, we currently do not, and may never, have any other drug candidates in clinical trials and we have not identified drug candidates for many of our research programs.

Before obtaining regulatory approvals for the commercial sale of any drug candidate for a target indication, we must demonstrate with substantial evidence gathered in adequate and well-controlled clinical trials that the drug candidate is safe and effective for use for that target indication. In the U.S., this must be done to the satisfaction of the FDA; in the EU this must be done to the satisfaction of the European Medicines Agency (the "EMA"); and in other countries this must be done to the satisfaction of comparable regulatory authorities.

Satisfaction of these and other regulatory requirements is costly, time consuming, uncertain, and subject to unanticipated delays. Despite our efforts, our drug candidates may not:

- offer improvement over existing treatment options;
- be proven safe and effective in clinical trials; or
- meet applicable regulatory standards.

Positive results in nonclinical studies of a drug candidate may not be predictive of similar results in humans during clinical trials, and promising results from early clinical trials of a drug candidate may not be replicated in later clinical trials. Interim results of a clinical trial do not necessarily predict final results. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials even after achieving promising results in early-stage development. Accordingly, the results from completed nonclinical studies and early clinical trials for our drug candidates may not be predictive of the results we may obtain in later stage studies or trials. Our nonclinical studies or clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional nonclinical studies or clinical trials, or to discontinue clinical trials altogether.

Furthermore, we have not marketed, distributed or sold any products. Our success will, in addition to the factors discussed above, depend on the successful commercialization of our drug candidates, which may require:

- obtaining and maintaining commercial manufacturing arrangements with third-party manufacturers;

- developing the marketing and sales capabilities, internal and/or in collaboration with pharmaceutical companies or contract sales organizations, to market and sell any approved drug; and

- acceptance of any approved drug in the medical community and by patients and third-party payers.

Many of these factors are beyond our control. We do not expect any of our drug candidates to be commercially available for several years and some or all may never become commercially available. Accordingly, we may never generate revenues through the sale of products.

We have entered into collaborations and may enter into additional collaborations in the future, and we might not realize the anticipated benefits of such collaborations.

Research, development, commercialization and/or strategic collaborations, including those that we have with Roche and BMS, are subject to numerous risks, which include the following:

- collaborators may have significant control or discretion in determining the efforts and resources that they will apply to a collaboration, and might not commit sufficient efforts and resources or might misapply those efforts and resources;

- we may have limited influence or control over the approaches to research, development and/or commercialization of products candidates in the territories in which our collaboration partners lead research, development and/or commercialization;

- collaborators might not pursue research, development and/or commercialization of collaboration product candidates or might elect not to continue or renew research, development and/or commercialization programs based on nonclinical and/or clinical trial results, changes in their strategic focus due to the acquisition of competing products, availability of funding or other factors, such as a business combination that diverts resources or creates competing priorities;

- collaborators might delay, provide insufficient resources to, or modify or stop research or clinical development for collaboration product candidates or require a new formulation of a product candidate for clinical testing;

- collaborators could develop or acquire products outside of the collaboration that compete directly or indirectly with our product candidates or require a new formulation of a product candidate for nonclinical and/or clinical testing;

- collaborators with sales, marketing and distribution rights to one or more product candidates might not commit sufficient resources to sales, marketing and distribution or might otherwise fail to successfully commercialize those product candidates;

- collaborators might not properly maintain or defend our intellectual property rights or might use our intellectual property improperly or in a way that jeopardizes our intellectual property or exposes us to potential liability;

- collaboration activities might result in the collaborator having intellectual property covering our activities or product candidates, which could limit our rights or ability to research, develop and/or commercialize our product candidates;

- collaborators might not be in compliance with laws applicable to their activities under the collaboration, which could impact the collaboration or us;

- disputes might arise between us and a collaborator that could cause a delay or termination of the collaboration or result in costly litigation that diverts management attention and resources; and

- collaborations might be terminated, which could result in a need for additional capital to pursue further research, development and/or commercialization of our product candidates.

In addition, funding provided by a collaborator might not be sufficient to advance product candidates under the collaboration. For example, although BMS (formerly Celgene) made a $100 million upfront payment to us and made a $50 million equity investment in us upon entering into the Collaboration Agreement, we might need additional funding to advance product candidates prior to when BMS decides whether to exercise its license rights to those product candidates. We also note that, on November 20, 2019, BMS acquired Celgene. BMS might take a different approach to our collaboration or determine not to continue that collaboration.

If a collaborator terminates a collaboration or a program under a collaboration, including by failing to exercise a license or other option under the collaboration, whether because we fail to meet a milestone or otherwise, any potential revenue from the collaboration would be significantly reduced or eliminated. In addition, we will likely need to either secure other funding to advance research, development and/or commercialization of the relevant product candidate or abandon that program, the development of the relevant product candidate could be significantly delayed, and our cash expenditures could increase significantly if we are to continue research, development and/or commercialization of the relevant product candidates.

Any one or more of these risks, if realized, could reduce or eliminate future revenue from product candidates under our collaborations, and could have a material adverse effect on our business, financial condition, results of operations and/or growth prospects.

If clinical trials of our drug candidates are prolonged, delayed, suspended or terminated, we may be unable to commercialize our drug candidates on a timely basis, which would require us to incur additional costs and delay our receipt of any revenue from potential product sales.

We cannot predict whether we will encounter problems with the Phase 2 clinical trial for prasinezumab, our Phase 1 clinical trial for PRX004 or any other future clinical trials that will cause us or any regulatory authority to delay or suspend those clinical trials or delay the analysis of data derived from them. A number of events, including any of the following, could delay the completion of our ongoing or planned clinical trials and negatively impact our ability to obtain regulatory approval for, and to market and sell, a particular drug candidate:

- conditions imposed on us by the FDA, the EMA or other comparable regulatory authorities regarding the scope or design of our clinical trials;
- delays in obtaining, or our inability to obtain, required approvals from institutional review boards (“IRBs”) or other reviewing entities at clinical sites selected for participation in our clinical trials;
- insufficient supply or deficient quality of our drug candidates or other materials necessary to conduct our clinical trials;
- delays in obtaining regulatory authority agreement for the conduct of our clinical trials;
- lower than anticipated enrollment and/or retention rate of subjects in our clinical trials, which can be impacted by a number of factors, including size of patient population, design of trial protocol, trial length, eligibility criteria, perceived risks and benefits of the drug candidate, patient proximity to trial sites, patient referral practices of physicians, availability of other treatments for the relevant disease and competition from other clinical trials;
- slower than expected rates of events in trials with a composite primary endpoint that is event-based;
- serious and unexpected drug-related side effects experienced by subjects in clinical trials; or
- failure of our third-party contractors and collaborators to meet their contractual obligations to us or otherwise meet their development or other objectives in a timely manner.

We are dependent upon Roche with respect to further development of prasinezumab. Under the terms of our collaboration with Roche, Roche is responsible for that further development, including the conduct of the ongoing Phase 2 clinical trial and any future clinical trial of that drug candidate.

Clinical trials may also be delayed or terminated as a result of ambiguous or negative data or results. In addition, a clinical trial may be delayed, suspended or terminated by us, the FDA, the EMA or other comparable regulatory authorities, the IRBs at the sites where the IRBs are overseeing a trial, or the safety oversight committee overseeing the clinical trial at issue due to a number of factors, including:

- failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols;
- inspection of the clinical trial operations or trial sites by the FDA, the EMA or other regulatory authorities resulting in the imposition of a clinical hold on or imposition of additional conditions for the conduct of the trial;
- interpretation of data by the FDA, the EMA or other regulatory authorities;
- requirement by the FDA, the EMA or other regulatory authorities to perform additional studies;
- failure to achieve primary or secondary endpoints or other failure to demonstrate efficacy or adequate safety;
- unforeseen safety issues; or

- lack of adequate funding to continue the clinical trial.

Additionally, changes in regulatory requirements and guidance may occur and we may need to amend clinical trial protocols to reflect these changes. Amendments may require us to resubmit our clinical trial protocols to regulatory authorities and IRBs for reexamination, which may impact the cost, timing or successful completion of a clinical trial.

We do not know whether our clinical trials will be conducted as planned, will need to be restructured or will be completed on schedule, if at all. Delays in our clinical trials will result in increased development costs for our drug candidates. In addition, if we experience delays in the completion of, or if we terminate, any of our clinical trials, the commercial prospects for our drug candidates may be delayed or harmed and our ability to generate product revenues will be delayed or jeopardized. Furthermore, 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 regulatory approval of a drug candidate.

The regulatory approval processes of the FDA, the EMA and other comparable regulatory authorities are lengthy, time consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our drug candidates, our business will be substantially harmed.

The time required to obtain approval by the FDA, the EMA and other comparable regulatory authorities is inherently 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 drug candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any drug candidate and it is possible that none of our existing drug candidates or any drug candidates we may seek to develop in the future will ever obtain regulatory approval.

Our drug candidates could fail to receive regulatory approval for many reasons, including the following:

- the FDA, the EMA or comparable regulatory authorities may disagree with the design, implementation or conduct of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA, the EMA or comparable regulatory authorities that a drug candidate is safe and effective for its proposed indication;
- the results of clinical trials may not meet the level of statistical significance required by the FDA, the EMA or comparable regulatory authorities for approval;
- we may be unable to demonstrate that a drug candidate's clinical and other benefits outweigh its safety risks;
- the FDA, the EMA or comparable regulatory authorities may disagree with our interpretation of data from nonclinical studies or clinical trials;
- the data collected from clinical trials of our drug candidates may not be sufficient to support the submission of a Biologic License Application ("BLA") to the FDA, a Marketing Authorization Application ("MAA") to the EMA or similar applications to comparable regulatory authorities;
- the FDA, the EMA or comparable regulatory authorities may fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; or
- the approval policies or regulations of the FDA, the EMA or comparable regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

This lengthy approval process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval to market our drug candidates, which would significantly harm our business, results of operations and prospects. In addition, even if we were to obtain approval, regulatory authorities may approve any of our drug candidates for fewer or more limited indications than we request, may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve a drug candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that drug candidate. Any of the foregoing scenarios could materially harm the commercial prospects for our drug candidates.

Even if our drug candidates receive regulatory approval in one country or jurisdiction, we may never receive approval or commercialize our products in other countries or jurisdictions.

In order to market drug candidates in a particular country or jurisdiction, we must establish and comply with numerous and varying regulatory requirements of that country or jurisdiction, including with respect to safety and efficacy. Approval procedures vary among countries and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries might differ from that required to obtain, for example, FDA approval in the U.S. or EMA approval in the EU. The regulatory approval process in other countries may include all of the risks detailed above regarding FDA approval in the U.S. and EMA approval in the EU as well as other risks. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another country or jurisdiction, but a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others. Failure to obtain regulatory approval in one country or jurisdiction or any delay or setback in obtaining such approval would impair our ability to develop other markets for that drug candidate.

Both before and after marketing approval, our drug candidates are subject to ongoing regulatory requirements and continued regulatory review, and if we fail to comply with these continuing requirements, we could be subject to a variety of sanctions and the sale of any approved products could be suspended.

Both before and after regulatory approval to market a particular drug candidate, adverse event reporting, manufacturing, labeling, packaging, storage, distribution, advertising, promotion, record keeping and reporting related to the product are subject to extensive, ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, as well as continued compliance with current good manufacturing practice ("cGMP") requirements and current good clinical practice ("cGCP") requirements for any clinical trials that we conduct post-approval. Any regulatory approvals that we receive for our drug candidates may also be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the drug candidate. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or not previously observed in clinical trials, or with our third-party manufacturers or manufacturing processes, or failure to comply with the regulatory requirements of the FDA, the EMA and other comparable regulatory authorities could subject us to administrative or judicially imposed sanctions, including:

- restrictions on the marketing of our products or their manufacturing processes;
- warning letters;
- civil or criminal penalties;
- fines;
- injunctions;
- product seizures or detentions;
- import or export bans;
- voluntary or mandatory product recalls and related publicity requirements;
- suspension or withdrawal of regulatory approvals;
- total or partial suspension of production; and
- refusal to approve pending applications for marketing approval of new products or supplements to approved applications.

The FDA's, the EMA's or other comparable regulatory authorities' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our drug candidates. 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, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

If side effects are identified during the time our drug candidates are in development or after they are approved and on the market, we may choose to or be required to perform lengthy additional clinical trials, discontinue development of the affected

drug candidate, change the labeling of any such products, or withdraw any such products from the market, any of which would hinder or preclude our ability to generate revenues.

Undesirable side effects caused by our drug candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA, the EMA or other comparable regulatory authorities. Drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete a trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly. Even if any of our drug candidates receives marketing approval, as greater numbers of patients use a drug following its approval, an increase in the incidence or severity of side effects or the incidence of other post-approval problems that were not seen or anticipated during pre-approval clinical trials could result in a number of potentially significant negative consequences, including:

- regulatory authorities may withdraw their approval of the product;
- regulatory authorities may require the addition of labeling statements, such as contraindications, warnings or precautions, or impose additional safety monitoring or reporting requirements;
- we may be required to change the way the product is administered, conduct additional clinical trials;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these events could substantially increase the costs and expenses of developing, commercializing and marketing any such drug candidates or could harm or prevent sales of any approved products.

We deal with hazardous materials and must comply with environmental laws and regulations, which can be expensive and restrict how we do business.

Some of our research and development activities involve the controlled storage, use, and disposal of hazardous materials. We are subject to U.S. federal, state, local and other countries' and jurisdictions' laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous materials. Although we believe that our safety procedures for the handling and disposing of these materials comply with the standards prescribed by these laws and regulations, we cannot eliminate the risk of accidental contamination or injury from these materials. In the event of an accident, state or federal authorities may curtail our use of these materials, and we could be liable for any civil damages that result, which may exceed our financial resources and may seriously harm our business. Because we believe that our laboratory and materials handling policies and practices sufficiently mitigate the likelihood of materials liability or third-party claims, we currently carry no insurance covering such claims. An accident could damage, or force us to shut down, our operations.

Risks Related to the Commercialization of Our Drug Candidates

Even if any of our drug candidates receives regulatory approval, if such approved product does not achieve broad market acceptance, the revenues that we generate from sales of the product will be limited.

Even if any drug candidates we may develop or acquire in the future obtain regulatory approval, they may not gain broad market acceptance among physicians, healthcare payers, patients and the medical community. The degree of market acceptance for any approved drug candidate will depend on a number of factors, including:

- the indication and label for the product and the timing of introduction of competitive products;
- demonstration of clinical safety and efficacy compared to other products;
- prevalence, frequency and severity of adverse side effects;
- availability of coverage and adequate reimbursement from managed care plans and other third-party payers;
- convenience and ease of administration;
- cost-effectiveness;
- other potential advantages of alternative treatment methods; and

- the effectiveness of marketing and distribution support of the product.

Consequently, even if we discover, develop and commercialize a product, the product may fail to achieve broad market acceptance and we may not be able to generate significant revenue from the product.

The success of prasinezumab in the United States is dependent upon the strength and performance of our collaboration with Roche. If we fail to maintain our existing collaboration with Roche, such termination would likely have a material adverse effect on our ability to develop and commercialize prasinezumab and our business. Furthermore, if we opt out of profit and loss sharing with Roche, our revenues from prasinezumab will be reduced.

The success of sales of prasinezumab in the U.S. will be dependent on the ability of Roche to successfully develop in collaboration with us, and launch and commercialize prasinezumab, if approved by the FDA, pursuant to the License Agreement we entered into in December 2013. Our collaboration with Roche is complex, particularly with respect to future U.S. commercialization of prasinezumab, with respect to financial provisions, allocations of responsibilities, cost estimates and the respective rights of the parties in decision making. Accordingly, significant aspects of the development and commercialization of prasinezumab require Roche to execute its responsibilities under the arrangement, or require Roche's agreement or approval, prior to implementation, which could cause significant delays that may materially impact the potential success of prasinezumab in the U.S. In addition, Roche may under some circumstances independently develop products that compete with prasinezumab, or Roche may decide to not commit sufficient resources to the development, commercialization, marketing and distribution of prasinezumab. If we are not able to collaborate effectively with Roche on plans and efforts to develop and commercialize prasinezumab, our business could be materially adversely affected.

Furthermore, the terms of the License Agreement provide that Roche has the ability to terminate such arrangement for any reason after the first anniversary of the License Agreement at any time upon 90 days' notice (if prior to first commercial sale) or 180 days' notice (if after first commercial sale). For example, Roche may determine that the outcomes of clinical trials have made prasinezumab a less attractive commercial product and terminate our collaboration. If the License Agreement is terminated, our business and our ability to generate revenue from sales of prasinezumab could be substantially harmed as we will be required to develop, commercialize and build our own sales and marketing organization or enter into another strategic collaboration in order to develop and commercialize prasinezumab in the U.S. Such efforts may not be successful and, even if successful, would require substantial time and resources to carry out.

The manner in which Roche launches prasinezumab, including the timing of launch and potential pricing, will have a significant impact on the ultimate success of prasinezumab in the U.S, and the success of the overall commercial arrangement with Roche. If launch of commercial sales of prasinezumab in the U.S. by Roche is delayed or prevented, our revenue will suffer and our stock price may decline. Further, if launch and resulting sales by Roche are not deemed successful, our business would be harmed and our stock price may decline. Any lesser effort by Roche in its prasinezumab sales and marketing efforts may result in lower revenue and thus lower profits with respect to the U.S. The outcome of Roche's commercialization efforts in the U.S. could also have a negative effect on investors' perception of potential sales of prasinezumab outside of the U.S., which could also cause a decline in our stock price.

Furthermore, pursuant to the License Agreement, we are responsible for 30% of all development and commercialization costs for prasinezumab for the treatment of Parkinson's disease in the U.S., and for any future Licensed Products and/or indications that we opt to co-develop, in each case unless we elect to opt out of profit and loss sharing. If we elect to opt out of profit and loss sharing, we will instead receive sales milestones and royalties, and our revenue, if any, from prasinezumab will be reduced.

Our right to co-develop prasinezumab and other Licensed Products under the License Agreement will terminate if we commence certain studies for a competitive product that treats Parkinson's disease or other indications that we opted to co-develop. In addition, our right to co-promote prasinezumab and other Licensed Products will terminate if we commence a Phase 3 study for a competitive product that treats Parkinson's disease.

Moreover, under the terms of the License Agreement, we rely on Roche to provide us estimates of their costs, revenue and revenue adjustments and royalties, which estimates we use in preparing our quarterly and annual financial reports. If the underlying assumptions on which Roche's estimates were based prove to be incorrect, actual results or revised estimates supplied by Roche that are materially different from the original estimates could require us to adjust the estimates included in our reported financial results. If material, these adjustments could require us to restate previously reported financial results, which could have a negative effect on our stock price.

Our ability to receive any significant revenue from prasinezumab will be dependent on Roche's efforts and our participation in profit and loss sharing, and may result in lower levels of income than if we marketed or developed our product candidates entirely on our own. Roche may not fulfill its obligations or carry out marketing activities for prasinezumab as diligently as we would like. We could also become involved in disputes with Roche, which could lead to delays in or termination of development or commercialization activities and time-consuming and expensive litigation or arbitration. If Roche terminates or breaches the License Agreement, or otherwise decides not to complete its obligations in a timely manner, the chances of successfully developing, commercializing or marketing prasinezumab would be materially and adversely affected.

Outside of the United States, we are solely dependent on the efforts and commitments of Roche, either directly or through third parties, to further develop and commercialize prasinezumab. If Roche's efforts are unsuccessful, our ability to generate future product sales from prasinezumab outside the United States would be significantly reduced.

Under our License Agreement, outside of the U.S., Roche has responsibility for developing and commercializing prasinezumab and any future Licensed Products targeting α-synuclein. As a consequence, any progress and commercial success outside of the U.S. is dependent solely on Roche's efforts and commitment to the program. For example, Roche may delay, reduce or terminate development efforts relating to prasinezumab outside of the U.S., or under some circumstances independently develop products that compete with prasinezumab, or decide not to commit sufficient resources to the commercialization, marketing and distribution of prasinezumab.

In the event that Roche does not diligently develop and commercialize prasinezumab, the License Agreement provides us the right to terminate the License Agreement in connection with a material breach uncured for 90 days after notice thereof. However, our ability to enforce the provisions of the License Agreement so as to obtain meaningful recourse within a reasonable timeframe is uncertain. Further, any decision to pursue available remedies including termination would impact the potential success of prasinezumab, including inside the U.S., and we may choose not to terminate as we may not be able to find another partner and any new collaboration likely will not provide comparable financial terms to those in our arrangement with Roche. In the event of our termination, this may require us to develop and commercialize prasinezumab on our own, which is likely to result in significant additional expense and delay. Significant changes in Roche's business strategy, resource commitment and the willingness or ability of Roche to complete its obligations under our arrangement could materially affect the potential success of the product. Furthermore, if Roche does not successfully develop and commercialize prasinezumab outside of the U.S., our potential to generate future revenue outside of the U.S. would be significantly reduced.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell approved products, we may be unable to generate product revenue.

We do not currently have a fully-scaled organization for the sales, marketing and distribution of pharmaceutical products. In order to market any products that may be approved by the FDA, the EMA or other comparable regulatory authorities, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services.

We have entered into the License Agreement with Roche for the development of prasinezumab and may develop our own sales force and marketing infrastructure to co-promote prasinezumab in the U.S. for the treatment of Parkinson's disease and any future Licensed Products approved for Parkinson's disease in the U.S. If we exercise our co-promotion option and are unable to develop our own sales force and marketing infrastructure to effectively commercialize prasinezumab or other Licensed Products, our ability to generate additional revenue from potential sales of prasinezumab or such products in the U.S. may be harmed. In addition, our right to co-promote prasinezumab and other Licensed Products will terminate if we commence a Phase 3 study for a competitive product that treats Parkinson's disease.

For any other products that may be approved, if we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, we may not be able to generate product revenue and may not become profitable.

If government and third-party payers fail to provide coverage and adequate reimbursement rates for any of our drug candidates that receive regulatory approval, our revenue and prospects for profitability will be harmed.

In both U.S. and non-U.S. markets, our sales of any future products will depend in part upon the availability of reimbursement from third-party payers. Such third-party payers include government health programs such as Medicare, managed care providers, private health insurers, and other organizations. There is significant uncertainty related to the third-party coverage and reimbursement of newly approved drugs. Coverage and reimbursement may not be available for any drug that we or our collaborators commercialize and, even if these are available, the level of reimbursement may not be satisfactory. Third-party payers often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. Third-party payers are also increasingly attempting to contain healthcare costs by demanding price discounts or rebates limiting both coverage and the amounts that they will pay for new drugs, and, as a result, they may not cover or provide adequate payment for our drug candidates. We might need to conduct post-marketing studies in order to demonstrate the cost-effectiveness of any future products to such payers' satisfaction. Such studies might require us to commit a significant amount of management time and financial and other resources. Our future products might not ultimately be considered cost-effective. Adequate third-party reimbursement might not be available to enable us to maintain price levels sufficient to realize an appropriate return on investment in product development. If coverage and adequate reimbursement are not available or reimbursement is available only to limited levels, we or our collaborators may not be able to successfully commercialize any product candidates for which marketing approval is obtained.

The regulations that govern marketing approvals, pricing, coverage and reimbursement for new drugs vary widely from country to country. Current and future legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or licensing approval is granted. In some countries, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we or our collaborators might obtain marketing approval for a drug in a particular country, but then be subject to price regulations that delay commercial launch of the drug, possibly for lengthy time periods, and negatively impact our ability to generate revenue from the sale of the drug in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more drug candidates, even if our drug candidates obtain marketing approval.

U.S. and other governments continue to propose and pass legislation designed to reduce the cost of healthcare. In the U.S., we expect that there will continue to be federal and state proposals to implement similar governmental controls. In addition, recent changes in the Medicare program and increasing emphasis on managed care in the U.S. will continue to put pressure on pharmaceutical product pricing. For example, in 2010, the U.S. Patient Protection and Affordable Care Act, as amended by the U.S. Health Care and Education Reconciliation Act (collectively, the “Healthcare Reform Law”), was enacted. The Healthcare Reform Law substantially changed the way healthcare is financed by both governmental and private insurers and significantly affects the pharmaceutical industry. Among the provisions of the Healthcare Reform Law of importance to the pharmaceutical industry are the following:

- an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs and biologic agents, apportioned among these entities according to their market share in certain government healthcare programs;

- an increase in the minimum rebates a manufacturer must pay under the U.S. Medicaid Drug Rebate Program to 23.1% and 13.0% of the average manufacturer price for branded and generic drugs, respectively;

- expansion of healthcare fraud and abuse laws, including the U.S. False Claims Act and the U.S. Anti-Kickback Statute, new government investigative powers and enhanced penalties for non-compliance;

- a new Medicare Part D coverage gap discount program, under which manufacturers must agree to offer 50 percent 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;

- extension of manufacturers’ Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;

- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for certain individuals with income at or below 133% of the federal poverty level, thereby potentially increasing a manufacturer’s Medicaid rebate liability;

- a licensure framework for follow-on biologic products;

- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;

- new requirements under the federal Open Payments program and its implementing regulations;

- a new requirement to annually report drug samples that manufacturers and distributors provide to physicians; and

- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

In addition, other legislative changes have been proposed and adopted since the Healthcare Reform Law was enacted. These changes include aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, which went into effect in 2013 and will stay in effect through 2024 unless additional congressional action is taken. In 2013, the U.S. American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to several types of providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on customers for our drugs, if approved, and, accordingly, our financial operations.

We expect that the Healthcare Reform Law, as well as 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 drug. Legislation and regulations affecting the pricing of pharmaceuticals might change before our drug candidates are approved for marketing. Any reduction in reimbursement from Medicare or other government healthcare programs may result in a similar reduction in payments from private payers. 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.

There can be no assurance that our drug candidates, if they are approved for sale in the U.S. or in other countries, will be considered medically reasonable and necessary for a specific indication, that they will be considered cost-effective by third-party payers, that coverage or an adequate level of reimbursement will be available, or that third-party payers' reimbursement policies will not adversely affect our ability to sell our drug candidates profitably if they are approved for sale.

The markets for our drug candidates are subject to intense competition. If we are unable to compete effectively, our drug candidates may be rendered noncompetitive or obsolete.

The research, development and commercialization of new drugs is highly competitive. We will face competition with respect to all drug candidates we may develop or commercialize in the future from pharmaceutical and biotechnology companies worldwide. The key factors affecting the success of any approved product will be its indication, label, efficacy, safety profile, drug interactions, method of administration, pricing, coverage, reimbursement and level of promotional activity relative to those of competing drugs.

Furthermore, many large pharmaceutical and biotechnology companies, academic institutions, governmental agencies and other public and private research organizations are pursuing the development of novel drugs that target the same indications we are targeting with our research and development program. We face, and expect to continue to face, intense and increasing competition as new products enter the market and advanced technologies become available. Many of our competitors have:

- significantly greater financial, technical and human resources than we have and may be better equipped to discover, develop, manufacture and commercialize drug candidates;

- more extensive experience in nonclinical testing and clinical trials, obtaining regulatory approvals and manufacturing and marketing pharmaceutical products;

- drug candidates that have been approved or are in late-stage clinical development; and/or

- collaborative arrangements in our target markets with leading companies and research institutions.

Competitive products may render our research and development program obsolete or noncompetitive before we can recover the expenses of developing and commercializing our drug candidates. Furthermore, the development of new treatment methods and/or the widespread adoption or increased utilization of any vaccine or development of other products or treatments for the diseases we are targeting could render any of our drug candidates noncompetitive, obsolete or uneconomical. If we successfully develop and obtain approval for a drug candidate, we will face competition based on the safety and effectiveness of the approved product, the timing of its entry into the market in relation to competitive products in development, the availability and cost of supply, marketing and sales capabilities, coverage, reimbursement, price, patent position and other factors. Even if we successfully develop drug candidates but those drug candidates do not achieve and maintain market acceptance, our business will not be successful.

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

Our current drug candidates are regulated by the FDA as biologic products and we intend to seek approval for these products pursuant to the BLA pathway. The U.S. Biologics Price Competition and Innovation Act of 2009 (the "BPCIA") created an abbreviated pathway for the approval of biosimilar and interchangeable biologic products. The abbreviated regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable" based on its similarity to an existing brand product. Under the BPCIA, an application for a biosimilar product cannot be approved by the FDA until 12 years after the original branded product was approved under a BLA. 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. While it is uncertain when such processes intended to implement BPCIA may be fully adopted by the FDA, any such processes could have a material adverse effect on the future commercial prospects for our biologic products.

We believe that any of our drug 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 drug candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biologic products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

We are subject to healthcare and other laws and regulations, including anti-bribery, anti-kickback, fraud and abuse, false claims, physician payment transparency and health information privacy and security laws and regulations, which could expose us to criminal, civil and/or administrative sanctions and penalties, exclusion from governmental healthcare programs or reimbursements, contractual damages and reputational harm.

Our operations and activities are directly, or indirectly through our service providers and collaborators, subject to numerous healthcare and other laws and regulations, including, without limitation, those relating to anti-bribery, anti-kickback, fraud and abuse, false claims, physician payment transparency and health information privacy and security, in the U.S., the EU and other countries and jurisdictions in which we conduct our business. These laws include:

- the U.S. Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase or recommendation of an item or service reimbursable under a federal healthcare program, such as the Medicare and Medicaid programs;

- U.S. federal and state false claims laws, including the False Claims Act, which impose criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payers that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;

- the U.S. Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), which imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and making false statements in connection with the delivery of or payment for healthcare benefits, items or services, and under the Health Information Technology for Economic and Clinical Health Act of 2009 (“HITECH”) imposes obligations, including mandatory contractual terms, on certain types of individuals and entities with respect to safeguarding the privacy, security and transmission of individually identifiable health information and places restrictions on the use of such information for marketing communications;

- the U.S. Physician Payment Sunshine Act, which requires applicable 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 report annually to the Centers for Medicare & Medicaid Services (“CMS”) information related to “payments or other transfers of value” made to physicians and teaching hospitals and applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by the physicians and their immediate family members;

- laws and regulations that apply to sales or marketing arrangements; apply to healthcare items or services reimbursed by non-governmental third-party payers, including private insurers; require pharmaceutical companies to comply with the pharmaceutical industry’s voluntary compliance guidelines; that restrict payments that may be made to healthcare providers; require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and

- similar and other laws and regulations in the U.S. (federal, state and local), in the EU (including member countries) and other countries and jurisdictions.

Further, the Healthcare Reform Law, among other things, amended the intent requirements of the U.S. Anti-Kickback Statute and the criminal statutes governing healthcare fraud. A person or entity can now be found guilty of violating the statute without actual knowledge of the statute or specific intent to violate it. In addition, the Healthcare Reform Law provided that the government may assert that a claim including items or services resulting from a violation of the U.S. Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the U.S. False Claims Act.

Ensuring our compliance with applicable healthcare and other laws and regulations involves substantial costs, and it is possible that governmental authorities or third parties will assert that our business practices fail to comply with these laws and regulations. If our operations are found to be in violation of any of such laws and regulations, we may be subject to significant civil, criminal and administrative damages, penalties and fines, as well exclusion from participation in government healthcare programs, curtailment or restructuring of our operations and reputational harm, any of which could have a material adverse effect on our business, financial condition or results of operations.

If a successful product liability or clinical trial claim or series of claims is brought against us for uninsured liabilities or in excess of insured liabilities, we could incur substantial liability.

The use of our drug candidates in clinical trials and the sale of any products for which we obtain marketing approval will expose us to the risk of product liability and clinical trial liability claims. Product liability claims might be brought against us by consumers, healthcare providers or others selling or otherwise coming into contact with our products. Clinical trial liability claims may be filed against us for damages suffered by clinical trial subjects or their families. If we cannot successfully defend ourselves against product liability claims, we could incur substantial liabilities. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- decreased demand for any approved drug candidates;
- impairment of our business reputation;
- withdrawal of clinical trial participants;
- costs of related litigation;
- distraction of management’s attention;
- substantial monetary awards to patients or other claimants; and
- loss of revenues; and the inability to successfully commercialize any approved drug candidates.

We currently have clinical trial liability insurance coverage for all of our clinical trials. However, our insurance coverage may not be sufficient to reimburse us for any expenses or losses we may suffer. Moreover, 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. If and when we obtain marketing approval for any of our drug candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may be unable to obtain this product liability insurance on commercially reasonable terms. On occasion, large judgments have been awarded in class action lawsuits based on drugs that had unanticipated side effects. A successful product liability claim or series of claims brought against us could cause our ordinary share price to decline and, if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business.

Risks Related to Our Dependence on Third Parties

We rely on third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including failing to meet established deadlines for the completion of any such clinical trials.

We do not have the ability to independently conduct clinical trials for our drug candidates, and we rely on third parties, such as consultants, contract research organizations, medical institutions and clinical investigators, to assist us with these activities. Our reliance on these third parties for clinical development activities results in reduced control over these activities. Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. Although we have and will enter into agreements with these third parties, we will be responsible for confirming that our clinical trials are conducted in accordance with their general investigational plans and protocols. Moreover, the FDA, the EMA and other comparable regulatory authorities require us to comply with regulations and standards, commonly referred to as cGCPs, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the trial participants are adequately protected. Our reliance on third parties does not relieve us of these responsibilities and requirements. If we or any of our third-party contractors fail to comply with applicable cGCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA, the EMA or other comparable regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials complies with cGCP regulations. In addition, our clinical trials must be conducted with product produced under cGMP regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

To date, we believe our consultants, contract research organizations and other third parties with which we are working have performed well; however, if these third parties do not successfully carry out their contractual duties, meet expected deadlines, or comply with applicable regulations, we may be required to replace them. Although we believe that there are a number of other third-party contractors we could engage to continue these activities, we may not be able to enter into arrangements with alternative third-party contractors or to do so on commercially reasonable terms, which may result in a delay of our planned clinical trials. Accordingly, we may be delayed in obtaining regulatory approvals for our drug candidates and may be delayed in our efforts to successfully develop our drug candidates.

In addition, our third-party contractors are not our employees, and except for remedies available to us under our agreements with such third-party contractors, we cannot control whether or not they devote sufficient time and resources to our ongoing clinical and nonclinical programs. If third-party contractors 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, regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our drug candidates. As a result, our results of operations and the commercial prospects for our drug candidates would be harmed, our costs could increase and our ability to generate revenues could be delayed.

If we do not establish additional strategic collaborations, we may have to alter our research, development and/or commercialization plans.

Research, development and potential commercialization of our drug candidates will require substantial additional cash to fund expenses. Our strategy includes potentially collaborating with additional leading pharmaceutical and biotechnology companies to assist us in furthering research, development and/or potential commercialization of some of our drug candidates, in some or all geographies. It may be difficult to enter into one or more of such collaborations in the future. We face significant competition in seeking appropriate collaborators and these collaborations are complex and time-consuming to negotiate and document. We may not be able to negotiate collaborations on acceptable terms, or at all, in which case we may have to curtail the development of a particular drug candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we will need to obtain additional capital, which may not be available to us on acceptable terms, or at all. If we do not have sufficient funds, we will not be able to bring our drug candidates to market and generate product revenue.

We have no manufacturing capacity and depend on third-party manufacturers to supply us with nonclinical and clinical trial supplies of all of our drug candidates, and we will depend on third-party manufacturers to supply us with any drug products for commercial sale if we obtain marketing approval from the FDA, the EMA or any other comparable regulatory authority for any of our drug candidates.

We do not own or operate facilities for the manufacture, packaging, labeling, storage, testing or distribution of nonclinical or clinical supplies of any of our drug candidates. We instead contract with and rely on third parties to manufacture, package, label, store, test and distribute nonclinical and clinical supplies of our drug candidates, and we plan to continue to do so for the foreseeable future. We also rely on third-party consultants to assist us with managing these third-parties and with our manufacturing strategy. If any of these third-parties fail to perform these activities for us, nonclinical or clinical development of our drug candidates could be delayed, which could have an adverse effect on our business, financial condition, results of operations and growth prospects.

If the FDA, the EMA or any other comparable regulatory authority approves any of our drug candidates for commercial sale, we expect to continue to rely, at least initially, on third-parties to manufacture, package, label, store, test and distribute commercial supplies of such approved drug product. Significant scale-up of manufacturing may require additional comparability validation studies, which the FDA, the EMA or other comparable regulatory authorities must review and approve. Our third-party manufacturers might not be able to successfully establish such comparability or increase their manufacturing capacity in a timely or economic manner, or at all. If our third-party manufacturers are unable to successfully establish comparability or increase their manufacturing capacity for any drug product, and we are unable to timely establish our own manufacturing capabilities, the commercial launch of that drug product could be delayed or there could be a shortage in supply, which could have an adverse effect on our business, financial condition, results of operations and growth prospects.

Our third-party manufacturers’ facilities could be damaged by fire, power interruption, information system failure, natural disaster or other similar event, which could cause a delay or shortage in supplies of our drug candidates, which could have an adverse effect on our business, financial condition, results of operations and growth prospects.

Our drug candidates require, and any future drug product will require, precise, high quality manufacturing, packaging, labeling, storage and testing that meet stringent cGMP, other regulatory requirements and other standards. Our third-party manufacturers are subject to ongoing periodic and unannounced inspections by the FDA, the EMA and other comparable regulatory authorities to ensure compliance with these cGMPs, other regulatory requirements and other standards. We do not have control over, and are dependent upon, our third-party manufacturers' compliance with these cGMPs, regulations and standards. Any failure by a third-party manufacturer to comply with these cGMPs, regulations or standards or that compromises the safety of any of our drug candidates or any drug product could cause a delay or suspension of production of nonclinical or clinical supplies of our drug candidates or commercial supplies of drug products, cause a delay or suspension of nonclinical or clinical development, product approval and commercialization of our drug candidates or drug products, result in seizure or recall of clinical or commercial supplies, result in fines and civil penalties, result in liability for any patient injury or death or otherwise increase our costs, any of which could have an adverse effect on our business, financial condition, results of operations and growth prospects. If a third-party manufacturer cannot or fails to perform its contractual commitments, does not have sufficient capacity to meet our nonclinical, clinical or eventual commercial requirements or fails to meet cGMPs, regulations or other standards, we may be required to replace it or qualify an additional third-party manufacturer. Although we believe there are a number of potential alternative manufacturers, the number of manufacturers with the necessary manufacturing and regulatory expertise and facilities to manufacture biologics like our antibodies is limited. In addition, we could incur significant additional costs and delays in identifying and qualifying any new third-party manufacturer, due to the technology transfer to such new manufacturer and because the FDA, the EMA and other comparable regulatory authorities must approve any new manufacturer prior to manufacturing our drug candidates. Such approval would require successful technology transfer, comparability and other testing and compliance inspections. Transferring manufacturing to a new manufacturer could therefore interrupt supply, delay our clinical trials and any commercial launch and/or increase our costs for our drug candidates, any of which could have an adverse effect on our business, financial condition, results of operations and growth prospects.

Roche, with whom we are collaborating on development of prasinezumab, manufactured clinical supplies for the Phase 2 clinical trial for prasinezumab and is expected to do so for any subsequent clinical trials of prasinezumab. We are dependent on Roche to continue to manufacture these clinical supplies.

Rentschler Biopharma SE ("Rentschler") is our third-party manufacturer of clinical supplies of our drug candidate PRX004. We are dependent on Rentschler to manufacture these clinical supplies in order to continue our ongoing Phase 1 clinical trial and initiate any other clinical trial for PRX004.

We depend on third-party suppliers for key raw materials used in our manufacturing processes, and the loss of these third-party suppliers or their inability to supply us with adequate raw materials could harm our business.

We rely on third-party suppliers for the raw materials required for the production of our drug candidates. Our dependence on these third-party suppliers and the challenges we may face in obtaining adequate supplies of raw materials involve several risks, including limited control over pricing, availability, quality and delivery schedules. We cannot be certain that our suppliers will continue to provide us with the quantities of these raw materials that we require or satisfy our anticipated specifications and quality requirements. Any supply interruption in limited or sole sourced raw materials could materially harm our ability to manufacture our products until a new source of supply, if any, could be identified and qualified. Although we believe there are currently several other suppliers of these raw materials, we may be unable to find a sufficient alternative supply channel in a reasonable time or on commercially reasonable terms. Any performance failure on the part of our suppliers could delay the development and potential commercialization of our drug candidates, including limiting supplies necessary for clinical trials and regulatory approvals, which would have a material adverse effect on our business.

Risks Related to Our Intellectual Property

If we are unable to adequately protect or enforce the intellectual property relating to our drug candidates our ability to successfully commercialize our drug candidates will be harmed.

Our success depends in part on our ability to obtain patent protection both in the U.S. and in other countries for our drug candidates. Our ability to protect our drug candidates from unauthorized or infringing use by third parties depends in substantial part on our ability to obtain and maintain valid and enforceable patents. Due to evolving legal standards relating to the patentability, validity and enforceability of patents covering pharmaceutical inventions and the scope of claims made under these patents, our ability to obtain, maintain and enforce patents is uncertain and involves complex legal and factual questions. Accordingly, rights under any issued patents may not provide us with sufficient protection for our drug candidates or provide sufficient protection to afford us a commercial advantage against competitive products or processes. Additionally, our ability to obtain patent protection for our drug candidates also depends on our collaborators, partners, contractors, and employees involved in the generation of intellectual property to carry out their contractual duties, including those to assign relevant intellectual property rights developed on our behalf to us.

In addition, we cannot guarantee that any patents will issue from any pending or future patent applications owned by or licensed to us or our affiliates. Even if patents have issued or will issue, we cannot guarantee that the claims of these patents are or will be valid or enforceable or will provide us with any significant protection against competitive products or otherwise be commercially valuable to us. Patent applications in the U.S. are maintained in confidence for up to 18 months after their filing. In some cases, however, patent applications remain confidential in the U.S. Patent and Trademark Office (the "USPTO") for the entire time prior to issuance as a U.S. patent. Similarly, publication of discoveries in the scientific or patent literature often lags behind actual discoveries. Consequently, we cannot be certain that we or our licensors or co-owners were the first to invent, or the first to file patent applications on, our drug candidates or their use as drugs. In the event that a third party has also filed a U.S. patent application relating to our drug candidates or a similar invention, we may have to participate in interference or derivation proceedings declared by the USPTO to determine priority of invention in the U.S. The costs of these proceedings could be substantial and it is possible that our efforts would be unsuccessful, resulting in a loss of our U.S. patent position. Furthermore, we may not have identified all U.S. and non-U.S. patents or published applications that affect our business either by blocking our ability to commercialize our drugs or by covering similar technologies. Composition-of-matter patents on the biological or chemical active pharmaceutical ingredient are generally considered to be the strongest form of intellectual property protection for pharmaceutical products, as such patents provide protection without regard to any method of use. We cannot be certain that the claims in our patent applications covering composition-of-matter of our product candidates will be considered patentable by the USPTO and courts in the U.S. or by the patent offices and courts in other countries, nor can we be certain that the claims in our issued composition-of-matter patents will not be found invalid or unenforceable if challenged. Method-of-use patents protect the use of a product for the specified method. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their product for our targeted indications, physicians may prescribe these products "off-label." Although off-label prescriptions may infringe or contribute to the infringement of method-of-use patents, the practice is common and such infringement is difficult to prevent or prosecute.

The 2011 patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. In 2011, the U.S. Leahy-Smith America Invents Act (the "Leahy-Smith Act") was signed into law. The Leahy-Smith Act 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, 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 the patent on an invention regardless of whether another inventor had made the invention earlier. The USPTO subsequently developed new regulations and procedures to govern administration of the Leahy-Smith Act, but many of the substantive changes to patent law associated with the Leahy-Smith Act continue to be the subject of litigation and USPTO rule changes. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

We may be subject to a third-party preissuance submission of prior art to the USPTO, or become involved in opposition, derivation, reexamination, inter partes review, post-grant review, or other patent office proceedings or litigation, in the U.S. or elsewhere, 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.

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

The laws of some jurisdictions do not protect intellectual property rights to the same extent as in the U.S. and many companies have encountered significant difficulties in protecting and defending such rights in other jurisdictions. If we encounter such difficulties in protecting or are otherwise precluded from effectively protecting our intellectual property rights in other jurisdictions, our business prospects could be substantially harmed.

We license patent rights from third-party owners. Such licenses may be subject to early termination if we fail to comply with our obligations in our licenses with third parties, which could result in the loss of rights or technology that are material to our business.

We are a party to licenses that give us rights to third-party intellectual property that is necessary or useful for our business, and we may enter into additional licenses in the future. Under these license agreements we are obligated to pay the licensor fees, which may include annual license fees, milestone payments, royalties, a percentage of revenues associated with the licensed technology and a percentage of sublicensing revenue. In addition, under certain of such agreements, we are required to diligently pursue the development of products using the licensed technology. If we fail to comply with these obligations and fail to cure our breach within a specified period of time, the licensor may have the right to terminate the applicable license, in which event we could lose valuable rights and technology that are material to our business.

If the licensor retains control of prosecution of the patents and patent applications licensed to us, we may have limited or no control over the manner in which the licensor chooses to prosecute or maintain its patents and patent applications and have limited or no right to continue to prosecute any patents or patent applications that the licensor elects to abandon.

Litigation regarding patents, patent applications and other proprietary rights may be expensive and time consuming. If we are involved in such litigation, it could cause delays in bringing drug candidates to market and harm our ability to operate.

Our success will depend in part on our ability to operate without infringing the proprietary rights of third parties. Although we are not currently aware of any litigation or other proceedings or third-party claims of intellectual property infringement related to our drug candidates, the pharmaceutical industry is characterized by extensive litigation regarding patents and other intellectual property rights. Other parties may hold or obtain patents in the future and allege that the use of our technologies infringes these patent claims or that we are employing their proprietary technology without authorization.

In addition, third parties may challenge or infringe upon our existing or future patents. Proceedings involving our patents or patent applications or those of others could result in adverse decisions regarding:

- the patentability of our inventions relating to our drug candidates; and/or

- the enforceability, validity or scope of protection offered by our patents relating to our drug candidates.

Even if we are successful in these proceedings, we may incur substantial costs and divert management time and attention in pursuing these proceedings, which could have a material adverse effect on us.

If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, defend an infringement action or challenge the validity of the patents in court. Patent litigation is costly and time consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, if we do not obtain a license, develop or obtain non-infringing technology, fail to defend an infringement action successfully or have infringed patents declared invalid, we may:

- incur substantial monetary damages;

- encounter significant delays in bringing our drug candidates to market; and/or

- be precluded from participating in the manufacture, use or sale of our drug candidates or methods of treatment requiring licenses.

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

Our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition by potential partners or customers in our markets of interest. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected.

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

We rely on trade secrets to protect our proprietary technologies, especially where we do not believe patent protection is appropriate or obtainable; however, trade secrets are difficult to protect. We rely in part on confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers, and other advisors to protect our trade secrets and other proprietary information. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, others may independently discover our trade secrets and proprietary information. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

We may be subject to claims that our employees have wrongfully used or disclosed alleged trade secrets of their former employers.

Many of our employees were previously employed at universities, Elan or Elan subsidiaries, or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such employee’s former employer. Litigation 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 could result in substantial costs and be a distraction to management.

Risks Related to Our Ordinary Shares

The market price of our ordinary shares may fluctuate widely.

Our ordinary shares commenced trading on The Nasdaq Global Market on December 21, 2012 and currently trade on The Nasdaq Global Select Market. We cannot predict the prices at which our ordinary shares may trade. The market price of our ordinary shares may fluctuate widely, depending upon many factors, some of which may be beyond our control, including:

- our ability to obtain financing as needed;
- progress in and results from our ongoing or future nonclinical research and clinical trials;
- our collaborations with third parties, including with Roche and BMS;
- failure or delays in advancing our nonclinical drug candidates or other drug candidates we may develop in the future into clinical trials;
- results of clinical trials conducted by others, including on drugs that would compete with our drug candidates;
- issues in manufacturing our drug candidates;
- regulatory developments or enforcement in the U.S. and other countries;
- developments or disputes concerning patents or other proprietary rights;
- introduction of technological innovations or new commercial products by our competitors;
- changes in estimates or recommendations by securities analysts, if any, who cover our company;
- public concern over our drug candidates;
- litigation;
- future sales of our ordinary shares by us or by existing shareholders;
- general market conditions;
- changes in the structure of healthcare payment systems;
- failure of any of our drug candidates, if approved, to achieve commercial success;
- economic and other external factors or other disasters or crises;
- period-to-period fluctuations in our financial results;
- overall fluctuations in U.S. equity markets;
- our quarterly or annual results, or those of other companies in our industry;
- announcements by us or our competitors of significant acquisitions or dispositions;
- the operating and ordinary share price performance of other comparable companies;
- investor perception of our company and the drug development industry;

- natural or environmental disasters that investors believe may affect us;
- changes in tax laws or regulations applicable to our business or the interpretations of those tax laws and regulations by taxing authorities; or
- fluctuations in the budgets of federal, state and local governmental entities around the world.

These and other external factors may cause the market price and demand for our ordinary shares to fluctuate substantially, which may limit or prevent investors from readily selling their ordinary shares and may otherwise negatively affect the liquidity of our ordinary shares. In particular, stock markets in general have experienced volatility that has often been unrelated to the operating performance of a particular company. These broad market fluctuations may adversely affect the trading price of our ordinary shares. Some companies that experienced volatility in the trading price of their stock have been the subject of securities class action litigation.

Your percentage ownership in Prothena may be diluted in the future.

As with any publicly traded company, your percentage ownership in us may be diluted in the future because of equity issuances for acquisitions, capital raising transactions or otherwise. We may need to raise additional capital in the future. If we are able to raise additional capital, we may issue equity or convertible debt instruments, which may severely dilute your ownership interest in us. In addition, we intend to continue to grant option awards to our directors, officers and employees, which would dilute your ownership stake in us. As of March 31, 2020, the number of ordinary shares available for issuance pursuant to outstanding and future equity awards under our equity plan was 8,454,384.

If we are unable to maintain effective internal controls, our business could be adversely affected.

We are subject to the reporting and other obligations under the U.S. Securities Exchange Act of 1934, as amended, including the requirements of Section 404 of the U.S. Sarbanes-Oxley Act, which require annual management assessments of the effectiveness of our internal control over financial reporting. In addition, under Section 404(b) of the U.S. Sarbanes-Oxley Act, if we are either an “accelerated filer” or “large accelerated filer,” our independent registered public accounting firm must attest to the effectiveness of our internal control over financial reporting. The rules governing the standards that must be met for management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation to meet the detailed standards under the rules. During the course of its testing, our management may identify material weaknesses or deficiencies which may not be remedied in time to meet the deadline imposed by the Sarbanes-Oxley Act. These reporting and other obligations place significant demands on our management and administrative and operational resources, including accounting resources.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external purposes in accordance with accounting principles generally accepted in the U.S. During the course of our review and testing of our internal controls, we may identify deficiencies and be unable to remediate them before we must provide the required reports. Furthermore, if we have a material weakness in our internal controls over financial reporting, we may not detect errors on a timely basis and our consolidated financial statements may be materially misstated. We, or our independent registered public accounting firm (if required), may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting, which could harm our operating results, cause investors to lose confidence in our reported financial information and cause the trading price of our stock to fall.

We cannot provide assurance that a material weakness will not occur in the future, or that we will be able to conclude on an ongoing basis that we have effective internal controls over financial reporting in accordance with Section 404 and the related rules and regulations of the SEC when required. A material weakness in internal control over financial reporting is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company’s annual or interim consolidated financial statements will not be prevented or detected on a timely basis by the company’s internal controls. If we cannot in the future favorably assess, or our independent registered public accounting firm (if required), is unable to provide an unqualified attestation report on, the effectiveness of our internal controls over financial reporting, investor confidence in the reliability of our financial reports may be adversely affected, which could have a material adverse effect on our share price. In addition, any failure to report our financial results on an accurate and timely basis could result in sanctions, lawsuits, delisting of our shares from the Nasdaq Global Select Market or other adverse consequences that would have an adverse effect on our business, financial position and results of operations.

If we were treated as a passive foreign investment company for U.S. federal income tax purposes, it could result in adverse U.S. federal income tax consequences to United States holders of our ordinary shares.

Significant potential adverse U.S. federal income tax implications generally apply to U.S. investors owning shares of a passive foreign investment company ("PFIC"), directly or indirectly. In general, we would be a PFIC for a taxable year if either (i) 75% or more of our income constitutes passive income (the "income test"), or (ii) 50% or more of our assets produce passive income (the "asset test"). Changes in the composition of our active or passive income, passive assets or fair market value may cause us to become a PFIC. A separate determination must be made each taxable year as to whether we are a PFIC (after the close of each taxable year).

We do not believe we were a PFIC for U.S. federal income tax purposes for our taxable year- ended December 31, 2019, or any prior year. However, the application of the PFIC rules is subject to uncertainties in a number of respects, and we cannot assure that the U.S. Internal Revenue Service (the "IRS") will not take a contrary position. We also cannot assure that we will not be a PFIC for U.S. federal income tax purposes for any future taxable year.

We may not be able to successfully maintain our tax rates, which could adversely affect our business and financial condition, results of operations and growth prospects.

We are incorporated in Ireland and maintain subsidiaries or offices in Ireland and the U.S. We are able to achieve a low average tax rate through the performance of certain functions and ownership of certain assets in tax-efficient jurisdictions, together with intra-group service agreements. However, changes in tax laws in any of these jurisdictions could adversely affect our ability to do so in the future. Taxing authorities, such as the IRS, actively audit and otherwise challenge these types of arrangements, and have done so in our industry. We are subject to reviews and audits by the IRS and other taxing authorities from time to time, and the IRS or other taxing authority may challenge our structure and inter-group arrangements. Responding to or defending against challenges from taxing authorities could be expensive and time consuming, and could divert management's time and focus away from operating our business. We cannot predict whether and when taxing authorities will conduct an audit, challenge our tax structure or the cost involved in responding to any such audit or challenge. If we are unsuccessful, we may be required to pay taxes for prior periods, interest, fines or penalties, and may be obligated to pay increased taxes in the future, all of which could have an adverse effect on our business, financial condition, results of operations or growth prospects.

Future changes to the tax laws relating to multinational corporations could adversely affect us.

Under current law, we are treated as a foreign corporation for U.S. federal tax purposes. However, changes to the U.S. Internal Revenue Code, U.S. Treasury Regulations or other IRS guidance thereunder could adversely affect our status as a foreign corporation or otherwise affect our effective tax rate. In addition, the U.S. Congress, the IRS, the Organization for Economic Co-operation and Development and other governments and agencies in jurisdictions where we do business have recently focused on issues related to the taxation of multinational corporations, and specifically in the area of "base erosion and profit shifting," where payments are made between affiliates from a jurisdiction with high tax rates to a jurisdiction with lower tax rates. As a result, the tax laws in the U.S. and other countries in which we do business could change on a prospective or retroactive basis, and any such changes could have an adverse effect on our business, financial condition, results of operations or growth prospects.

Irish law differs from the laws in effect in the United States and may afford less protection to holders of our ordinary shares.

It may not be possible to enforce court judgments obtained in the U.S. against us in Ireland based on the civil liability provisions of the U.S. federal or state securities laws. In addition, there is uncertainty as to whether the courts of Ireland would recognize or enforce judgments of U.S. courts obtained against us or our directors or officers based on the civil liabilities provisions of the U.S. federal or state securities laws or hear actions against us or those persons based on those laws. We have been advised that the U.S. currently does not have a treaty with Ireland providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters. Therefore, a final judgment for the payment of money rendered by any U.S. federal or state court based on civil liability, whether or not based solely on federal or state securities laws, would not automatically be enforceable in Ireland.

As an Irish incorporated company, we are governed by the Irish Companies Act 2014 (the "Companies Act"), which differs in some material respects from laws generally applicable to U.S. corporations and shareholders, including, among others, differences relating to interested director and officer transactions and shareholder lawsuits. Likewise, the duties of directors and officers of an Irish company generally are owed to the company only. Shareholders of Irish companies generally do not have a personal right of action against directors or officers of the company and may exercise such rights of action on behalf of the company only in limited circumstances. Accordingly, holders of our ordinary shares may have more difficulty protecting their interests than would holders of securities of a corporation incorporated in a jurisdiction of the U.S.

Irish law differs from the laws in effect in the United States with respect to defending unwanted takeover proposals and may give our board of directors less ability to control negotiations with hostile offerors.

We are subject to the Irish Takeover Panel Act, 1997, Takeover Rules, 2013. Under those Irish Takeover Rules, our Board is not permitted to take any action that might frustrate an offer for our ordinary shares once our Board has received an approach that may lead to an offer or has reason to believe that such an offer is or may be imminent, subject to certain exceptions. Potentially frustrating actions such as (i) the issue of ordinary shares, options or convertible securities, (ii) material acquisitions or disposals, (iii) entering into contracts other than in the ordinary course of business, or (iv) any action, other than seeking alternative offers, which may result in frustration of an offer, are prohibited during the course of an offer or at any earlier time during which our Board has reason to believe an offer is or may be imminent. These provisions may give our Board less ability to control negotiations with hostile offerors and protect the interests of holders of ordinary shares than would be the case for a corporation incorporated in a jurisdiction of the U.S.

Irish law requires that our shareholders renew every five years the authority of our Board of Directors to issue shares and to do so for cash without applying the statutory pre-emption right, and if our shareholders do not renew these authorizations by May 17, 2022 (or any renewal is subject to limitations), our ability to raise additional capital to fund our operations would be limited.

As an Irish incorporated company, we are governed by the Companies Act. The Companies Act requires that every five years our shareholders renew the separate authorities of our Board to (a) allot and issue shares, and (b) opt out of the statutory pre-emption right that otherwise applies to share issuances for cash (which pre-emption right would require that shares issued for cash be offered to our existing shareholders on a pro rata basis before the shares may be issued to new shareholders). At our shareholders' annual general meeting held on May 17, 2017, our shareholders authorized our Board to issue ordinary shares up to the amount of our authorized share capital, and to opt out of the statutory pre-emption right for such issuances. Under Irish law, these authorizations will expire on May 17, 2022, five years after our shareholders last renewed these authorizations. Irish law requires that our shareholders renew the authority for our Board to issue ordinary shares by a resolution approved by not less than 50% of the votes cast at a general meeting of our shareholders. Irish law requires that our shareholders renew the authority of our Board to opt out of the statutory pre-emption right in share issuances for cash by a resolution approved by not less than 75% of the votes cast at a general meeting of our shareholders. If these authorizations are not renewed before May 17, 2022, or are renewed with limitations, our Board would be limited in its ability to issue shares, which would limit our ability to raise additional capital to fund our operations, including the research, development and potential commercialization of our product candidates.

Transfers of our ordinary shares may be subject to Irish stamp duty.

Irish stamp duty may be payable in respect of transfers of our ordinary shares (currently at the rate of 1% of the price paid or the market value of the shares acquired, if greater).

Under the Irish Stamp Duties Consolidation Act, 1999 (the “Stamp Duties Act”), a transfer of our ordinary shares from a seller who holds shares through DTC to a buyer who holds the acquired shares through DTC should not be subject to Irish stamp duty. Shareholders may also transfer their shares into or out of DTC without giving rise to Irish stamp duty provided that there is no change in the beneficial ownership of such shares and the transfer into or out of DTC is not effected in contemplation of a subsequent sale of such shares to a third party; in order to benefit from this exemption from Irish stamp duty, the seller must confirm to us that there is no change in the ultimate beneficial ownership of the shares as a result of the transfer and there is no agreement for the sale of the shares by the beneficial owner to a third party being contemplated.

A transfer of our ordinary shares (i) by a seller who holds shares outside of DTC to any buyer, or (ii) by a seller who holds the shares through DTC to a buyer who holds the acquired shares outside of DTC, may be subject to Irish stamp duty. Payment of any Irish stamp duty is generally a legal obligation of the transferee.

Any Irish stamp duty payable on transfers of our ordinary shares could adversely affect the price of those shares.

We do not anticipate paying cash dividends, and accordingly, shareholders must rely on ordinary share appreciation for any return on their investment.

We anticipate losing money for the foreseeable future and, even if we do ever turn a profit, we intend to retain future earnings, if any, for the development, operation and expansion of our business. Thus, we do not anticipate declaring or paying any cash dividends for the foreseeable future. Therefore, the success of an investment in our ordinary shares will depend upon appreciation in their value and in order to receive any income or realize a return on your investment, you will need to sell your Prothena ordinary shares. There can be no assurance that our ordinary shares will maintain their price or appreciate in value.

Dividends paid by us may be subject to Irish dividend withholding tax.

Although we do not currently anticipate paying cash dividends, if we were to do so in the future, a dividend withholding tax (currently at a rate of 25%) may arise. A number of exemptions from dividend withholding tax exist such that shareholders resident in the U.S. and shareholders resident in other countries that have entered into a double taxation treaty with Ireland may be entitled to exemptions from dividend withholding tax subject to the completion of certain dividend withholding tax declaration forms.

Shareholders entitled to an exemption from Irish dividend withholding tax on any dividends received from us will not be subject to Irish income tax in respect of those dividends, unless they have some connection with Ireland other than their shareholding (for example, they are resident in Ireland). Shareholders who receive dividends subject to Irish dividend withholding tax will generally have no further liability to Irish income tax on those dividends.

Prothena ordinary shares received by means of a gift or inheritance could be subject to Irish capital acquisitions tax.

Irish capital acquisitions tax ("CAT") could apply to a gift or inheritance of our ordinary shares irrespective of the place of residence, ordinary residence or domicile of the parties. This is because our ordinary shares will be regarded as property situated in Ireland. The person who receives the gift or inheritance has primary liability for CAT. Gifts and inheritances passing between spouses are exempt from CAT. It is recommended that each shareholder consult his or her own tax advisor as to the tax consequences of holding our ordinary shares or receiving dividends from us.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

EXHIBIT INDEX

Exhibit No.	Description	Previously Filed Form	File No.	Filing Date	Exhibit	Filed Herewith
10.1#	Offer Letter, dated February 18, 2020, between Prothena Biosciences Inc and Brandon S. Smith					X
10.2#	Prothena Corporation plc 2020 Employment Inducement Incentive Plan					X
10.3#	Option Award Agreement, dated March 2, 2020, between Prothena Corporation plc and Brandon S. Smith under the Prothena Corporation plc 2020 Employment Inducement Incentive Plan					X
10.4(a)	Understanding Related to License, Development, and Commercialization Agreement, dated as of March 1, 2020, among Prothena Biosciences Limited, Prothena Biosciences Inc, F. Hoffman-La Roche Ltd and Hoffman-La Roche Inc.					X
10.4(b)†	License Agreement, dated as of March 1, 2020, between Prothena Biosciences Limited and F. Hoffmann-La Roche Ltd.					X
31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
32.1*	Certification of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					X
101.INS	XBRL Instance Document					X
101.SCH	XBRL Taxonomy Extension Schema Document					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document					X

\# *Indicates management contract or compensatory plan or arrangement.*

* *Exhibit 32.1 is being furnished and shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liability of that section, nor shall such exhibit be deemed to be incorporated by reference in any registration statement or other document filed under the Securities Act of 1933, as amended, or the Exchange Act, except as otherwise specifically stated in such filing.*

† *Certain information in this exhibit (indicated by asterisks) has been excluded pursuant to Regulation S-K, Item 601(b)(10). Such excluded information is not material and would likely cause competitive harm to the registrant if publicly disclosed.*

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Quarterly Report on Form 10-Q to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: May 6, 2020	**Prothena Corporation plc** (Registrant)
	/s/ Gene G. Kinney
	Gene G. Kinney **President and Chief Executive Officer**
	/s/ Tran B. Nguyen
	Tran B. Nguyen **Chief Operating Officer and Chief Financial Officer**

Exhibit 10.1

Brandon Smith
[Address Redacted]

February 14, 2020

Dear Brandon:

I am pleased to confirm this offer for you to join Prothena Biosciences Inc ("Prothena" or the "Company"). We are confident in your knowledge, expertise and judgment, and believe your performance will meet our team's high-quality objectives and standards.

Your start date will be **March 2, 2020**, and the Prothena Corporation plc Board of Directors will appoint you as **Chief Business Officer** effective March 2, 2020, subject to your commencement of employment with the Company. In this position, you will report to Gene Kinney (President and CEO), although your duties, title and reporting relationship may change, based on the Company's needs and priorities. This is a full-time, exempt position – which means that you are not eligible for overtime pay under state and federal laws.

Your starting annualized salary will be **$400,000.00** (gross), paid twice per month. Your pay is subject to applicable taxes and withholdings.

We agree to pay you a Retention Bonus of **$100,000.00** (gross) which will be fully earned in the event that you remain employed with Prothena for one year. The entire Retention Bonus will be paid to you with your first paycheck, less applicable taxes and withholdings. This Retention Bonus will be earned on a pro-rata basis for each week worked during your initial one-year period of your employment at Prothena. The unearned portion of this Retention Bonus will be repayable by you to Prothena on a pro-rata basis if you cease employment at Prothena prior to the one-year anniversary of your employment start date, unless your employment ends for a reason that would make you eligible for severance benefits in accordance with the Prothena Biosciences Inc Amended and Restated Severance Plan. The forgoing will be set forth in a Retention Bonus Repayment Agreement, a form of which is attached (Exhibit 1), that we will need you to sign on your start date in order to receive the Retention Bonus.

Prothena embraces a pay-for-performance philosophy. All employees are currently eligible for an annual cash bonus under the terms of the Company's cash incentive plan (the Prothena Corporation plc Amended and Restated Incentive Compensation Plan). The amount of these annual cash bonuses is determined by the Company on the basis of a number of factors, including industry competitiveness, Prothena's business strategy, and the degree to which Company, function and/or individual goals are met. Your targeted cash bonus for our 2020 performance year will be **40%** of your actual salaried earnings during that year. A condition of earning any cash incentive award is that you remain employed through the pay date of an otherwise earned award, which will be paid no later than March 15, 2021. The cash bonus plan is operated at the sole discretion of Prothena, is subject to review on a regular basis and may change from time to time.

In connection with and subject to your commencement of employment and appointment as Chief Business Officer, both effective March 2, 2020, you will also be eligible to receive an option to acquire **240,000** shares of Prothena Corporation plc. This stock option award is at the discretion of the Compensation Committee of the Board of Directors of Prothena Corporation plc (the "Committee") and is subject to the approval and terms and conditions of the Prothena Corporation plc 2020 Employment Inducement Incentive Plan and the terms and conditions of the award agreement for such a stock option. The grant date of this stock option will be March 2, 2020. The option exercise price will be equal to the closing price of Prothena Corporation plc's ordinary shares on the NASDAQ Global Select Market on that date. Subject to your continued employment with the Company, the stock option will vest 25% on the first anniversary of the grant date, and monthly at a rate of 1/48th of the award thereafter, such that the option will fully vest after a four-year period following the grant date.
On the first day of the month following your employment start date, you will be eligible to participate in Prothena's comprehensive health and welfare benefits program. On your start date, you will also be eligible to participate in our retirement benefits plan, as well as the Prothena Biosciences Inc Amended and Restated Severance Plan. Details about these and other applicable plans will be provided separately.

The Company provides paid vacation time to full-time employees in accordance with the Company's vacation policy in its Employee Handbook, which will be provided to you upon commencement of your employment. You will also be eligible for paid sick time as required by state law. Additional information about paid sick time is contained in the Company's Employee Handbook.

Further information regarding onboarding requirements and/or documents needed on your employment start date (e.g., Employee Proprietary Information and Invention Assignment Agreement, Code of Conduct, Form I-9 completion process, direct deposit information, Form W-4 allowance elections) will be provided separately.

This offer is contingent upon your successful completion of a background check, pre-employment drug test and certain other pre-employment requirements. More information regarding these processes will be provided by Human Resources.

Additionally, your acceptance of this offer of employment and commencement of that employment means that you understand and agree that your employment relationship with the Company is at-will, for no specific period, and neither this letter nor any other oral or written representations may be considered a contract of employment for any specific period of time. As a result, you are free to resign your employment with Prothena at any time, for any reason or no reason. Similarly, Prothena is also free to end your employment at any time, with or without cause or advance notice. At-will employment also means that the Company may make decisions regarding other terms of your employment at any time with or without advance notice or cause, including but not limited to demotion, promotion, transfer, discipline, compensation and duties. Further, all benefits and compensation provided by the Company are contingent upon your continued employment.

To accept our offer, please sign this letter and return it to Kevin Hickey (VP, Human Resources) by **Tuesday, February 18, 2020**. This offer is valid until then, after which time we will not be able to accommodate an acceptance of this offer. Accordingly, please sign and return this letter before the above-stated expiration date. If you do not intend to accept this offer, we would like to be notified as soon as possible.

This letter, along with the Company's policies and procedures, sets forth the terms of your employment with the Company if you accept this offer and commence that employment, and supersedes any prior representations or agreements, whether written or oral. This letter may be modified only by a written agreement signed by you and an authorized officer of the Company.

We look forward to having you join Prothena as a full-time employee. If you have any questions, or if you would like additional information to help you reach a decision, please feel free to contact Kevin at (650) 837-8545. Please be sure to bring with you on you first day of employment documentation that proves your eligibility to work in the U.S., your bank details and emergency contact information.

Sincerely,

/s/ Gene Kinney
Gene Kinney
President and CEO
Prothena Biosciences Inc

ACCEPTANCE:

s/ Brandon Smith February 18, 2020
Brandon Smith Date

Exhibit 1 – RETENTION BONUS REPAYMENT AGREEMENT

I, Brandon Smith, will receive **$100,000.00** (gross) as a Retention Bonus with my first paycheck, less applicable withholdings and deductions, from Prothena Biosciences Inc ("Prothena" or the "Company"), which will not be fully earned until I have provided 12 months of Active Service as described below.

I understand and agree that a key purpose of the Retention Bonus is my retention as an employee, that the Retention Bonus is being paid to me before it is earned, and that I have not earned the Retention Bonus until I complete 12 months of continuous Active Service. For purposes of this Retention Bonus, "Active Service" includes periods from my employment start date that I am continuously employed by the Company or its affiliates, including time off for approved vacation, holidays, personal time, family & medical leave, and military leave, but not other leaves of absence unless otherwise required by applicable law.

I understand and agree that if I complete 12 months of Active Service from my employment start date, then I have earned this Retention Bonus and have no obligation to repay any portion of it upon termination of my employment.

I further understand and agree that if my employment terminates for any reason (other than if my employment ends for a reason that would make me eligible for severance benefits in accordance with the Prothena Biosciences Inc Amended and Restated Severance Plan) prior to my completion of 12 months of Active Service from my start date, then I must repay a pro-rata amount of the Retention Bonus in one lump sum within 30 days of my termination date. Within 5 days of my employment end date, the Company will notify me in writing of the amount to be repaid.

If I fail to repay the amount due under this Retention Bonus Repayment Agreement (this "Agreement") within 30 days of the termination of my employment, then the Company may bring legal proceedings against me for collection. I further agree that for any claims brought by the Company to enforce the terms of this Agreement, the prevailing party will be entitled to costs and reasonable attorneys' fees.

I agree and understand that nothing in this Agreement alters the at-will nature of my employment with Prothena, meaning that my employment is for no definite period and may be terminated either by me or the Company at any time, with or without cause or advance notice.

I acknowledge that I understand the terms of this Agreement, that I have had an opportunity to consult with counsel or another advisor prior to signing it, and that I agree to abide by its terms. I am voluntarily signing this Agreement.

ACCEPTANCE:

[TO BE SIGNED AND DATED ON DAY 1 OF EMPLOYMENT]

___________________________________ ____________________
Brandon Smith Date

Exhibit 10.2

PROTHENA CORPORATION PLC
2020 EMPLOYMENT INDUCEMENT INCENTIVE PLAN

ARTICLE I.
PURPOSE

The Plan's purpose is to enhance the Company's ability to attract, retain and motivate persons who make (or are expected to make) important contributions to the Company by providing these individuals with equity ownership opportunities.

ARTICLE II.
DEFINITIONS

As used in the Plan, the following words and phrases will have the meanings specified below, unless the context clearly indicates otherwise:

2.1 ***"Act"*** means the Companies Act 2014, as it may be amended from time to time. References to any provision of the Act shall be deemed to include successor provisions thereto and regulations thereunder.

2.2 "***Administrator***" means the Board or the Committee. With reference to the Board's or the Committee's powers or authority under the Plan that have been delegated pursuant to Section 4.2, the term "Administrator" shall refer to such delegatee unless and until such delegation has been revoked. For the avoidance of doubt, only the Committee or the Board may grant Awards under the Plan, and any action taken by the Board in connection with the administration of the Plan shall not be deemed approved by the Board unless such actions are approved by a majority of the Non-Employee Directors.

2.3 "***Applicable Law***" means any applicable law, including without limitation: (a) provisions of the Act, the Code, the Securities Act, the Exchange Act and any rules or regulations thereunder; (b) corporate, securities, tax or other laws, statutes, rules, requirements or regulations, whether federal, state, local or foreign; and (c) rules of any securities exchange or automated quotation system on which the Shares are listed, quoted or traded.

2.4 "***Award***" means an Option, Share Appreciation Right, Restricted Share award, Restricted Share Unit award, Performance Bonus Award, Performance Share Units award or Other Share or Cash Based Award granted to a Participant under the Plan.

2.5 "***Award Agreement***" means an agreement evidencing an Award, which may be written or electronic, that contains such terms and conditions as the Administrator determines, consistent with and subject to the terms and conditions of the Plan.

2.6 "***Board***" means the Board of Directors of the Company.

2.7 "***Change in Control***" shall mean and includes each of the following:

(a) The consummation of a merger or consolidation of the Company with or into another entity or any other corporate reorganization (however effected, including by general offer or court-sanctioned compromise, arrangement or scheme under the Act or otherwise) if more than 50% of the combined voting power of the continuing or surviving entity's issued shares or securities outstanding immediately after such merger, consolidation or other reorganization is owned by persons who were not shareholders of the Company immediately prior to such merger, consolidation or other reorganization;

(b) The sale, transfer or other disposition of all or substantially all of the Company's assets;

(c) Individuals who as of the date the Board first consists of at least seven members constitute the Board (the "***Incumbent Directors***") cease for any reason, including, without limitation, as a result of a tender offer, proxy contest, merger or similar transaction, to constitute at least a majority of the Board; provided, however, that any individual who becomes a director of the Company subsequent to the date the Board first consists of at least seven members shall be considered an Incumbent Director if such person's election or nomination for election was approved by a vote of at least a majority of the Incumbent Directors; but, provided further that any such person whose initial assumption of office is in connection with an actual or threatened solicitation of proxies or consents by or on behalf of a person other than the Board, including by reason of agreement intended to avoid or settle any such actual or threatened contest or solicitation, shall not be considered an Incumbent Director;

(d) Any transaction as a result of which any person becomes the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Company representing at least 50% of the total voting power represented by the Company's then outstanding voting securities (e.g., issued shares). For purposes of this subsection (d), the term "person" shall have the same meaning as when used in sections 13(d) and 14(d) of the Exchange Act but shall exclude (i) a trustee or other fiduciary holding securities under an employee benefit plan of the Company or of any Subsidiary, and (ii) a company owned directly or indirectly by the shareholders of the Company in substantially the same proportions as their ownership of the Shares of the Company; or

(e) The completion of a liquidation or dissolution of the Company.

Notwithstanding the foregoing, in the case of an Award that constitutes deferred compensation subject to section 409A of the Code, the definition of "Change in Control" set forth above shall not apply, and the term "Change in Control" shall instead mean a "change in the ownership or effective control" of the Company or "in the ownership of a substantial portion of the assets" of the Company within the meaning of section 409A(a)(2)(A)(v) of the Code and the regulations and guidance issued thereunder, but only to the extent this substitute definition is necessary in order for the Award to comply with the requirements prescribed by section 409A of the Code. The Administrator shall have full and final authority, which shall be exercised in its sole discretion, to determine conclusively whether a Change in Control has occurred pursuant to the above definition, the date of such Change in Control and any incidental matters relating thereto; provided that any exercise of authority in conjunction with a determination of whether a Change in Control is a "change in control event" as defined in U.S. Treasury Regulation Section 1.409A-3(i)(5) shall be consistent with such regulation.

2.8 "***Code***" means the U.S. Internal Revenue Code of 1986, as amended, and all regulations, guidance, compliance programs and other interpretative authority issued thereunder.

2.9 "***Committee***" means the Compensation Committee of the Board.

2.10 "***Company***" means Prothena Corporation plc, a public limited company organized under the laws of Ireland, or any successor corporation.

2.11 "***Consultant***" means any person, including any adviser, engaged by the Company or its parent or Subsidiary to render services to such entity if the consultant or adviser: (i) renders bona fide services to the Company; (ii) renders services not in connection with the offer or sale of securities in a capital-raising transaction and does not directly or indirectly promote or maintain a market for the Company's securities; and (iii) is a natural person.

2.12 "***Designated Beneficiary***" means the beneficiary or beneficiaries the Participant designates, in a manner the Company determines, to receive amounts due or exercise the Participant's rights if the Participant dies. Without a Participant's effective designation, "Designated Beneficiary" will mean the Participant's estate.

2.13 "***Director***" means a Board member.

2.14 "***Dividend Equivalents***" means a right granted to a Participant to receive the equivalent value (in cash or Shares) of dividends paid on a specified number of Shares. Such Dividend Equivalent shall be converted to cash or additional Shares, or a combination of cash and Shares, by such formula and at such time and subject to such limitations as may be determined by the Administrator.

2.15 "***Effective Date***" has the meaning set forth in Section 11.3.

2.16 "***Eligible Individual***" means any Employee who has not previously been an Employee or a Director of the Company or a Subsidiary, or is commencing employment with the Company or a Subsidiary following a bona fide period of nonemployment by the Company or a Subsidiary, if he or she is granted an Award in connection with his or her commencement of employment with the Company or a Subsidiary and such grant is an inducement material to his or her entering into employment with the Company or a Subsidiary. The Administrator may in its discretion adopt procedures from time to time to ensure that an Employee is eligible to participate in the Plan prior to the granting of any Awards to such Employee under the Plan (including, without limitation, a requirement, that each such Employee certify to the Company prior to the receipt of an Award under the Plan that he or she has not been previously employed by the Company or a Subsidiary, or if previously employed, has had a bona fide period of non-employment, and that the grant of Awards under the Plan is an inducement material to his or her agreement to enter into employment with the Company or a Subsidiary).

2.17 "***Employee***" means any employee of the Company or any of its Subsidiaries.

2.18 "***Equity Restructuring***" means a nonreciprocal transaction between the Company and its shareholders, such as a share dividend, share split (including a reverse share split), spin-off or recapitalization through a large, nonrecurring cash dividend, that affects the number or kind of Shares (or other Company securities) or the share price of Ordinary Shares (or other Company securities) and causes a change in the per share value of the Ordinary Shares underlying outstanding Awards.

2.19 "***Exchange Act***" means the U.S. Securities Exchange Act of 1934, as amended, and all regulations, guidance and other interpretative authority issued thereunder.

2.20 "***Fair Market Value***" means, as of any date, the value of a Share determined as follows: (i) if the Ordinary Shares are listed on any established stock exchange, the value of a Share will be the closing sales price for a Share as quoted on such exchange for such date, or if no sale occurred on such date, the last day preceding such date during which a sale occurred, as reported in *The Wall Street Journal* or another source the Administrator deems reliable; (ii) if the Ordinary Shares are not listed on an established stock exchange but is quoted on a national market or other quotation system, the value of a Share will be the closing sales price for a Share on such date, or if no sales occurred on such date, then on the last date preceding such date during which a sale occurred, as reported in *The Wall Street Journal* or another source the Administrator deems reliable; or (iii) if the Ordinary Shares are not listed on any established stock exchange or quoted on a national market or other quotation system, the value established by the Administrator in its sole discretion.

2.21 "***Full Value Award***" shall mean any Award that is settled in Shares other than: (a) an Option; (b) a Share Appreciation Right; or (c) any other Award for which the Participant pays the intrinsic value existing as of the date of grant (whether directly or by forgoing a right to receive a payment from the Company or any Subsidiary).

2.22 "***Incentive Stock Option***" means an Option that meets the requirements to qualify as an "incentive stock option" as defined in Section 422 of the Code. Incentive Stock Options may not be granted under the Plan.

2.23 ***"Non-Employee Director"*** shall mean a Director of the Company who is not an Employee of the Company and who qualifies as "independent" within the meaning of Nasdaq Stock Market Rule 5605(a)(2), or any successor rule, if the Company's securities are traded on the Nasdaq Stock Market, or if the requirements of any other established stock exchange on which the Company's securities are traded, as such rules or requirements may be amended from time to time.

2.24 "***Nonqualified Stock Option***" means an Option that is not an Incentive Stock Option.

2.25 "***Option***" means a right granted under Article VI to purchase a specified number of Shares at a specified price per Share during a specified time period. Any Option granted under this Plan shall be a Nonqualified Stock Option.

2.26 "***Ordinary Shares***" means the ordinary shares, par value $0.01 per share, of the Company.

2.27 "***Other Share or Cash Based Awards***" means cash awards, awards of Shares, and other awards valued wholly or partially by referring to, or are otherwise based on, Shares or other property.

2.28 "***Overall Share Limit***" means 240,000 Shares.

2.29 "***Participant***" means an Eligible Individual who has been granted an Award.

2.30 "***Performance Bonus Award***" has the meaning set forth in Section 8.3.

2.31 "***Performance Share Unit***" means a right granted to a Participant pursuant to Section 8.1 and subject to Section 8.2, to receive Shares, the payment of which is contingent upon achieving certain performance goals or other performance-based targets established by the Administrator.

2.32 "***Permitted Transferee***" shall mean, with respect to a Participant, any "family member" of the Participant, as defined in the General Instructions to Form S-8 Registration Statement under the Securities Act (or any successor form thereto), or any other transferee specifically approved by the Administrator after taking into account Applicable Law.

2.33 "***Plan***" means this Prothena Corporation plc 2020 Employment Inducement Incentive Plan.

2.34 "***Restricted Shares***" means Shares awarded to a Participant under Article VII, subject to certain vesting conditions and other restrictions.

2.35 "***Restricted Share Unit***" means an unfunded, unsecured right to receive, on the applicable settlement date, one Share or an amount in cash or other consideration determined by the Administrator to be of equal value as of such settlement date, subject to certain vesting conditions and other restrictions.

2.36 "***Rule 16b-3***" means Rule 16b-3 promulgated under the Exchange Act.

2.37 "***Section 409A***" means Section 409A of the Code.

2.38 "***Securities Act***" means the Securities Act of 1933, as amended, and all regulations, guidance and other interpretative authority issued thereunder.

2.39 “***Shares***” means Ordinary Shares.

2.40 “***Share Appreciation Right***” or “***SAR***” means a right granted under Article VI to receive a payment equal to the excess of the Fair Market Value of a specified number of Shares on the date the right is exercised over the exercise price set forth in the applicable Award Agreement.

2.41 “***Subsidiary***” means any entity (other than the Company), whether domestic or foreign, in an unbroken chain of entities beginning with the Company if each of the entities other than the last entity in the unbroken chain beneficially owns, at the time of the determination, securities or interests representing at least 50% of the total combined voting power of all classes of securities or interests in one of the other entities in such chain.

2.42 “***Termination of Service***” means:

(a) As to a Consultant, the time when the engagement of a Participant as a Consultant to the Company or a Subsidiary is terminated for any reason, with or without cause, including, without limitation, by resignation, discharge, death or retirement, but excluding terminations where the Consultant simultaneously commences or remains in employment or service with the Company or any Subsidiary.

(b) As to a Director, the time when a Participant who is a Director ceases to be a Director for any reason, including, without limitation, a termination by resignation, failure to be elected, death or retirement, but excluding terminations where the Participant simultaneously commences or remains in employment or service with the Company or any Subsidiary.

(c) As to an Employee, the time when the employee-employer relationship between a Participant and the Company or any Subsidiary is terminated for any reason, including, without limitation, a termination by resignation, discharge, death, disability or retirement; but excluding terminations where the Participant simultaneously commences or remains in employment or service with the Company or any Subsidiary.

The Company, in its sole discretion, shall determine the effect of all matters and questions relating to any Termination of Service, including, without limitation, whether a Termination of Service has occurred, whether a Termination of Service resulted from a discharge for “cause” and all questions of whether particular leaves of absence constitute a Termination of Service. For purposes of the Plan, a Participant’s employee-employer relationship or consultancy relationship shall be deemed to be terminated in the event that the Subsidiary employing or contracting with such Participant ceases to remain a Subsidiary following any merger, sale of stock or other corporate transaction or event (including, without limitation, a spin-off), even though the Participant may subsequently continue to perform services for that entity.

ARTICLE III.
ELIGIBILITY

Only Eligible Individuals may be granted Awards under the Plan, subject to the limitations described herein. No Eligible Individual shall have any right to be granted an Award pursuant to the Plan and neither the Company nor the Administrator is obligated to treat Eligible Individuals, Participants or any other persons uniformly.

ARTICLE IV.
ADMINISTRATION AND DELEGATION

4.1 <u>Administration</u>.

(a) The Plan is administered by the Administrator. Subject to Section 4.2, the Administrator has authority to determine which Eligible Individuals receive Awards, grant Awards and set Award terms and conditions, subject to the conditions and limitations in the Plan. The Administrator also has the authority to take all actions and make all determinations under the Plan, to interpret the Plan and Award Agreements and to adopt, amend and repeal Plan administrative rules, guidelines and practices as it deems advisable. The Administrator may correct defects and ambiguities, supply omissions, reconcile inconsistencies in the Plan or any Award and make all other determinations that it deems necessary or appropriate to administer the Plan and any Awards. The Administrator (and each member thereof) is entitled to, in good faith, rely or act upon any report or other information furnished to it, him or her by any officer or other employee of the Company or any Subsidiary, the Company's independent certified public accountants, or any executive compensation consultant or other professional retained by the Company to assist in the administration of the Plan. The Administrator's determinations under the Plan are in its sole discretion and will be final, binding and conclusive on all persons having or claiming any interest in the Plan or any Award. Any action taken by the Board in connection with the administration of the Plan shall not be deemed approved by the Board unless such actions are approved by a majority of the Non-Employee Directors.

(b) Without limiting the foregoing, notwithstanding any other provision of the Plan to the contrary, the Administrator has the exclusive power, authority and sole discretion to: (i) adopt procedures from time to time in the Administrator's discretion to ensure that an Employee is eligible to participate in the Plan prior to the granting of any Awards to such Employee under the Plan (including, without limitation, a requirement, if any, that each such Employee certify to the Company prior to the receipt of an Award under the Plan that he or she has not been previously employed by the Company or a Subsidiary, or if previously employed, has had a bona fide period of non-employment, and that the grant of Awards under the Plan is an inducement material to his or her agreement to enter into employment with the Company or a Subsidiary); (ii) designate Participants; (iii) determine the type or types of Awards to be granted to each Participant; determine the number of Awards to be granted and the number of Shares to which an Award will relate; (iv) subject to the limitations in the Plan, determine the terms and conditions of any Award and related Award Agreement, including, but not limited to, the exercise price, grant price, purchase price, any performance criteria, any restrictions or limitations on the Award, any schedule for vesting, lapse of forfeiture restrictions or restrictions on the exercisability of an Award, and accelerations or waivers thereof; (v) determine whether, to what extent, and under what circumstances an Award may be settled in, or the exercise price of an Award may be paid in cash, Shares, or other property, or an Award may be canceled, forfeited, or surrendered; and (vi) make all other decisions and determinations that may be required pursuant to the Plan or as the Administrator deems necessary or advisable to administer the Plan.

4.2 Delegation of Authority. To the extent permitted by Applicable Law, the Board or any Committee may delegate to a committee of one or more Directors or officers of the Company the authority to amend Awards or take other administrative actions pursuant to this Article IV. Notwithstanding the foregoing, only the Committee and the Board, acting in accordance with this Article IV, may grant Awards hereunder. Any delegation hereunder shall be subject to the restrictions and limits that the Board or Committee specifies at the time of such delegation or that are otherwise included in the applicable organizational documents, and the Board or Committee, as applicable, may at any time rescind the authority so delegated or appoint a new delegatee. At all times, the delegatee appointed under this Section 4.2 shall serve in such capacity at the pleasure of the Board or the Committee, as applicable, and the Board or the Committee may abolish any committee at any time and re-vest in itself any previously delegated authority. Further, regardless of any delegation, the Board or a Committee may, in its discretion, exercise any and all rights and duties as the Administrator under the Plan delegated thereby, except with respect to Awards that are required to be determined in the sole discretion of the Committee under the rules of any securities exchange or automated quotation system on which the Shares are listed, quoted or traded.

ARTICLE V.
SHARES AVAILABLE FOR AWARDS

5.1 Number of Shares. Subject to adjustment under Article IX and the terms of this Article V, shares may be issued under Awards made under the Plan covering up to the Overall Share Limit. Shares issued or delivered under the Plan may consist of authorized but unissued Shares, Shares purchased on the open market or treasury Shares. Notwithstanding the foregoing, the aggregate number of Shares available for issuance under the Plan shall be reduced by 1.5 Shares for each Share delivered in settlement of any Full Value Award.

5.2 Share Recycling.

(a) If all or any part of an Award expires, lapses or is terminated, converted into an award in respect of shares of another entity in connection with a spin-off or other similar event, exchanged for cash, surrendered, repurchased, canceled without having been fully exercised or forfeited, in any case, in a manner that results in the Company acquiring Shares covered by the Award at a price not greater than the price (as adjusted to reflect any Equity Restructuring) paid by the Participant for such Shares or not issuing any Shares covered by the Award, the unused Shares covered by the Award will, as applicable, become or again be available for Awards under the Plan. To the extent that all or any part of a Full Value Award expires, lapses, is terminated, converted into an award in respect of shares of another entity in connection with a spin-off or other similar event, exchanged for cash, surrendered, repurchased, canceled without having been fully exercised or forfeited, the Shares available under the Plan shall be increased by 1.5 Shares for each Share subject to such Full Value Award (or applicable part thereof). The payment of Dividend Equivalents in cash in conjunction with any outstanding Awards shall not count against the Overall Share Limit.

(b) Notwithstanding anything to the contrary contained herein, the following Shares shall not be added to the Shares authorized for grant under Section 5.2(a) and shall not be available for future grants of Awards: (i) Shares tendered by a Participant or withheld by the Company in payment of the exercise price of an Option; (ii) Shares tendered by the Participant or withheld by the Company to satisfy any tax withholding obligation with respect to an Award; (iii) Shares subject to a Share Appreciation Right that are not issued in connection with the stock settlement of the Share Appreciation Right on exercise thereof; and (iv) Shares purchased on the open market by the Company with the cash proceeds received from the exercise of Options.

ARTICLE VI.
OPTIONS AND SHARE APPRECIATION RIGHTS

6.1 General. The Committee or the Board may grant Options or Share Appreciation Rights to one or more Eligible Individuals, subject to such terms and conditions not inconsistent with the Plan as the Administrator shall determine. The Administrator will determine the number of Shares covered by each Option and Share Appreciation Right, the exercise price of each Option and Share Appreciation Right and the conditions and limitations applicable to the exercise of each Option and Share Appreciation Right. A Share Appreciation Right will entitle the Participant (or other person entitled to exercise the Share Appreciation Right) to receive from the Company upon exercise of the exercisable portion of the Share Appreciation Right an amount determined by multiplying the excess, if any, of the Fair Market Value of one Share on the date of exercise over the exercise price per Share of the Share Appreciation Right by the number of Shares with respect to which the Share Appreciation Right is exercised, subject to any limitations of the Plan or that the Administrator may impose and payable in cash, Shares valued at Fair Market Value on the date of exercise or a combination of the two as the Administrator may determine or provide in the Award Agreement.

6.2 Exercise Price. The Administrator will establish each Option’s and Share Appreciation Right’s exercise price and specify the exercise price in the Award Agreement. The exercise price will not be less than 100% of the Fair Market Value on the grant date of the Option or Share Appreciation Right.

6.3 Duration of Options. Each Option or Share Appreciation Right will be exercisable at such times and as specified in the Award Agreement, provided that the term of an Option or Share Appreciation Right will not exceed ten years; provided, further, that, unless otherwise determined by the Administrator, (a) no portion of an Option or Share Appreciation Right which is unexercisable at a Participant's Termination of Service shall thereafter become exercisable, and (b) the portion of an Option or Share Appreciation Right that is unexercisable at a Participant's Termination of Service shall automatically expire immediately following such Termination of Service. Notwithstanding the foregoing, if the Participant, prior to the end of the term of an Option or Share Appreciation Right, commits an act of "cause" (as determined by the Administrator), or violates the non-competition, non-solicitation or confidentiality provisions of any employment contract, confidentiality and nondisclosure agreement or other agreement between the Participant and the Company or any of its Subsidiaries, the right to exercise the Option or Share Appreciation Right, as applicable, may be terminated by the Company and the Company may suspend the Participant's right to exercise the Option or Share Appreciation Right when it reasonably believes that the Participant may have participated in any such act or violation.

6.4 Exercise. Options and Share Appreciation Rights may be exercised by delivering to the Company (or such other person or entity designated by the Administrator) a notice of exercise, in a form and manner the Company approves (which may be written, electronic or telephonic and may contain representations and warranties deemed advisable by the Administrator), signed or authenticated by the person authorized to exercise the Option or Share Appreciation Right, together with, as applicable, payment in full of (a) the exercise price for the number of Shares for which the Option is exercised in a manner specified in Section 6.5 and (b) all applicable taxes in a manner specified in Section 10.5.

6.5 Payment Upon Exercise. The Administrator shall determine the methods by which payment of the exercise price of an Option shall be made, including, without limitation:

(a) cash, check or wire transfer of immediately available funds; provided that the Company may limit the use of one of the foregoing methods if one or more of the methods below is permitted;

(b) if there is a public market for Shares at the time of exercise, unless the Company otherwise determines, (A) delivery (including electronically or telephonically to the extent permitted by the Company) of a notice that the Participant has placed a market sell order with a broker acceptable to the Company with respect to Shares then issuable upon exercise of the Option and that the broker has been directed to deliver promptly to the Company funds sufficient to pay the exercise price, or (B) the Participant's delivery to the Company of a copy of irrevocable and unconditional instructions to a broker acceptable to the Company to deliver promptly to the Company an amount sufficient to pay the exercise price by cash, wire transfer of immediately available funds or check; provided that such amount is paid to the Company at such time as may be required by the Company;

(c) to the extent permitted by the Administrator, delivery (either by actual delivery or attestation) of Shares owned by the Participant valued at their Fair Market Value on the date of delivery;

(d) to the extent permitted by the Administrator, surrendering Shares then issuable upon the Option's exercise valued at their Fair Market Value on the exercise date; or

(e) to the extent permitted by the Administrator, any combination of the above payment forms.

ARTICLE VII.
RESTRICTED SHARES; RESTRICTED SHARE UNITS

7.1 General. The Committee or the Board may grant Restricted Shares, or the right to purchase Restricted Shares, to any Eligible Individual, subject to forfeiture or the Company's right to repurchase all or part of such shares at their issue price or other stated or formula price from the Participant if conditions the Administrator specifies in the Award Agreement are not satisfied before the end of the applicable restriction period or periods that the Administrator establishes for such Award. In addition, the Committee or the Board may grant Restricted Share Units, which may be subject to vesting and forfeiture conditions during the applicable restriction period or periods, as set forth in an Award Agreement, to Eligible Individuals. The Administrator shall establish the purchase price, if any, and form of payment for Restricted Shares and Restricted Share Units; provided, however, that if a purchase price is charged, such purchase price shall be no less than the par value, if any, of the Shares to be purchased, unless otherwise permitted by Applicable Law. In all cases, legal consideration shall be required for each issuance of Restricted Shares and Restricted Share Units to the extent required by Applicable Law. The Award Agreement for each Restricted Share and Restricted Share Unit Award shall set forth the terms and conditions not inconsistent with the Plan as the Administrator shall determine.

7.2 Restricted Shares.

(a) *Shareholder Rights*. Unless otherwise determined by the Administrator, each Participant holding Restricted Shares will be entitled to all the rights of a shareholder with respect to such Shares, subject to the restrictions in the Plan and/or the applicable Award Agreement, including the right to receive all dividends and other distributions paid or made with respect to the Shares to the extent such dividends and other distributions have a record date that is on or after the date on which such Participant becomes the record holder of such Shares; provided, however, that with respect to a Restricted Share subject to restrictions or vesting conditions as described in Section 8.3, except in connection with a spin-off or other similar event as otherwise permitted under Section 9.2, dividends which are paid to Company shareholders prior to the removal of restrictions and satisfaction of vesting conditions shall only be paid to the Participant to the extent that the restrictions are subsequently removed and the vesting conditions are subsequently satisfied and the Restricted Share vests.

(b) *Share Certificates*. The Company may require that the Participant deposit in escrow with the Company (or its designee) any share certificates issued in respect of Restricted Shares, together with a stock power endorsed in blank.

(c) *Section 83(b) Election*. If a Participant makes an election under Section 83(b) of the Code to be taxed with respect to the Restricted Shares as of the date of transfer of the Restricted Shares rather than as of the date or dates upon which such Participant would otherwise be taxable under Section 83(a) of the Code, such Participant shall be required to deliver a copy of such election to the Company promptly after filing such election with the Internal Revenue Service along with proof of the timely filing thereof.

7.3 Restricted Share Units. The Administrator may provide that settlement of Restricted Share Units will occur upon or as soon as reasonably practicable after the Restricted Share Units vest or will instead be deferred, on a mandatory basis or at the Participant's election, subject to compliance with Applicable Law.

ARTICLE VIII.
OTHER TYPES OF AWARDS

8.1 General. The Committee or the Board may grant Performance Share Units awards, Performance Bonus Awards, Dividend Equivalents or Other Share or Cash Based Awards, to one or more Eligible Individuals, in such amounts and subject to such terms and conditions not inconsistent with the Plan as the Administrator shall determine.

8.2 Performance Share Unit Awards. Each Performance Share Units award shall be denominated in a number of Shares or in unit equivalents of Shares and/or units of value (including a dollar value of Shares) and may be linked to any one or more of performance or other specific criteria, including service to the Company or Subsidiaries, determined to be appropriate by the Administrator, in each case on a specified date or dates or over any period or periods determined by the Administrator. In making such determinations, the Administrator may consider (among such other factors as it deems relevant in light of the specific type of award) the contributions, responsibilities and other compensation of the particular Participant.

8.3 Performance Bonus Awards. Each right to receive a bonus granted under this Section 8.3 shall be denominated in the form of cash (but may be payable in cash, shares or a combination thereof) (a "***Performance Bonus Award***") and shall be payable upon the attainment of performance goals that are established by the Administrator and relate to one or more of performance or other specific criteria, including service to the Company or Subsidiaries, in each case on a specified date or dates or over any period or periods determined by the Administrator.

8.4 Dividend Equivalents. If the Administrator provides, an Award (other than an Option or Share Appreciation Right) may provide a Participant with the right to receive Dividend Equivalents. Dividend Equivalents may be paid currently or credited to an account for the Participant, settled in cash or Shares and subject to the same restrictions on transferability and forfeitability as the Award with respect to which the Dividend Equivalents are granted and subject to other terms and conditions as set forth in the Award Agreement. Notwithstanding anything to the contrary herein, Dividend Equivalents with respect to an Award subject to vesting shall either (i) to the extent permitted by Applicable Law, not be paid or credited, or (ii) be accumulated and subject to vesting to the same extent as the related Award. Subject to the foregoing sentence, all such Dividend Equivalents shall be paid at such time as the Administrator shall specify in the applicable Award Agreement. Notwithstanding the foregoing, no Dividend Equivalents shall be payable with respect to Options or Share Appreciation Rights.

8.5 Other Share or Cash Based Awards. Other Share or Cash Based Awards may be granted to Eligible Individuals, including Awards entitling Participants to receive cash or Shares to be delivered in the future and annual or other periodic or long-term cash bonus awards (whether based on specified performance criteria or otherwise), in each case subject to any conditions and limitations in the Plan. Such Other Share or Cash Based Awards will also be available as a payment form in the settlement of other Awards, as standalone payments and as payment in lieu of compensation to which a Participant is otherwise entitled. Other Share or Cash Based Awards may be paid in Shares, cash or other property, as the Administrator determines. Subject to the provisions of the Plan, the Administrator will determine the terms and conditions of each Other Share or Cash Based Award, including any purchase price, performance goal(s), transfer restrictions, and vesting conditions, which will be set forth in the applicable Award Agreement. Except in connection with a spin-off or other similar event as otherwise permitted under Article IX, dividends that are paid prior to vesting of any Other Share or Cash Based Award shall only be paid to the applicable Participant to the extent that the vesting conditions are subsequently satisfied and the Other Share or Cash Based Award vests.

ARTICLE IX.
ADJUSTMENTS FOR CHANGES IN ORDINARY SHARES AND CERTAIN OTHER EVENTS

9.1 Equity Restructuring. In connection with any Equity Restructuring, notwithstanding anything to the contrary in this Article IX the Administrator will equitably adjust the terms of the Plan and each outstanding Award as it deems appropriate to reflect the Equity Restructuring, which may include: (i) adjusting the number and type of securities subject to each outstanding Award and/or with respect to which Awards may be granted under the Plan (including, but not limited to, adjustments of the limitations in Article V hereof on the maximum number and kind of shares that may be issued); (ii) adjusting the terms and conditions of (including the grant or exercise price), and the performance goals or other criteria included in, outstanding Awards; and (iii) granting new Awards or making cash payments to Participants. The adjustments provided under this Section 9.1 will be nondiscretionary and final and binding on all interested parties, including the affected Participant and the Company; provided that the

Administrator will determine whether an adjustment is equitable. No amendment or adjustment pursuant to this Section 9.1 shall have the effect of reducing the amount payable for a Share to less than the par value of a Share.

9.2 Corporate Transactions. In the event of any dividend or other distribution (whether in the form of cash, Ordinary Shares, other securities, or other property), reorganization, merger, consolidation, split-up, spin off, combination, amalgamation, repurchase, recapitalization, liquidation, dissolution, or sale, transfer, exchange or other disposition of all or substantially all of the assets of the Company, or sale or exchange of Ordinary Shares or other securities of the Company, issuance of warrants or other rights to purchase Ordinary Shares or other securities of the Company, other similar corporate transaction or event, other unusual or nonrecurring transaction or event affecting the Company or its financial statements or any change in Applicable Law or accounting principles, the Administrator, on such terms and conditions as it deems appropriate, either by the terms of the Award or by action taken prior to the occurrence of such transaction or event (except that action to give effect to a change in Applicable Law or accounting principles may be made within a reasonable period of time after such change) and either automatically or upon the Participant's request, is hereby authorized to take any one or more of the following actions whenever the Administrator determines that such action is appropriate in order to (x) prevent dilution or enlargement of the benefits or potential benefits intended by the Company to be made available under the Plan or with respect to any Award granted or issued under the Plan, (y) to facilitate such transaction or event, or (z) give effect to such changes in Applicable Law or accounting principles:

(a) To provide for the cancellation of any such Award in exchange for either an amount of cash and/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 or realization of the Participant's rights under the vested portion of such Award, as applicable; provided that, if the amount that could have been obtained upon the exercise or settlement of the vested portion of such Award or realization of the Participant's rights, in any case, is equal to or less than zero, then the Award may be terminated without payment;

(b) To provide that such Award shall vest and, to the extent applicable, be exercisable as to all Shares (or other property) covered thereby, notwithstanding anything to the contrary in the Plan or the provisions of such Award;

(c) To provide that such Award be assumed by the successor or survivor corporation or entity, or a parent or subsidiary thereof, or shall be substituted for by awards covering the stock of the successor or survivor corporation or entity, or a parent or subsidiary thereof, with appropriate adjustments as to the number and kind of shares and/or applicable exercise or purchase price, in all cases, as determined by the Administrator;

(d) To make adjustments in the number and type of Ordinary Shares (or other securities or property) subject to outstanding Awards and/or with respect to which Awards may be granted under the Plan (including, but not limited to, adjustments of the limitations in Article V hereof on the maximum number and kind of shares which may be issued) and/or in the terms and conditions of (including the grant or exercise price), and the criteria included in, outstanding Awards, provided that no amendment or adjustment made pursuant to this Section 9.2 shall have the effect of reducing the amount payable for a Share to less than the par value of a Share;

(e) To replace such Award with other rights or property selected by the Administrator; and/or

(f) To provide that the Award will terminate and cannot vest, be exercised or become payable after the applicable event.

9.3 Change in Control.

(a) In the event of a Change in Control, each Award shall continue in effect or be assumed or an equivalent Award substituted by the successor corporation or a parent or subsidiary of the successor corporation. In the event that the successor corporation in a Change in Control refuses to assume or substitute for an Award, the Award shall become fully exercisable immediately prior to the consummation of such transaction and all forfeiture restrictions on any or all of such Award to lapse, provided that any Awards subject to performance-based vesting shall vest based on the greater of (i) actual performance as of the Change in Control, or (ii) target performance, pro-rated based on the period elapsed between the beginning of the applicable performance period and the date of the Change in Control. If any such Award is exercisable in lieu of assumption or substitution in the event of a Change in Control, the Administrator shall notify the Participant that such Award shall be fully exercisable for a period of fifteen (15) days from the date of such notice, contingent upon the occurrence of the Change in Control, and such Award shall terminate upon the expiration of such period.

(b) For the purposes of this Section 9.3, an Award shall be considered assumed if, following the Change in Control, the Award confers the right to purchase or receive, for each Share subject to the Award immediately prior to the Change in Control, the consideration (whether stock, cash, or other securities or property) received in the Change in Control by holders of Ordinary Shares for each Share held on the effective date of the transaction (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); provided, however, that if such consideration received in the Change in Control was not solely common stock (or equivalent security) of the successor corporation or its parent, the Administrator may, with the consent of the successor corporation, provide for the consideration to be received upon the exercise of the Award, for each Share subject to an Award, to be solely common stock (or equivalent security) of the successor corporation or its parent equal in fair market value to the per-share consideration received by holders of Ordinary Shares in the Change in Control.

9.4 Administrative Stand Still. In the event of any pending share dividend, share split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to shareholders, or any other extraordinary transaction or change affecting the Shares or the share price of Ordinary Shares (including any Equity Restructuring or any securities offering or other similar transaction) or for reasons of administrative convenience or to facilitate compliance with Applicable Law, the Company may refuse to permit the exercise or settlement of one or more Awards for such period of time as the Company may determine to be reasonably appropriate under the circumstances.

9.5 General. Except as expressly provided in the Plan or the Administrator's action under the Plan, no Participant will have any rights due to any subdivision or consolidation of Shares of any class, dividend payment, increase or decrease in the number of Shares of any class or dissolution, liquidation, merger, or consolidation of the Company or other corporation. Except as expressly provided with respect to an Equity Restructuring under Section 9.1 above or the Administrator's action under the Plan, no issuance by the Company of Shares of any class, or securities convertible into Shares of any class, will affect, and no adjustment will be made regarding, the number of Shares subject to an Award or the Award's grant or exercise price. The existence of the Plan, any Award Agreements and the Awards granted hereunder will not affect or restrict in any way the Company's right or power to make or authorize (i) any adjustment, recapitalization, reorganization or other change in the Company's capital structure or its business, (ii) any merger, consolidation, spinoff, dissolution or liquidation of the Company or sale of Company assets, or (iii) any sale or issuance of securities, including securities with rights superior to those of the Shares or securities convertible into or exchangeable for Shares.

ARTICLE X.
PROVISIONS APPLICABLE TO AWARDS

10.1 Transferability.

(a) No Award may be sold, assigned, transferred, pledged or otherwise encumbered, either voluntarily or by operation of law, except by will or the laws of descent and distribution, or, subject to the Administrator's consent, pursuant to a domestic relations order, unless and until such Award has been exercised and/or the Shares underlying such Award have been issued, and all restrictions applicable to such Shares have lapsed. During the life of a Participant, Awards will be exercisable only by the Participant, unless it has been disposed of pursuant to a domestic relations order. After the death of a Participant, any exercisable portion of an Award may, prior to the time when such portion becomes unexercisable under the Plan or the applicable Award Agreement, be exercised by the Participant's personal representative or by any person empowered to do so under the deceased Participant's will or under the then-Applicable Law regarding descent and distribution. References to a Participant, to the extent relevant in the context, will include references to a transferee approved by the Administrator.

(b) Notwithstanding Section 10.1(a), the Administrator, in its sole discretion, may determine to permit a Participant or a Permitted Transferee of such Participant to transfer an Award to any one or more Permitted Transferees of such Participant, subject to the following terms and conditions: (i) an Award transferred to a Permitted Transferee shall not be assignable or transferable by the Permitted Transferee other than (A) to another Permitted Transferee of the applicable Participant or (B) by will or the laws of descent and distribution or, subject to the consent of the Administrator, pursuant to a domestic relations order; (ii) an Award transferred to a Permitted Transferee shall continue to be subject to all the terms and conditions of the Award as applicable to the original Participant (other than the ability to further transfer the Award to any Person other than another Permitted Transferee of the applicable Participant); (iii) the Participant (or transferring Permitted Transferee) and the receiving Permitted Transferee shall execute any and all documents requested by the Administrator, including, without limitation documents to (A) confirm the status of the transferee as a Permitted Transferee, (B) satisfy any requirements for an exemption for the transfer under Applicable Law, and (C) evidence the transfer; and (iv) any transfer of an Award to a Permitted Transferee shall be without consideration, except as required by Applicable Law.

(c) Notwithstanding Section 10.1(a), and subject to Applicable Law, a Participant may, in the manner determined by the Administrator, designate a Designated Beneficiary. A Designated Beneficiary, legal guardian, legal representative, or other person claiming any rights pursuant to the Plan is subject to all terms and conditions of the Plan and any Award Agreement applicable to the Participant and any additional restrictions deemed necessary or appropriate by the Administrator. If the Participant is married or a domestic partner in a domestic partnership qualified under Applicable Law and resides in a community property state, a designation of a person other than the Participant's spouse or domestic partner, as applicable, as the Participant's Designated Beneficiary with respect to more than 50% of the Participant's interest in the Award shall not be effective without the prior written or electronic consent of the Participant's spouse or domestic partner. Subject to the foregoing, a beneficiary designation may be changed or revoked by a Participant at any time; provided that the change or revocation is delivered in writing to the Administrator prior to the Participant's death.

10.2 Documentation. Each Award will be evidenced in an Award Agreement in such form as the Administrator determines in its discretion. Each Award may contain such terms and conditions as are determined by the Administrator in its sole discretion, to the extent not inconsistent with those set forth in the Plan.

10.3 Discretion. Except as the Plan otherwise provides, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award to a Participant need not be identical, and the Administrator need not treat Participants or Awards (or portions thereof) uniformly.

10.4 Changes in Participant's Status. The Administrator will determine how the disability, death, retirement, authorized leave of absence or any other change or purported change in a Participant's service provider status affects an Award and the extent to which, and the period during which, the Participant, the Participant's legal representative, conservator, guardian or Designated Beneficiary may exercise rights under the Award, if applicable.

Except to the extent otherwise required by law or expressly authorized by the Company or by the Company's written policy on leaves of absence, no Service credit shall be given for vesting purposes for any period the Participant is on a leave of absence.

10.5 Withholding. Each Participant must pay the Company, or make provision satisfactory to the Administrator for payment of, any taxes required by law to be withheld in connection with such Participant's Awards by the date of the event creating the tax liability. The Company may deduct an amount sufficient to satisfy such tax obligations from any payment of any kind otherwise due to a Participant. The amount deducted shall be determined by the Company and may be up to, but no greater than, the aggregate amount of such obligations based on the maximum statutory withholding rates in the applicable Participant's jurisdiction for federal, state, local and foreign income tax and payroll tax purposes that are applicable to such taxable income. Subject to any Company insider trading policy (including blackout periods), Participants may satisfy such tax obligations (i) in cash, by wire transfer of immediately available funds, by check made payable to the order of the Company; provided that the Company may limit the use of one of the foregoing methods if one or more of the exercise methods below is permitted, (ii) to the extent permitted by the Administrator, in whole or in part by delivery of Shares, including Shares delivered by attestation and Shares retained from the Award creating the tax obligation, valued at their Fair Market Value on the date of delivery, (iii) if there is a public market for Shares at the time the tax obligations are satisfied, unless the Administrator otherwise determines, (A) delivery (including electronically or telephonically to the extent permitted by the Company) of a notice that the Participant has placed a market sell order with a broker acceptable to the Company with respect to Shares then issuable upon exercise of the Option and that the broker has been directed to deliver promptly to the Company funds sufficient to satisfy the tax obligations, or (B) the Participant's delivery to the Company of a copy of irrevocable and unconditional instructions to a broker acceptable to the Company to deliver promptly to the Company an amount sufficient to satisfy the tax withholding by cash, wire transfer of immediately available funds or check; provided that such amount is paid to the Company at such time as may be required by the Company, or (iv) to the extent permitted by the Administrator, any combination of the foregoing payment forms. If any tax withholding obligation will be satisfied under clause (ii) of the immediately preceding sentence by the Company's retention of Shares from the Award creating the tax obligation and there is a public market for Shares at the time the tax obligation is satisfied, the Company may elect to instruct any brokerage firm determined acceptable to the Company for such purpose to sell on the applicable Participant's behalf some or all of the Shares retained and to remit the proceeds of the sale to the Company or its designee, and each Participant's acceptance of an Award under the Plan will constitute the Participant's authorization to the Company and instruction and authorization to such brokerage firm to complete the transactions described in this sentence.

10.6 Amendment of Award; Prohibition on Repricing. The Administrator may amend, modify or terminate any outstanding Award, including by substituting another Award of the same or a different type and changing the exercise or settlement date. The Participant's consent to such action will be required unless (i) the action, taking into account any related action, does not materially and adversely affect the Participant's rights under the Award, or (ii) the change is permitted under Article IX or pursuant to Section 11.7. Other than pursuant to Sections 9.1 and 9.2, the Administrator shall not without the approval of the Company's shareholders (a) lower the exercise price per Share of an Option or Share Appreciation Right after it is granted, (b) cancel an Option or Share Appreciation Right when the exercise price per Share exceeds the Fair Market Value of one Share in exchange for cash or another Award, or (c) take any other action with respect to an Option or Share Appreciation Right that the Company determines would be treated as a repricing under the rules and regulations of the principal U.S. national securities exchange on which the Shares are listed.

10.7 Conditions on Delivery of Shares. The Company will not be obligated to deliver any Shares under the Plan or remove restrictions from Shares previously delivered under the Plan until (i) all Award conditions have been met or removed to the Company's satisfaction, (ii) as determined by the Company, all other legal matters regarding the issuance and delivery of such Shares have been satisfied, including any applicable securities laws and stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Administrator deems necessary or appropriate to satisfy any Applicable Law. The Company's inability to obtain authority from any regulatory body having jurisdiction, which the Administrator determines is necessary to the lawful issuance and sale of any securities, will relieve the Company of any liability for failing to issue or sell such Shares as to which such requisite authority has not been obtained.

10.8 Acceleration. Notwithstanding any other provision of the Plan to the contrary, the Administrator may at any time provide that any Award will become immediately vested and fully or partially exercisable, free of some or all restrictions or conditions, or otherwise fully or partially realizable.

ARTICLE XI.
MISCELLANEOUS

11.1 No Right to Employment or Other Status. No person will have any claim or right to be granted an Award, and the grant of an Award will not be construed as giving a Participant the right to continue employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan or any Award, except as expressly provided in an Award Agreement or other written agreement between the Participant and the Company or any Subsidiary.

11.2 No Rights as Shareholder; Certificates. Subject to the Award Agreement, no Participant or Designated Beneficiary will have any rights as a shareholder with respect to any Shares to be distributed under an Award until becoming the record holder of such Shares. Notwithstanding any other provision of the Plan, unless the Administrator otherwise determines or Applicable Law requires, the Company will not be required to deliver to any Participant certificates evidencing Shares issued in connection with any Award and instead such Shares may be recorded in the books of the Company (or, as applicable, its transfer agent or stock plan administrator). The Company may place legends on any share certificate or book entry to reference restrictions applicable to the Shares (including, without limitation, restrictions applicable to Restricted Shares).

11.3 Effective Date. The Plan will become effective on the date it is approved by the Board (the "***Effective Date***").

11.4 Shareholder Approval of Plan Not Required. It is expressly intended that approval of the Company's shareholders not be required as a condition of the effectiveness of the Plan, and the Plan's provisions shall be interpreted in a manner consistent with such intent for all purposes. Specifically, Nasdaq Stock Market Rule 5635(c) generally requires stockholder approval for stock option plans or other equity compensation arrangements adopted by companies whose securities are listed on the Nasdaq Stock Market pursuant to which stock awards or stock may be acquired by officers, directors, employees, or consultants of such companies. Nasdaq Stock Market Rule 5635(c)(4) provides an exception to this requirement for issuances of securities to a person not previously an employee or director of the issuer, or following a bona fide period of non-employment, as an inducement material to the individual's entering into employment with the issuer; provided, such issuances are approved by either the issuer's compensation committee comprised of a majority of independent directors or a majority of the issuer's independent directors. Notwithstanding anything to the contrary herein, Awards under the Plan may only be made to Employees who have not previously been an Employee or Director of the Company or a Subsidiary, or following a bona fide period of non-employment by the Company or a Subsidiary, as an inducement material to the Employee's entering into employment with the Company or a Subsidiary. Awards under the Plan will be approved by (i) the Company's Compensation Committee, a majority of which is comprised of the Company's Non-Employee Directors or (ii) a majority of the Company's Non-Employee Directors. Accordingly, pursuant to Nasdaq Stock Market Rule 5635(c)

(4), the issuance of Awards and the Shares issuable upon exercise or vesting of such Awards pursuant to the Plan are not subject to the approval of the Company's shareholders.

11.5 Amendment of Plan. The Board may amend, suspend or terminate the Plan at any time and from time to time; provided that (a) no amendment requiring shareholder approval to comply with Applicable Law shall be effective unless approved by the Company's shareholders within twelve (12) months before or after such action, and (b) no amendment, other than an increase to the Overall Share Limit or pursuant to Article IX or Section 11.7, may materially and adversely affect any Award outstanding at the time of such amendment without the affected Participant's consent. No Awards may be granted under the Plan during any suspension period or after Plan termination. Awards outstanding at the time of any Plan suspension or termination will continue to be governed by the Plan and the Award Agreement, as in effect before such suspension or termination. The Board will obtain shareholder approval of any Plan amendment to the extent necessary to comply with Applicable Law.

11.6 Provisions for Foreign Participants. The Administrator may modify Awards granted to Participants who are foreign nationals or employed outside the United States, establish subplans or procedures under the Plan or take any other necessary or appropriate action to address Applicable Law, including (a) differences in laws, rules, regulations or customs of such foreign jurisdictions with respect to tax, securities, currency, employee benefit or other matters, (b) listing and other requirements of any foreign securities exchange, and (c) any necessary local governmental or regulatory exemptions or approvals.

11.7 Section 409A.

(a) *General*. The Company intends that all Awards be structured to comply with, or be exempt from, Section 409A, such that no adverse tax consequences, interest, or penalties under Section 409A apply. Notwithstanding anything in the Plan or any Award Agreement to the contrary, the Administrator may, without a Participant's consent, amend this Plan or Awards, adopt policies and procedures, or take any other actions (including amendments, policies, procedures and retroactive actions) as are necessary or appropriate to preserve the intended tax treatment of Awards, including any such actions intended to (A) exempt this Plan or any Award from Section 409A, or (B) comply with Section 409A, including regulations, guidance, compliance programs and other interpretative authority that may be issued after an Award's grant date. The Company makes no representations or warranties as to an Award's tax treatment under Section 409A or otherwise. The Company will have no obligation under this Section 11.7 or otherwise to avoid the taxes, penalties or interest under Section 409A with respect to any Award and will have no liability to any Participant or any other person if any Award, compensation or other benefits under the Plan are determined to constitute noncompliant "nonqualified deferred compensation" subject to taxes, penalties or interest under Section 409A.

(b) *Separation from Service*. If an Award constitutes "nonqualified deferred compensation" under Section 409A, any payment or settlement of such Award upon a Participant's Termination of Service will, to the extent necessary to avoid taxes under Section 409A, be made only upon the Participant's "separation from service" (within the meaning of Section 409A), whether such "separation from service" occurs upon or after the Participant's Termination of Service. For purposes of this Plan or any Award Agreement relating to any such payments or benefits, references to a "termination," "termination of employment" or like terms means a "separation from service."

(c) *Payments to Specified Employees*. Notwithstanding any contrary provision in the Plan or any Award Agreement, any payment(s) of "nonqualified deferred compensation" required to be made under an Award to a "specified employee" (as defined under Section 409A and as the Administrator determines) due to his or her "separation from service" will, to the extent necessary to avoid taxes under Section 409A(a)(2)(B)(i) of the Code, be delayed for the six-month period immediately following such "separation from service" (or, if earlier, until the specified employee's death) and will instead be paid (as set forth in the Award Agreement) on the day immediately following such six-month period or as soon as administratively practicable thereafter (without interest). Any payments of "nonqualified deferred compensation" under such Award payable more than six months following the Participant's "separation from service" will be paid at the time or times the payments are otherwise scheduled to be made.

11.8 Limitations on Liability. Notwithstanding any other provisions of the Plan, no individual acting as a director, officer or other employee of the Company or any Subsidiary will be liable to any Participant, former Participant, spouse, beneficiary, or any other person for any claim, loss, liability or expense incurred in connection with the Plan or any Award, and such individual will not be personally liable with respect to the Plan because of any contract or other instrument executed in his or her capacity as an Administrator, director, officer or other employee of the Company or any Subsidiary. The Company will indemnify and hold harmless each director, officer or other employee of the Company or any Subsidiary that has been or will be granted or delegated any duty or power relating to the Plan's administration or interpretation, against any cost or expense (including attorneys' fees) or liability (including any sum paid in settlement of a claim with the Administrator's approval) arising from any act or omission concerning this Plan unless arising from such person's own fraud or bad faith; provided that he or she gives the Company an opportunity, at its own expense, to handle and defend the same before he or she undertakes to handle and defend it on his or her own behalf.

11.9 Data Privacy. As a condition for receiving any Award, each Participant explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of personal data as described in this Section by and among the Company and its Subsidiaries and affiliates exclusively for implementing, administering and managing the Participant's participation in the Plan. The Company and its Subsidiaries and affiliates may hold certain personal information about a Participant, including the Participant's name, address and telephone number; birthdate; social security, insurance number or other identification number; salary; nationality; job title(s); any Shares held in the Company or its Subsidiaries and affiliates; and Award details, to implement, manage and administer the Plan and Awards (the "***Data***"). The Company and its Subsidiaries and affiliates may transfer the Data amongst themselves as necessary to implement, administer and manage a Participant's participation in the Plan, and the Company and its Subsidiaries and affiliates may transfer the Data to third parties assisting the Company with Plan implementation, administration and management. These recipients may be located in the Participant's country, or elsewhere, and the Participant's country may have different data privacy laws and protections than the recipients' country. By accepting an Award, each Participant authorizes such recipients to receive, possess, use, retain and transfer the Data, in electronic or other form, to implement, administer and manage the Participant's participation in the Plan, including any required Data transfer to a broker or other third party with whom the Company or the Participant may elect to deposit any Shares. The Data related to a Participant will be held only as long as necessary to implement, administer, and manage the Participant's participation in the Plan. A Participant may, at any time, view the Data that the Company holds regarding such Participant, request additional information about the storage and processing of the Data regarding such Participant, recommend any necessary corrections to the Data regarding the Participant or refuse or withdraw the consents in this Section 11.9 in writing, without cost, by contacting the local human resources representative. The Company may cancel Participant's ability to participate in the Plan and, in the Administrator's sole discretion, the Participant may forfeit any outstanding Awards if the Participant refuses or withdraws the consents in this Section 11.9. For more information on the consequences of refusing or withdrawing consent, Participants may contact their local human resources representative.

11.10 Severability. If any portion of the Plan or any action taken under it is held illegal or invalid for any reason, the illegality or invalidity will not affect the remaining parts of the Plan, and the Plan will be construed and enforced as if the illegal or invalid provisions had been excluded, and the illegal or invalid action will be null and void.

11.11 Governing Documents. If any contradiction occurs between the Plan and any Award Agreement or other written agreement between a Participant and the Company (or any Subsidiary), the Plan will govern, unless such Award Agreement or other written agreement was approved by the Administrator and expressly provides that a specific provision of the Plan will not apply.

11.12 Governing Law. The Plan and all Awards will be governed by and interpreted in accordance with the laws of Ireland, disregarding the choice-of-law principles thereof.

11.13 Clawback Provisions. All Awards (including the gross amount of any proceeds, gains or other economic benefit the Participant actually or constructively receives upon receipt or exercise of any Award or the receipt or resale of any Shares underlying the Award) will be subject to recoupment by the Company to the extent required to comply with Applicable Law or any policy of the Company providing for the reimbursement of incentive compensation, whether or not such policy was in place at the time of grant of an Award.

11.14 Titles and Headings. The titles and headings in the Plan are for convenience of reference only and, if any conflict, the Plan's text, rather than such titles or headings, will control.

11.15 Conformity to Applicable Law. Participant acknowledges that the Plan is intended to conform to the extent necessary with Applicable Law. Notwithstanding anything herein to the contrary, the Plan and all Awards will be administered only in a manner intended to conform with Applicable Law. To the extent Applicable Law permit, the Plan and all Award Agreements will be deemed amended as necessary to conform to Applicable Law.

11.16 No Fractional Shares. No fractional Shares shall be issued or delivered pursuant to the Plan or any Award. The Committee shall determine whether cash, other Awards, or other property shall be issued or paid in lieu of such fractional Shares or whether such fractional Shares or any rights thereto shall be forfeited or otherwise eliminated.

11.17 Relationship to Other Benefits. No payment under the Plan will be taken into account in determining any benefits under any pension, retirement, savings, profit sharing, group insurance, welfare or other benefit plan of the Company or any Subsidiary, except as expressly provided in writing in such other plan or an agreement thereunder.

11.18 Unfunded Status of Awards. The Plan is intended to be an "unfunded" plan for incentive compensation. With respect to any payments not yet made to a Participant pursuant to an Award, nothing contained in the Plan or Award Agreement shall give the Participant any rights that are greater than those of a general creditor of the Company or any Subsidiary.

11.19 Limitations Applicable to Section 16 Persons. Notwithstanding any other provision of the Plan, the Plan and any Award granted or awarded to any individual who is then subject to Section 16 of the Exchange Act shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including Rule 16b-3 of the Exchange Act and any amendments thereto) that are requirements for the application of such exemptive rule. To the extent permitted by Applicable Law, the Plan and Awards granted or awarded hereunder shall be deemed amended to the extent necessary to conform to such applicable exemptive rule.

11.20 Prohibition on Executive Officer Loans. Notwithstanding any other provision of the Plan to the contrary, no Participant who is a Director or an "executive officer" of the Company within the meaning of Section 13(k) of the Exchange Act shall be permitted to make payment with respect to any Awards granted under the Plan, or continue any extension of credit with respect to such payment, with a loan from the Company or a loan arranged by the Company in violation of Section 13(k) of the Exchange Act.

11.21 Broker-Assisted Sales. In the event of a broker-assisted sale of Shares in connection with the payment of amounts owed by a Participant under or with respect to the Plan or Awards, including amounts to be paid under the final sentence of Section 10.5: (a) any Shares to be sold through the broker-assisted sale will be sold on the day the payment first becomes due, or as soon thereafter as practicable; (b) such Shares may be sold as part of a block trade with other Participants in the Plan in which all participants receive an average price; (c) the applicable Participant will be responsible for all broker's fees and other costs of sale, and by accepting an Award, each Participant agrees to indemnify and hold the Company harmless from any losses, costs, damages, or expenses relating to any such sale; (d) to the extent the Company or its designee receives proceeds of such sale that exceed the amount owed, the Company will pay such excess in cash to the applicable Participant as soon as reasonably practicable; (e) the Company and its designees are under no obligation to arrange for such sale at any particular price; and (f) in the event the proceeds of such sale are insufficient to satisfy the Participant's applicable obligation, the Participant may be required to pay immediately upon demand to the Company or its designee an amount in cash sufficient to satisfy any remaining portion of the Participant's obligation.

Exhibit 10.3

PROTHENA CORPORATION PLC
2020 EMPLOYMENT INDUCEMENT INCENTIVE PLAN
Option Award Agreement – Cover Sheet

Prothena Corporation plc, an Irish public limited company (the "Company"), hereby grants an Option to acquire its Shares to the individual named below. The terms and conditions of the Option are set forth in this cover sheet, in the attached Option Award Agreement and in the Prothena Corporation plc 2020 Employment Inducement Incentive Plan (the "Plan"). All capitalized terms used but not defined in this cover sheet and the attached Option Award Agreement will have the meanings ascribed to such terms in the Plan.

Granted to:	Brandon Smith
Grant Date:	March 2, 2020
Shares subject to the Option:	240,000
Exercise Price per Share:	$11.12
Expiration Date:	March 2, 2030
Vesting Start Date:	March 2, 2020
Vesting Schedule:	25% on the first anniversary of the Vesting Start Date, and 1/36 of the remaining grant will vest on each monthly anniversary thereafter for 36 months

By signing this cover sheet, you agree to all of the terms and conditions described in the attachment and in the Plan.

Signature: /s/ Brandon Smith Date: March 23, 2020
Brandon Smith

Company: /s/ Michael Malecek

Michael Malecek
Company Secretary

PROTHENA CORPORATION PLC
2020 EMPLOYMENT INDUCEMENT INCENTIVE PLAN
Option Award Agreement

Inducement Award	You acknowledge that the Plan and any Awards granted thereunder are intended to conform with the requirements of the rules promulgated by The Nasdaq Stock Market, including without limitation, Nasdaq Listing Rule 5635(c)(4). Accordingly, you acknowledge that you have not been previously employed in any capacity by the Company or any Subsidiary, or if previously employed, are commencing employment following a bona-fide period of non-employment with the Company and its Subsidiaries, and that the grant of this Option is an inducement material to your agreement to enter into employment with the Company or a Subsidiary.
Nonqualified Stock Option	This Option is intended to be a Nonqualified Stock Option and not an Incentive Stock Option (ISO), and will be interpreted accordingly.

Vesting

Your right to exercise this Option vests in increments over the four-year (4-year) period, commencing on the Vesting Start Date, as shown on the cover sheet. The percentage of the total number of Shares for which this Option will vest and become exercisable is as follows:

- 25% on the first anniversary of the Vesting Start Date, and
- 1/36 of the remaining grant will vest on each monthly anniversary thereafter for 36 months

The vesting will be cumulative and will not exceed 100% of the Shares subject to the Option. If the vesting results in fractional Shares, the number of Shares that vests on the relevant vesting date will be rounded down to the nearest whole number.

Except as otherwise provided in the Plan, the entire Option vests and becomes exercisable if (i) within twenty-four (24) months following a Change in Control, your employment with the Company or one of its Subsidiaries is terminated for any reason other than Cause (as defined below) or you resign for Good Reason (as defined below) (such a resignation or termination being hereinafter referred to as an “Involuntary Termination”); (ii) you die while you are still an employee of the Company or a Subsidiary, as applicable; or (iii) your service as an employee of the Company or a Subsidiary, as applicable, terminates because of your Total and Permanent Disability (as defined below). In addition, except as otherwise provided above or in the Plan, the number of Shares subject to the Option that would have vested and become exercisable had you remained employed for the twelve-month (12) period following an Involuntary Termination shall become vested and exercisable as of the date of your Involuntary Termination.

As used herein, and except as otherwise defined in an employment agreement between you and the Company or one of its Subsidiaries to the extent applicable, “Cause” shall mean any of the following: (a) your willful breach, habitual neglect, or poor performance of your job duties and responsibilities, as determined by the Company in its sole discretion; (b) your conviction (or the entry of a guilty plea or plea of *nolo contendre*) of any crime, excluding minor traffic offenses; (c) your commission of an act of dishonesty or breach of fiduciary duty; (d) your commission of a material violation of any of the personnel policies of the Company or a Subsidiary, as applicable, including but not limited to, violations of the Company’s confidentiality or stock trading policies or its policies against any form of harassment; or (e) any action or omission by you, which, as reasonably determined by the Company, is contrary to the business interest, reputation or goodwill of the Company or a Subsidiary.

As used herein, and except as otherwise defined in an employment agreement between you and the Company or one of its Subsidiaries to the extent applicable, “Good Reason” means (a) a material diminution in your authority, duties or responsibilities or a material diminution in your total base compensation (in each case, as determined by the Company in its sole discretion), or (b) that your primary job site is relocated and your new location increases your commute between home and work by at least thirty (30) miles (however, this does not apply to field-based sales representatives or similar field-based positions) or in the Company’s reasonable opinion, the new location requires that you move your home to a new location at least thirty (30) miles away from your home immediately prior to the change.

In order to receive the benefits of a resignation for “Good Reason”, you must provide your employer with written notice within ninety (90) days after the occurrence of such event and the employer shall then have thirty (30) days to cure such event. If the employer does not cure the event giving rise to Good Reason, your employment will terminate on the first day immediately following the end of thirty (30) day cure period.

Except as provided above or as otherwise provided in a written employment agreement between you and the Company or one of its Subsidiaries, all Shares will cease vesting as of the date your service with the Company or a Subsidiary, as applicable, has terminated for any reason.

Term

Your Option will expire in any event at the close of business at the Company’s registered office on the tenth anniversary of the Grant Date, as shown on the cover sheet. (It will expire earlier if your service with the Company or a Subsidiary, as applicable, terminates – as described below.)

Death

If you die prior to expiration of this Option, then your right to purchase vested Shares under this Option will expire at the close of business at the Company’s registered office on the date that is twelve (12) months after the date of death (or on the tenth anniversary of the Grant Date, if earlier). During that twelve-month (12) period, your estate or heirs may exercise this Option.

Disability

If your service as an employee of the Company or a Subsidiary, as applicable, terminates because of your Total and Permanent Disability, then your right to purchase vested Shares under this Option will expire at the close of business at the Company’s registered office on the date that is twelve (12) months after your termination date (or on the tenth anniversary of the Grant Date, if earlier). “Total and Permanent Disability” means that you are unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted, or can be expected to last, for a continuous period of not less than one year.

Involuntary Termination

If your service as an employee of the Company or a Subsidiary, as applicable, terminates by reason of an Involuntary Termination, then your right to purchase vested Shares under this Option will expire at the close of business at the Company’s registered office on the date that is twelve (12) months after your termination date (or on the tenth anniversary of the Grant Date, if earlier).

Other Termination

If your service as an employee of the Company or a Subsidiary, as applicable, terminates for any reason other than those set forth in the immediately preceding three paragraphs, then your right to purchase vested Shares under this Option will expire at the close of business at the Company’s registered office on the 90th day after your termination date (or on the tenth anniversary of the Grant Date, if earlier).

The Company determines when your service with the Company or a Subsidiary, as applicable, terminates for this purpose.

Leaves of Absence

For purposes of this Option, your service does not terminate when you go on a military leave, a sick leave or another *bona fide* leave of absence, if the leave was approved by the Company in writing. But your service will be treated as terminating ninety (90) days after you went on leave, unless your right to return to active work is guaranteed by law or by a contract. Your service terminates, in any event, when the approved leave ends, unless you immediately return to active work.

The Company determines which leaves count for this purpose.

Restrictions on Exercise

The Company will not permit you to exercise this Option if the issuance of Shares at that time would violate any law, regulation or Company policy.

Notice of Exercise

When you wish to exercise this Option, you must complete and execute such documents, if any, and complete such processes, that the Company or a securities broker approved by the Company may require to accomplish the Option exercise ("Notice of Exercise").

If someone else wants to exercise this Option after your death, that person must prove to the Company's satisfaction that he or she is entitled to do so.

Form of Payment

When you submit your Notice of Exercise, you must include payment of the exercise price for the Shares you are purchasing. Payment may be made in one (or a combination of both) of the following forms:

- Your personal check, a cashier's check or a money order.

- Irrevocable directions to a securities broker approved by the Company to sell your Shares subject to the Option and to deliver all or a portion of the sale proceeds to the Company in payment of the exercise price. (The balance of the sale proceeds, if any, less withholding taxes, will be delivered to you.) The directions must be given by signing forms, if any, provided by the Company or the securities broker.

With the consent of the Administrator, payment may also be made by any other method set forth in Section 6.5 of the Plan.

Taxes

You will not be allowed to exercise this Option unless you make acceptable arrangements to pay any taxes that may be due as a result of the Option exercise.

Restrictions on Resale	By signing this Agreement, you agree not to sell any Shares received upon exercise of the Option at a time when applicable laws, regulations or Company policies prohibit a sale.
Transfer of Option	Prior to your death, only you may exercise this Option. You cannot transfer or assign this Option. For instance, you may not sell this Option or use it as security for a loan. If you attempt to do any of these things, this Option will immediately become invalid. You may, however, dispose of this Option in your will. Regardless of any marital property settlement agreement, the Company or a securities broker, as applicable, is not obligated to honor a Notice of Exercise from your former spouse, nor is the Company or the securities broker obligated to recognize your former spouse's interest in your Option in any other way.
Retention Rights	Neither your Option nor this Agreement gives you the right to be retained by the Company or any Subsidiary in any capacity. The Company and its Subsidiaries reserve the right to terminate your service at any time, with or without Cause.
Shareholder Rights	You, or your estate or heirs, have no rights as a shareholder of the Company with respect to any Shares subject to the Option until a proper Notice of Exercise has been submitted, the exercise price has been tendered and you, or your estate or heirs, become a holder of such Shares. No adjustments are made for dividends or other rights if the applicable record date occurs before a proper Notice of Exercise has been submitted and the exercise price has been tendered, except as described in the Plan.
Adjustments	In the event of a stock split, a stock dividend or a similar change in Company stock, the number of Shares covered by this Option and the exercise price per Share may be adjusted pursuant to the Plan. In the event where the Company is a party to a merger, this Option will be handled in accordance with the Plan.
Electronic Communications	You agree to contract electronically regarding your participation in the Plan and to the receipt of electronic notifications, documents, payments or other communications from the Company in connection with the Plan, to the normal electronic mail address used by you for the purposes of your employment or such other address as may be from time to time notified for that purpose by you to the Company.

Severability	All the terms and provisions of this Agreement are distinct and severable, and if any term or provision is held unenforceable, illegal or void in whole or in part by any court, regulatory authority or other competent authority it shall to that extent be deemed not to form part of this Agreement, and the enforceability, legality and validity of the remainder of this Agreement will not be affected; if any invalid, unenforceable or illegal provision would be valid, enforceable or legal if some part of it were deleted, the provision shall apply with whatever modification is necessary to make it valid, enforceable and legal.
Applicable Law	This Agreement will be interpreted and enforced under the laws of Ireland.
The Plan and Other Agreements	The text of the Plan and any amendments thereto are incorporated in this Agreement by reference. This Agreement and the Plan constitute the entire understanding between you and the Company regarding this Option. Any prior agreements, commitments or negotiations concerning this Option are superseded.

By signing the cover sheet of this Agreement, you agree to all of the terms and conditions described above and in the Plan and evidence your acceptance of the powers of the Committee of the Board of Directors of the Company that administers the Plan.

Exhibit 10.4(a)

UNDERSTANDING RELATED TO LICENSE, DEVELOPMENT, AND COMMERCIALIZATION AGREEMENT

This **UNDERSTANDING RELATED TO LICENSE, DEVELOPMENT, AND COMMERCIALIZATION AGREEMENT** (the "**Understanding**") is made effective March 1, 2020 (the "**Understanding Effective Date**") and hereby reflects the Parties' understanding related to the **LICENSE, DEVELOPMENT, AND COMMERCIALIZATION AGREEMENT** (collectively, with all amendments thereto, being referred to as the "**Agreement**") dated December 11, 2013 by and between Neotope Biosciences Limited (as of January 5, 2015 Prothena Biosciences limited, "**Prothena Ireland**") with respect to all rights and obligations under this Agreement outside of the United States, and Prothena Biosciences Inc. ("**Prothena US**") with respect to all rights and obligations under this Agreement in the United States (Prothena US, together with Prothena Ireland, "**Prothena**"), on the one hand, and F. Hoffmann-La Roche Ltd ("**Roche Basel**") with respect to all rights and obligations under this Agreement outside of the United States, and Hoffmann-La Roche Inc. ("**Roche Nutley**") with respect to all rights and obligations under this Agreement in the United States (Roche Nutley, together with Roche Basel, "**Roche**"), on the other hand. All capitalized terms used herein shall have the meaning ascribed herein or in the Agreement.

RECITALS

WHEREAS, Prothena Ireland and Roche Basel have entered into a license agreement dated March 1, 2020 (the "**Diagnostics Agreement**");

WHEREAS, Prothena and Roche view the Diagnostics Agreement as separate from and independent of the Agreement, the Diagnostics Agreement raises potential conflicts with the Agreement, including with respect to termination, compensation and exclusivity;

WHEREAS, Prothena and Roche want to avoid having to amend the Agreement and therefore agree to the provisions set forth in this Understanding.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing and the covenants and promises contained in this Amendment and intending to be legally bound, the Parties agree as follows:

Any Product Exploited in the Field in the Territory (as such terms are defined in the Diagnostics Agreement) shall be exclusively governed by the Diagnostics Agreement (and not by the Agreement) and that no Party shall raise any issue that the Agreement is in any way breached by the mere existence of the Diagnostics Agreement. Notwithstanding the foregoing, any use of Licensed Know-How or Licensed Patents (as such terms are defined in the Diagnostics Agreement) outside the Field or any disputes related thereto shall be governed by the Agreement.

The Diagnostics Agreement, including the exhibits attached thereto, constitutes and contains the complete, final and exclusive understanding and agreement of Roche and Prothena with respect to the subject matter of the Diagnostics Agreement, and for the Term (as defined in the Diagnostics Agreement) expressly supersedes Sections 2.1-2.3, 3.1, 12.3(c), 12.5(b), 12.6(b)-(e), 12.7(b), and 12.7(c) of the Agreement with respect to the subject matter of the Diagnostics

Agreement. Except as expressly stated herein, the terms and conditions of the Agreement remain in full force and effect and shall control in the event of a conflict between the Agreement and the Diagnostics Agreement.

IN WITNESS WHEREOF, the Parties have caused this Understanding to be executed effective as of the Understanding Effective Date by their duly authorized representatives as set forth below.

PROTHENA BIOSCIENCES LIMITED	**PROTHENA BIOSCIENCES INC**
By: /s/ Ashley Keating	By: /s/ Karin Walker
Name: Ashley Keating	Name: Karin Walker
Title: V.P., Technical Operations	Title: Chief Accounting Officer

F. HOFFMANN-LA ROCHE LTD	**HOFFMANN-LA ROCHE INC.**
By: /s/ Stefan Arnold	By: /s/ John P. Parise
Name: Stefan Arnold	Name: John P. Parise
Title: Head Legal Pharma	Title: Authorized Signatory
By: /s/ Tim Steven	
Name: Tim Steven	
Title: Global Alliance and Asset Management Director	

Exhibit 10.4(b)

[***] Certain information in this document has been excluded pursuant to Regulation S-K, Item 601(b)(10). Such excluded information is not material and would likely cause competitive harm to the registrant if publicly disclosed.

This **LICENSE AGREEMENT** (the **"Agreement"**) is made and entered into as of March 1, 2020 (the **"Effective Date"**) by and between:

PROTHENA BIOSCIENCES LIMITED, an Irish limited company with a principal place of business at 77 Sir Rogerson's Quay, Block C, Grand Canal Docklands, Dublin 2, Ireland (**"Prothena"**), and

F. HOFFMANN-LA ROCHE LTD, a Swiss corporation with a principal place of business at Grenzacherstrasse 124, 4070 Basel, Switzerland (**"Roche**"), on the other hand.

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

RECITALS

WHEREAS, the Parties and certain of their Affiliates are parties to that certain License, Development and Commercialization Agreement dated December 11, 2013 (the "**Collaboration Agreement**");

WHEREAS, Roche is desirous of obtaining certain rights from Prothena for diagnostic purposes beyond the rights granted under the Collaboration Agreement;

WHEREAS, Prothena is willing to grant a non-exclusive license to Roche under the terms and conditions set forth herein.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing and the covenants and promises contained in this Agreement and intending to be legally bound, the Parties agree as follows:

1. DEFINITIONS.

As used herein, the following terms shall have the following meanings:

1.1 "**Affiliate**" means a corporation, partnership, trust or other entity that directly, or indirectly through one or more intermediates, controls, is controlled by or is under common control with a specified Party but only for so long as such relationship exists. For such purposes, "control", "controlled by", and "under common control with" shall mean the possession of the power to direct or cause the direction of the management and policies of an entity, whether through the ownership of voting equity, voting member or partnership interests, control of a majority of the board of directors or other similar body, by contract, or otherwise. In the case of a corporation, the direct or indirect ownership of fifty percent (50%) or more of its outstanding voting shares or the ability otherwise to elect a majority of the board of directors or other managing authority of the entity shall in any event be presumptively deemed to confer control, it being understood that the direct or indirect ownership of a lesser percentage of such shares shall not necessarily preclude the existence of control. For the purpose of this Agreement, Chugai Pharmaceutical Co., Ltd, 1-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo, 103-8324, Japan ("**Chugai**") shall not be deemed an Affiliate of Roche, unless Roche provides written notice to Prothena of its desire to include Chugai as an Affiliate of Roche.

1.2 "**Collaboration**" means the research, development and commercialization activities conducted by the Parties pursuant to the Collaboration Agreement.

1.3 "**Confidential Information**" means any and all technical, business or other information or materials that are deemed confidential or proprietary to or by a Party and are disclosed or provided by such Party to the other Party under or in connection with this Agreement, whether disclosed or provided in oral, written, graphic, or electronic form, which may include trade secrets, processes, formulae, data, know-how, improvements, inventions, chemical or biological materials, chemical structures, techniques, clinical, sublicensing and marketing and other development and/or commercialization plans, strategies, customer lists, Royalty reports, or other information in whatever form. The terms and conditions of this Agreement shall be considered the Confidential Information of both Parties.

1.4 "**Exploit**" or "**Exploited**" means to research, develop, commercialize, make, import, use, sell, distribute, market or offer for sale a product or process and to have any of the foregoing done.

1.5 "**Field**" means in vitro testing for research use, exploratory use, or as a clinical diagnostic for use in the diagnosis and/or on-going evaluation of a disease or medical condition, including the use in prediction and/or monitoring of a response to a therapeutic agent, prognostic use, and use as an in vitro diagnostic.

1.6 "**First Commercial Sale**" means, with respect to a Product, the first commercial sale in an arm's length transaction by Roche or its Affiliates to a Third Party, including any final sale to a distributor or wholesaler under any non-conditional sale arrangement, of such Product in the Territory.

1.7 "**Invention**" means any and all inventions conceived or reduced to practice by or on behalf of either Party or its Affiliates arising directly from activities performed under or contemplated by this Agreement.

1.8 "**Licensed Know-How**" means [***], and technical information related thereto.

1.9 “**Licensed Patents**” means (a) the Patents and Patent Applications listed in Schedule 1.9, (b) any Patents that issue from the Patent Applications of (a), and (c) any Patents and Patent Applications that claim priority to the Patents and/or Patent Applications of (a) and/or (b).

1.10 “**Licensed Technology”** means Licensed Know-How and Licensed Patents.

1.11 “**Net Sales**” means, with respect to any Product, the gross amounts invoiced by Roche and its Affiliates, for all sales or other disposition of such Product in the Territory to a Third Party for commercial use, commencing with the First Commercial Sale of such Product, less the following deductions solely to the extent incurred or allowed with respect to such sales, and solely to the extent such deductions are in accordance with IFRS:

(a) charge-back payments, rebates, and fees granted or paid to federal, state and local governments, their agencies, and purchasers and reimbursers or to trade customers, in all cases in customary and reasonable amounts;

(b) credits or allowances actually granted upon damaged goods, rejections, or returns of such Product, including returns of such Product in connection with recalls or withdrawals; and

(c) [***] deductions for Sales Expenses in the amount of [***] and Reagent Rental Expenses in the amount of [***].

In the event one or more Product(s) is/are sold together with one or more other product(s) at a single price (such combination is hereinafter referred to as “Combination Product”), such single price shall be allocated among the Product(s) and the other product(s) in the Combination Product based on the market price for such products when sold separately. If any such product is not being sold alone with a market price, Prothena and Roche shall agree upon a fair market price for that product. Solely this price agreed upon shall be used to calculate Net Sales. For the purpose of this Section 1.11, “**Reagent Rental Expenses**” means [***] deduction of fees for all services which are included in reagent prices such as instrument service costs, instrument depreciation, finance costs, disposables and rental fees. For the purpose of this Section 1.11, “**Sales Expenses**” shall mean [***] deduction in lieu of deductions for actual expenses of Roche or its Affiliates such as for (a) tariffs, duties and taxes imposed upon the production, sale, delivery or use of Product(s) (excluding taxes that are separately invoiced to end users, distributors or agents) and (b) distribution and other customary expenses, such as freight, transportation and insurance expenses and for (c) cash discounts, retroactive price reductions or credits to customers on account of settlement of complaint.

1.12 “**Patent**” means (a) letters patent (or other equivalent legal instrument), including without limitation utility and design patents, extensions, substitutions, registrations, confirmations, reissues, re-examinations or renewals thereof, and (b) all foreign or international equivalents of any of the foregoing in any country.

1.13 "**Patent Application"** means (a) an application for letters patent, including without limitation a provisional application, a non-provisional application, a reissue application, a re-examination application, a continuation application, a continued prosecution application, a continuation-in-part application, a divisional application or any equivalent thereof that is pending at any time during the Term before a government patent agency, and (b) all foreign or international equivalents of any of the foregoing in any country.

1.14 "**Person**" means any individual, firm, corporation, partnership, limited liability company, trust, business trust, joint venture, governmental authority, association, or other entity

1.15 "**Product**" means any product or assay [***].

1.16 "**Territory**" means worldwide.

1.17 "**Third Party**" means any Person other than Roche, Prothena, and their respective Affiliates.

1.18 "**Valid Claim**" means with respect to any country, a claim of (a) an unexpired issued Patent to the extent such claim has not been revoked or held invalid or unenforceable by a patent office, court or other governmental agency of competent jurisdiction in a final and non-appealable judgment (or judgment from which no appeal was taken within the allowable time period) and which claim has not been admitted to be invalid or unenforceable through reissue, reexamination, disclaimer, or otherwise in the relevant country, or (b) a Patent Application pending [***] in the relevant country, provided that, for clarity, any claim of a Patent Application that is pending [***], as applicable, shall become a Valid Claim if it later issues and otherwise falls within subsection (a).

2. LICENSE GRANT

2.1 License to Roche. Subject to the terms and conditions of this Agreement, Prothena hereby grants to Roche and its Affiliates a non-exclusive, royalty-bearing license, with no right to sublicense under the Licensed Technology to Exploit Products in the Field in the Territory.

2.2 Acknowledgement. Roche shall, on the Product, as well as in any global scientific or marketing publication, include a statement that [***] is licensed from Prothena. In addition, Roche shall make reasonable efforts to include such statement in any other scientific or marketing publication, poster or presentation.

2.3 No Implied Rights. No right or license under any intellectual property rights is granted or will be granted by either Party by implication. All rights or licenses are or will be granted only as expressly provided in this Agreement. For clarity, Roche and its Affiliates are not granted any rights to Exploit therapeutic products [***] by way of this Agreement.

3. PAYMENTS

3.1 Annual Fee. In consideration for the licenses granted and the Licensed Know-How provided to Roche under this Agreement, Roche shall pay Prothena an annual fee of [***], with the first payment due [***] after the Effective Date and subsequent annual payments due [***] the Effective Date. The annual fee shall be [***].

3.2 Royalty. In consideration for the licenses granted and the Licensed Know-How provided to Roche under this Agreement, Roche shall pay Prothena during the Royalty Term a [***] royalty (collectively, "Royalty") of [***] of aggregate annual Net Sales of Products by Roche, its Affiliates, or its Sublicensees.

3.3 Royalty Term. Royalties will be paid under Section 3.2, commencing on First Commercial Sale of such Product until the latest of: (a) [***]; and (b) [***] (the "Royalty Term").

3.4 Know-How Royalty. the Royalty due under Section 3.2 shall be reduced [***] at any time at which no Valid Claim in the Licensed Patents covers the sale of such Product.

3.5 Third Party Royalty Offset. If Roche, in its reasonable judgment, determines that it is required to obtain a license from any Third Party in order to avoid infringement of a Patent owned or Controlled by a Third Party in connection with Roche's manufacture or commercialization of a Product, (b) such Patent [***], and (c) Roche is required to pay to such Third Party any royalties in consideration for the grant or maintenance of such license ("Third Party Royalty"), then, subject to Section 3.6, the amounts that would otherwise have been payable as a Royalty under Section 3.2 shall be reduced by [***].

3.6 Royalty Floor. Notwithstanding the foregoing, in no event shall the application of Section 3.4 and Section 3.5 reduce the royalties due under Section 3.2 below [***] of the amount that would otherwise be due on Net Sales of a Product in any country.

3.7 Royalty Reports. During the Term following the First Commercial Sale of any Product, within [***] after the end of each calendar quarter, Roche will pay to Prothena the Royalty payable for such calendar quarter. After such calendar quarter, Roche will provide to Prothena for such calendar quarter, on a Product-by-Product and country-by-country basis, written reports of the information in (a)-(d) below within [***], showing actual amounts:

(a) the gross amount invoiced for and the amounts received and the Net Sales resulting from sales of Products sold by Roche, its Affiliates, during such calendar quarter reporting period, including the specific deductions applies in the calculation of such Net Sales amounts;

(b) the Royalty which will have accrued hereunder with respect to such Net Sales;

(c) withholding taxes, if any, required by applicable law to be deducted with respect to such royalties; and

(d) the rate of exchange used by Roche in determining the amounts payable hereunder in U.S. dollars.

If no Royalty is due for any calendar quarter hereunder, Roche will so report to Prothena such fact. Roche will keep, and will require its Affiliates to keep (all in accordance with GAAP, consistently applied), complete and accurate records in sufficient detail to enable the Royalty payable hereunder to be determined for a period of [***] from the end of the [***] to which they pertain.

3.8 Audits. Upon Prothena's written request and not more than [***], Roche will permit an independent certified public accounting firm selected by Prothena, at Prothena's expense, to have access during normal business hours to such records of Roche as may be necessary or reasonably useful to verify the accuracy of the payment reports made and the amounts owed to Prothena under this Agreement for any [***] ending not more than [***] prior to the date of such request. Prothena will provide Roche with a copy of such accounting firm's written report within [***] after completion of such report. If such accounting firm concludes that an overpayment or underpayment was made with respect to amounts paid by Roche to Prothena under this Agreement, then the owing Party will pay to the other Party the amount due within [***] after the date Prothena delivers to Roche such accounting firm's written report so concluding, and any accrued interest as determined in accordance with Section 3.11 from the date such overpayment was paid or such underpayment was originally due, as applicable, until payment thereof. Prothena will bear the full cost of such audit unless such audit discloses that the additional payment payable by Roche for the audited period is [***] of the amount of the payments due for that audited period, in which case Roche will pay the reasonable documented fees and expenses charged by the accounting firm.

3.9 Currency of Payments. All payments under this Agreement will be made in U.S. dollars by wire transfer of immediately available funds into an account designated by Prothena. Net Sales outside of the U.S. will be first determined in the currency in which they are earned and will then be converted into an amount in U.S. dollars in accordance with GAAP for the applicable reporting period.

3.10 Taxes. The royalties and annual fees payable by Roche to Prothena pursuant to this Agreement shall not be reduced on account of taxes unless required by applicable laws. Roche shall deduct or withhold from the payments any taxes that it is required by applicable laws to deduct or withhold and shall cooperate with and assist Prothena in obtaining any reduction or elimination of withholding tax to which Prothena may be entitled under any applicable tax treaty or otherwise under applicable laws.

3.11 Interest Due. Roche will pay Prothena interest on any payments that are not paid on or before the date such payments are due under this Agreement to the extent permitted by applicable law at [***] per cent above the average one month Euro Interbank Offered Rate ("EURIBOR") as reported by Reuters from time to time, calculated based on the total number of days payment is delinquent.

4. MATERIAL TRANSFER

4.1 Within thirty (30) days after receipt of the first annual fee payment pursuant to Section 3.1, Prothena shall deliver to Roche the following Licensed Know-How: [***] and any relevant technical information to assist Roche [***]. Roche shall disclose to Prothena any results from [***] conducted by or on behalf of Roche and Prothena may use such information for any and all purposes.

4.2 The [***], as well as any and all [***] (collectively the "**Materials**") are proprietary and belong to, and are solely owned by, Prothena. Roche agrees that the Materials shall only be used within the Field (the "Purpose") and for no other purpose. Roche shall not transfer any Materials to any Third Party without the prior written approval of Prothena. Information related to the Materials are the Confidential Information of Prothena.

4.3 Roche hereby covenants that it shall not attempt to [***] of Materials and agrees not to make derivatives or modifications of the Materials except as needed for the Purpose. Roche acknowledges that the Materials have not been approved for human use and agrees that the Materials will not be administered to humans. Roche will comply with all applicable laws and regulations relating to the Materials.

4.4 THE MATERIALS ARE EXPERIMENTAL IN NATURE AND THE MATERIALS AND INFORMATION RELATING THERETO ARE PROVIDED "AS IS" AND WITHOUT WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND WARRANTY OF NON-INFRINGEMENT OF ANY PROPRIETARY RIGHT OF A THIRD PARTY. Notwithstanding the foregoing, in the event that the Materials delivered to Roche are defective or not in accordance with the agreed quality, Prothena agrees to provide [***] on request by Roche.

4.5 Roche agrees that any use of the Materials by, through or on behalf of Roche for any purpose other than the Purpose or not otherwise authorized under this Agreement or the Collaboration Agreement will be deemed to be a material breach of this Agreement ("Material Breach"). All information, inventions, improvements, and discoveries, whether or not patentable, conceived, reduced to practice, made, observed or developed by or on behalf of Roche, solely or jointly with others, as a result of a Material Breach, together with any intellectual property rights therein ("**Material Breach IP**") shall be owned solely and exclusively by Prothena. The Material Breach IP shall be the Confidential Information of Prothena. Roche shall promptly and fully disclose all Material Breach IP to Prothena, whether or not patentable. Roche shall, and hereby does, assign to Prothena, without further consideration, all of Roche's right, title and interest in and to all Material Breach IP. Upon Prothena's request and at Prothena's sole expense, Roche shall cause its employees and agents to perform all acts necessary to reasonably assist Prothena in perfecting its rights in Material Breach IP.

5. **CONFIDENTIALITY**

5.1 Nondisclosure. Each Party agrees that, during the Term and for a period of [***] (or, for any trade secret, for so long as the Disclosing Party maintains such trade secret as a trade secret), a Party (the "Receiving Party") receiving Confidential Information of the other Party (the "Disclosing Party") will (a) maintain in confidence such Confidential Information, (b) not disclose such Confidential Information to any Third Party without the prior written consent of the Disclosing Party, except for disclosures expressly permitted in this Article 5, and (c) not use such Confidential Information for any purpose except those expressly permitted by this Agreement.

5.2 Exceptions. The obligations under Section 5.1 will not apply with respect to any portion of Confidential Information of a Disclosing Party that the Receiving Party can show by competent evidence:

(a) at the time of disclosure to Receiving Party is in the public domain;

(b) after disclosure, becomes part of the public domain by publication or otherwise, except by breach of this Agreement by the Receiving Party;

(c) was (a) in the Receiving Party's possession at the time of disclosure by the Disclosing Party hereunder without any obligation to keep it confidential or any restriction on its use or (b) subsequently and independently developed by the Receiving Party's employees who had no knowledge of and who did not use, rely on or refer to any of Disclosing Party's Confidential Information, in each case as shown by Receiving Party's records; or

(d) is received by the Receiving Party from a Third Party who has the lawful right to disclose such Confidential Information and who has not obtained such Confidential Information either directly or indirectly from the Disclosing Party.

5.3 Authorized Disclosure. To the extent (and only to the extent) that it is reasonably necessary or appropriate to fulfill its obligations or exercise its rights under this Agreement, the

Receiving Party may disclose Confidential Information belonging to the Disclosing Party in the following instances:

(a) preparing, filing, prosecuting, and/or maintaining patent applications to the extent permitted in this Agreement;

(b) to the extent required in connection with prosecuting or defending litigation;

(c) subject to Section 5.4, to the extent required by applicable laws (including the rules and regulations of the U.S. Securities and Exchange Commission or any national securities exchange) and with judicial process; and

(d) to Affiliates in connection with the performance of this Agreement and solely on a need-to-know basis; to potential or actual collaborators, who prior to disclosure must be bound by written obligations of confidentiality and non-use no less restrictive than the obligations set forth in this Article 5; or employees, independent contractors or agents, in connection with the performance of this Agreement, each of whom prior to disclosure must be bound by written obligations of confidentiality and non-use no less restrictive than the obligations set forth in this Article 5; *provided, however*, that the Receiving Party will remain responsible for any failure by any person who receives Confidential Information pursuant to this Section 5.3(d) to treat such Confidential Information as required under this Article 5.

(e) If and whenever any Confidential Information is disclosed in accordance with this Section 5.3, such disclosure will not cause any such information to cease to be Confidential Information except to the extent that such disclosure results in a public disclosure of such information (other than in breach of this Agreement). Where reasonably possible and subject to Section 5.4, the Receiving Party will notify the Disclosing Party in writing of the Receiving Party’s intent to make such disclosure pursuant to Sections 5.3(a)–5.3(c) sufficiently prior to making such disclosure so as to allow the Disclosing Party adequate time to take whatever action appropriate to protect the confidentiality of the information while still permitting such disclosure, and the Receiving Party will cooperate with the Disclosing Party in such efforts.

5.4 Required Disclosure. A Receiving Party may disclose Confidential Information of the Disclosing Party to the extent such disclosure is required pursuant to interrogatories, judicial requests for information or documents, subpoena, civil investigative demand issued by a court or governmental authority or as otherwise required by applicable law (including the rules and regulations of the U.S. Securities and Exchange Commission or any national securities exchange); provided, however, that the Receiving Party will notify the Disclosing Party promptly in writing upon receipt thereof, giving (where practicable) the Disclosing Party sufficient advance notice to permit it to oppose, limit or seek a protective order or confidential treatment for such disclosure; and provided, further, that the Receiving Party will furnish only that portion of the Confidential Information so required to be disclosed.

6. INTELLECTUAL PROPERTY RIGHTS

6.1 Existing Intellectual Property. Other than as expressly provided in this Agreement, neither Party grants any right, title, or interest in any Confidential Information, Patent, Patent Application, or other intellectual property right Controlled by such Party to the other Party.

6.2 Ownership of Inventions. Ownership of all Inventions shall [***]. Notwithstanding the foregoing, and subject to Section 4.5, the rights of the Parties with regard to any Invention outside the Field shall be governed by the Collaboration Agreement.

6.3 Patent Filings, Prosecution and Maintenance. Prothena shall have the sole right at its sole expense, but not the obligation, to prepare, file, prosecute, and maintain all Licensed Patents.

6.4 Enforcement Against Infringement by Third Parties. Subject to the terms and conditions of the Collaboration Agreement, neither Party shall have any obligation to the other Party to enforce any Licensed Technology against any Third Party infringer.

6.5 Defense of Infringement Claims by Third Parties. If the research, development, manufacture, use, sale or commercialization of Products pursuant to this Agreement results in a claim, action, suit, or proceeding that such activity infringes or misappropriates the Patents or other intellectual property rights of a Third Party (an "Infringement Claim"), the Party to this Agreement first having notice of such shall promptly notify the other Party in writing. The notice shall set forth the facts of the Infringement Claim in reasonable detail.

7. TERM AND TERMINATION

7.1 Term and Expiration. The term of this Agreement will commence on the Effective Date, and will end upon the expiration of the Royalty Term, unless sooner terminated in accordance with any of Sections 7.2-7.5, or as otherwise agreed in writing by the Parties (the "Term").

7.2 Termination by Roche. Roche may terminate this Agreement for any or no reason upon ninety (90) days prior written notice to Prothena.

7.3 Termination for Material Breach. If either Party believes the other is in material breach of an obligation under this Agreement, it may give notice of such breach to the other Party, which other Party shall have ninety (90) days in which to remedy such breach. If such alleged breach is not remedied in the time period set forth above, the non-breaching Party shall be entitled, without prejudice to any other rights conferred on it by this Agreement, and in addition to any other remedies available to it by law or in equity, to terminate this Agreement, either in its entirety or on a Product-by-Product basis, upon further written notice to the other Party.

7.4 Termination for Insolvency. To the extent permitted under applicable law, a Party may terminate this Agreement upon written notice to the other Party on or after the occurrence of any of the following events: (a) the appointment of a trustee, receiver, or custodian for all or substantially all of the property of the other Party, or for any lesser portion of such property, if the result materially and adversely affects the ability of the other Party to fulfill its obligations hereunder, which appointment is not dismissed within [***], (b) the determination by a court or tribunal of competent jurisdiction that the other Party is insolvent, (c) the filing of a petition for relief in bankruptcy by the other Party on its own behalf, or the filing of any such petition against the other Party if the proceeding is not dismissed or withdrawn within [***] thereafter, (d) an assignment by the other Party for the benefit of creditors, or (e) the dissolution or liquidation of the other Party.

7.5 Termination for Patent Challenge. To the extent legally permissible, Prothena shall have the right to terminate this Agreement immediately upon written notice if Roche or its Affiliate challenges in a court of competent jurisdiction, the validity, scope or enforceability of, or otherwise opposes, any Patent included in the Licensed Patents in the Territory.

7.6 Effect of Expiration or Termination of Agreement. Upon expiration or termination of this Agreement for any reason:

(a) subject to (d) below all licenses granted herein shall terminate

(b) subject to (d) below Roche shall return or destroy, and shall instruct its Affiliates to return or destroy, at Prothena's sole discretion and instruction, [***], and any and all remaining Licensed Know-How; and

(c) Neither Party will be relieved of any obligation that accrued prior to the effective date of such termination. All amounts due or payable to Prothena that were accrued prior to the effective date of termination will remain due and payable. Except as otherwise expressly provided herein, no additional amounts will be payable based on events occurring after the effective date of termination; provided that the foregoing will not be deemed to limit either Party's indemnification obligations under this Agreement for acts or omissions incurring prior to the effective date of such termination that are the subject of such indemnification even if the indemnification amount cannot be accrued or determined as of the effective date of such termination.

(d) if this Agreement expires in accordance with section 7.1, the license granted in accordance with section 2.1 shall be converted to an irrevocable, non-exclusive, royalty-free license to the Licensed Technology to Exploit Products in the Field in the Territory and Roche and its Affiliates may retain the [***].

8. WARRANTIES AND INDEMNIFICATION

8.1 Prothena and Roche (each, a "Representing Party") each hereby represents and warrants to each other, as of the Effective Date, as set forth below:

(a) Such Representing Party is a corporation duly organized and subsisting under the laws of its jurisdiction of organization.

(b) Such Representing Party has the power, authority, and legal right, and is free, to enter into this Agreement and, in so doing, shall not violate any other agreement to which it is a party as of the Effective Date.

8.2 DISCLAIMER OF WARRANTY. EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, NEITHER PARTY PROVIDES ANY WARRANTIES, WHETHER WRITTEN OR ORAL, EXPRESS OR IMPLIED, REGARDING THE LICENSED PRODUCTS AND EACH PARTY HEREBY DISCLAIMS ALL OTHER WARRANTIES, WHETHER WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND FREEDOM FROM INFRINGEMENT OF THIRD PARTY RIGHTS.

8.3 LIMITATION OF LIABILITY. WITHOUT LIMITING A PARTY'S INDEMNIFICATION OBLIGATIONS HEREUNDER, NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES ARISING OUT OF THIS AGREEMENT OR WITH RESPECT TO A PARTY'S PERFORMANCE OR NON-PERFORMANCE HEREUNDER.

8.4 Indemnification. Roche will, hold harmless, and defend Prothena and its officers, employees, and agents against any and all [***] claims or suits for losses, damages, costs, fees and expenses resulting from, or arising out of the Exploitation of the Products by Roche or its Affiliates, except to the extent arising from the negligence or willful misconduct of Prothena or Prothena's breach of this Agreement. Prothena shall notify Roche in writing of any claim or suit brought under this Section 8.4. Roche will not settle any claim against Prothena without Prothena's written consent where (a) such settlement would include any admission of liability or admission of wrongdoing on the part of Prothena, (b) such settlement would impose any restriction on Prothena's conduct of any of its activities, or (c) such settlement would not include an unconditional release of Prothena from all liability for claims that are the subject matter of the settled claim.

9. DISPUTE RESOLUTION

9.1 Exclusive Dispute Resolution Mechanism. Except as otherwise provided in this Agreement, the procedures set forth in this Article 9 shall be the exclusive mechanism for resolving any dispute between the Parties that may arise from time to time that cannot be resolved through good faith negotiation between the Parties.

9.2 Resolution by Executives. In the event of any dispute, either Party may, by written notice to the other Party, refer such dispute for attempted resolution by the Chief Executive Officer of Prothena and Head of Global Licensing, Diagnostics or his/her designees (the “Executives”). In the event the Executives of each Party are unable to resolve the dispute within [***] after receiving notice of the dispute (or such longer period as the Parties may mutually agree upon), then each Party may, at its sole discretion, seek resolution of such Dispute in accordance with Section 9.3.

9.3 Arbitration.

(f) Except as set forth in Section 9.4 or Section 9.5, any dispute that is not resolved pursuant to Section 9.2 shall be exclusively and finally settled by binding arbitration pursuant to this Section 9.3.

(g) Any such arbitration shall be conducted in [***], unless otherwise agreed to by the Parties in writing. Each arbitration shall be administered by the [***], and shall be conducted in accordance with the Commercial Arbitration Rules of [***] (the “Rules”), as such Rules may be amended from time to time, or modified by this Section 9.3 or by agreement of the Parties. At any applicable hearing, the Parties may present testimony (either by live witness or deposition) and documentary evidence and have the right to be represented by counsel. The [***] shall apply to any and all matters submitted to final and binding arbitration under this Agreement.

(h) Within [***] after receipt of an arbitration notice from a Party, the Parties shall attempt in good faith to agree on a single neutral arbitrator with relevant industry experience to conduct such arbitration. If the Parties do not agree on a single neutral arbitrator within [***] after receipt of an arbitration notice, each Party shall select one (1) arbitrator and the two (2) Party-selected arbitrators shall select a third arbitrator with relevant industry experience to constitute a panel of three (3) arbitrators to conduct the arbitration in accordance with the Rules. In the event that only one of the Parties selects an arbitrator, then such arbitrator shall be entitled to act as the sole arbitrator to resolve the dispute and all unresolved issues subject to such arbitration. Each and every arbitrator of the arbitration panel conducting the arbitration must and shall agree to render an opinion within [***] after the final hearing before the panel.

(i) The decision or award of the arbitrator(s) shall be final, binding, and incontestable and may be used as a basis for judgment thereon in any jurisdiction. The arbitrator(s) shall, upon the request of any Party, issue a written opinion of the findings of fact and conclusions of law and shall deliver a copy to each of the Parties. Each Party shall bear its own costs and attorney's fees, and the Parties shall equally bear the fees, costs, and expenses of the arbitrator(s) and the arbitration proceedings; *provided, however*, that the arbitrator(s) may exercise discretion to award costs, including without limitation attorney's fees, to the prevailing Party. Without limiting any other remedies that may be available under applicable laws, the arbitrator(s) shall have no authority to award provisional remedies of any nature whatsoever, or special, punitive, indirect, incidental, consequential, or any other similar form of damages (including without limitation damages resulting from loss of use, loss of profits, interruption or loss of business).

(j) The Parties undertake to keep confidential all awards in their arbitration, together with all materials in the proceedings created for the purpose of the arbitration and all other documents produced by another Party in the proceedings not otherwise in the public domain, save and to the extent that disclosure may be required of a Party by legal duty, the rules and regulations of any stock exchange or quotation services on which such Party's stock is traded or quoted, to protect or pursue a legal right or to enforce or challenge an award in legal proceedings before a court or other judicial authority.

(k) Unless otherwise agreed in writing, the Parties will continue to perform their respective obligations under this Agreement during any arbitration or court proceeding.

9.4 Preliminary Injunctions. Notwithstanding anything in this Agreement to the contrary, a Party may seek a temporary restraining order or a preliminary injunction from any court of competent jurisdiction in order to prevent immediate and irreparable injury, loss, or damage on a provisional basis, pending the decision of the arbitrator(s) on the ultimate merits of any dispute.

9.5 Patent Disputes. Notwithstanding anything in this Agreement to the contrary, any and all issues regarding the scope, construction, validity, and enforceability of any Patent or Patent Application in a country within the Territory shall be determined in a court or other governmental authority of competent jurisdiction under the applicable patent laws of such country.

1. MISCELLANEOUS

10.1 Agency. Neither Party is, nor shall be deemed to be, an employee, agent, co-venturer or legal representative of the other Party for any purpose. Neither Party shall be entitled to enter into any contracts in the name of, or on behalf of the other Party, nor shall either Party be entitled to pledge the credit of the other Party in any way or hold itself out as having the authority to do so.

10.2 Performance by Affiliates. The Parties recognize that each Party may perform some or all of its obligations under this Agreement through Affiliates; *provided*, *however*, that each Party shall remain responsible for the performance of its Affiliates and shall cause its Affiliates to comply with the provisions of this Agreement in connection with such performance.

10.3 Assignment. Roche may not assign this Agreement nor any interest hereunder, nor delegate any obligation, without the prior written consent of Prothena. Prothena may assign this Agreement or any interest hereunder or delegate any obligation to (i) an Affiliate of Prothena or for any reason in Prothena's sole discretion, or (ii) a Third Party in connection with the transfer or sale of all or substantially all of its business related to the subject matter of this Agreement, or in connection with a change in control, merger, acquisition, consolidation or similar transaction, provided any such assignment or delegation does not conflict with Prothena's obligations under this Agreement. Any assignment not in accordance with this Section 10.3(a) shall be void. This Agreement shall be binding upon and inure to the successors and permitted assignees of the Parties and the name of a Party appearing herein shall be deemed to include the names of such Party's successor's and permitted assigns to the extent necessary to carry out the intent of this Agreement.

10.4 Force Majeure. Neither Party shall be liable or responsible to the other Party for loss or damages, nor shall it have any right to terminate this Agreement for any default or delay attributable to any event beyond its reasonable control and without its fault or negligence, including without limitation acts of God, acts of government (including injunctions), fire, flood, earthquake, strike, lockout, labor dispute, breakdown of plant, shortage of critical equipment, loss or unavailability of manufacturing facilities or material, casualty or accident, civil commotion, acts of public enemies, acts of terrorism or threat of terrorist acts, blockage or embargo and the like; *provided, however*, that in each such case the Party affected shall (i) use reasonable efforts to avoid such occurrence and to remedy it promptly and (ii) give prompt notice of any such cause to the other Party. The Party giving such notice shall thereupon be excused from such of its obligations hereunder as it is thereby disabled from performing for so long as it is so disabled and for [***] thereafter, and the Party receiving notice shall be similarly excused from its respective obligations which it is thereby disabled from performing; *provided, however*, that such affected Party commences and continues to take reasonable and diligent actions to cure such cause. Notwithstanding the foregoing, nothing in this Section 10.4 shall excuse or suspend the obligation to make any payment due hereunder in the manner and at the time provided.

10.5 Notices. All notices and other communications hereunder shall be in writing and shall be deemed given (a) if delivered personally (b) three (3) business days after mailed by registered or certified mail (return receipt requested), postage prepaid, or (c) one (1) business day after sent by express courier service, to the Parties at the following addresses (or at such other address for a Party as shall be specified by like notice, provided that notices of a change of address shall be effective only upon receipt thereof):

If to Prothena: Prothena Biosciences Limited
77 Sir Rogerson's Quay, Block C
Grand Canal Docklands, Dublin 2, Ireland
Attention: Director
Facsimile: +353 1 902 3510

[***] Certain information in this document has been excluded pursuant to Regulation S-K, Item 601(b)(10). Such excluded information is not material and would likely cause competitive harm to the registrant if publicly disclosed.

with a copy to: Prothena Biosciences Inc.
331 Oyster Point Boulevard
South San Francisco, CA 94080, U.S.A.
Attention: Chief Legal Officer
Facsimile: +1 650 837 8560

If to Roche: F. Hoffmann-La Roche Ltd
Licensing Department Diagnostics
Grenzacherstrasse 124
4070 Basel
Switzerland

Attention: Legal Department

with a copy to: Roche Diagnostics International Ltd
Legal Department
Forrenstrasse 2,
6343 Rotkreuz
Switzerland

10.6 Governing Law. This Agreement shall be governed by and interpreted in accordance with the substantive laws of [***] without regard to its or any other jurisdiction's choice of law rules.

10.7 Amendment. No amendment, modification or supplement of any provision of this Agreement shall be valid or effective unless made in writing and signed by a duly authorized officer of each Party.

10.8 Waiver. No provision of this Agreement shall be waived by any act, omission or knowledge of a Party or its agents or employees except by an instrument in writing expressly waiving such provision and signed by a duly authorized officer of the waiving Party.

10.9 Severability. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable laws, but if any provision of this Agreement is held to be prohibited by or invalid under applicable laws, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of this Agreement. In the event of such invalidity, the Parties shall seek to agree on an alternative enforceable provision that preserves the original purpose of this Agreement.

10.10 Construction. The descriptive headings of this Agreement are for convenience only, and shall be of no force or effect in construing or interpreting any of the provisions of this Agreement. Except where the context otherwise requires, wherever used the singular shall include the plural, the plural the singular, the use of any gender shall be applicable to all genders. The language of this Agreement shall be deemed to be the language mutually chosen by the Parties and no rule of strict construction shall be applied against either Party hereto.

10.11 Entire Agreement; Conflicts. This Agreement, including the exhibits attached hereto, constitutes and contains the complete, final and exclusive understanding and agreement of the Parties with respect to the subject matter hereof, and for the Term expressly supersedes Sections 2.1-2.3, 3.1, 12.3(c), 12.5(b), 12.6(b)-(e), 12.7(b), and 12.7(c) of the Collaboration Agreement with respect to the subject matter hereof. Except as expressly stated herein, the terms and conditions of the Collaboration Agreement remain in full force and effect and shall control in the event of a conflict between the Collaboration Agreement and this Agreement.

10.12 Survival. Expiration or termination of this Agreement for any reason will not (a) release any Party from any obligation that has accrued prior to the effective date of such expiration or termination, (b) preclude any Party from claiming any other damages, compensation, or relief that it may be entitled to upon such expiration or termination, or (c) terminate any right to obtain performance of any obligation provided for in this Agreement that will survive expiration or termination. Without limiting the foregoing, upon expiration or termination of this Agreement, the rights and obligations of the Parties under Articles 1, 5, 6, 9 and 10 and Sections 4.2-4.5, 7.6, 8.3 and 8.4 will survive such expiration or termination.

10.13 Counterparts; Electronic Delivery. This Agreement may be executed simultaneously in two counterparts, either one of which need not contain the signature of more than one Party, but both of which taken together shall constitute one and the same agreement. Signatures to this Agreement transmitted, by email in “portable document format” (“.pdf”), or by any other electronic means intended to preserve the original graphic and pictorial appearance of this Agreement, shall have the same effect as physical delivery of the paper document bearing original signature.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the Effective Date by their duly authorized representatives as set forth below:

PROTHENA BIOSCIENCES LIMITED

By: /s/ Ashley Keating

Name: Ashley Keating

Title: V.P., Technical Operations

F. HOFFMANN-LA ROCHE LTD

By: /s/ Julian Vasilescu

Name: Julian Vasilescu

Title: Licensing Director

By: /s/ Michael de Villiers

Name: Michael de Villiers

Title: Legal Counsel

Schedule 1.9

Licensed Patents

[***]

[***] Certain information in this document has been excluded pursuant to Regulation S-K, Item 601(b)(10). Such excluded information is not material and would likely cause competitive harm to the registrant if publicly disclosed.

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Gene G. Kinney, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Prothena Corporation plc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 6, 2020	/s/ Gene G. Kinney
	Gene G. Kinney
	President and Chief Executive Officer
	(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Tran B. Nguyen, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Prothena Corporation plc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 6, 2020

/s/ Tran B. Nguyen

Tran B. Nguyen
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
AND PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Gene G. Kinney, President and Chief Executive Officer of Prothena Corporation plc (the “Company”) and Tran B. Nguyen, Chief Financial Officer of the Company, each hereby certify that, to the best of his knowledge:

1. The Company’s Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2020, to which this Certification is attached as Exhibit 32.1 (the “Report”) fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date:	May 6, 2020	/s/ Gene G. Kinney
		Gene G. Kinney
		President and Chief Executive Officer
		(Principal Executive Officer)
		/s/ Tran B. Nguyen
		Tran B. Nguyen
		Chief Financial Officer
		(Principal Financial Officer)

A signed original of this written statement required by Rule 13a-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350 has been provided to the Registrant and will be retained by the Registrant and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Registrant under the Securities Act of 1933 or the Securities Exchange Act of 1934 (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.