Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2020

OR

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

Commission file number 001-37359

BLUEPRINT MEDICINES CORPORATION
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**26-3632015**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**
45 Sidney Street Cambridge, Massachusetts	**02139**
(Address of Principal Executive Offices)	**(Zip Code)**

(617) 374-7580
(Registrant's Telephone Number, Including Area Code)

(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 ☑	Accelerated filer ☐
Non-accelerated filer ☐	Smaller reporting company ☐
	Emerging growth company ☐

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

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

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common stock, par value $0.001 per share	BPMC	Nasdaq Global Select Market

Number of shares of the registrant's common stock, $0.001 par value, outstanding on July 24, 2020: 55,272,075

TABLE OF CONTENTS

	Page
PART I – FINANCIAL INFORMATION	
Item 1. Financial Statements (unaudited)	4
Condensed Consolidated Balance Sheets as of June 30, 2020 and December 31, 2019	4
Condensed Consolidated Statements of Operations and Comprehensive Loss for the three and six months ended June 30, 2020 and 2019	5
Condensed Consolidated Statements of Stockholders' Equity for the three and six months ended June 30, 2020 and 2019	6
Condensed Consolidated Statements of Cash Flows for the six months ended June 30, 2020 and 2019	7
Notes to Condensed Consolidated Financial Statements	8
Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations	26
Item 3. Quantitative and Qualitative Disclosures About Market Risk	42
Item 4. Controls and Procedures	43
PART II – OTHER INFORMATION	
Item 1. Legal Proceedings	44
Item 1A. Risk Factors	44
Item 5. Other Information	91
Item 6. Exhibits	92
Signatures	94

Unless otherwise stated, all references to "us," "our," "Blueprint," "Blueprint Medicines," "we," the "Company" and similar designations in this Quarterly Report on Form 10-Q refer to Blueprint Medicines Corporation and its consolidated subsidiaries.

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this Quarterly Report on Form 10-Q are forward-looking statements. In some cases, you can identify forward-looking statements by words such as "aim," "anticipate," "believe," "contemplate," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "seek," "should," "target," "will," "would" or the negative of these words or other comparable terminology, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this Quarterly Report on Form 10-Q include, but are not limited to, statements about:

- the timing or likelihood of regulatory actions, filings and approvals for our current and future drug candidates, including our ability to obtain marketing approval for avapritinib for additional indications or in additional geographies and our ability to obtain marketing approval for pralsetinib;
- our ability and plans in continuing to build out our commercial infrastructure and successfully launching, marketing and selling AYVAKIT™ (avapritinib) and any current and future drug candidates for which we receive marketing approval;
- the rate and degree of market acceptance of AYVAKIT and any current and future drug candidates for which we receive marketing approval;
- the pricing and reimbursement of AYVAKIT and any current and future drug candidates for which we receive marketing approval;
- the initiation, timing, progress and results of our pre-clinical studies and clinical trials, including our ongoing clinical trials and any planned clinical trials for avapritinib, pralsetinib, fisogatinib, BLU-263, and our research and development programs;
- our ability to advance drug candidates into, and successfully complete, clinical trials;
- the actual or potential benefits of designations granted by the U.S. Food and Drug Administration, or FDA, such as orphan drug, fast track and breakthrough therapy designation or priority review, and the review of current or future NDA's under the FDA's Oncology Center of Excellence Real-Time Oncology Review pilot program or the FDA's Project Orbis initiative;
- our ability to successfully develop manufacturing processes for AYVAKIT and any current and future drug candidates and secure manufacturing, packaging and labeling arrangements for development activities and commercial production;
- the implementation of our business model and strategic plans for our business, drug and drug candidates and technology;
- the scope of protection we are able to establish and maintain for intellectual property rights covering AYVAKIT, our current and future drug candidates and technology;
- the potential benefits of our cancer immunotherapy collaboration with F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc., our collaboration with F. Hoffmann-La Roche Ltd and Genentech, Inc. to development and commercialize pralsetinib globally (excluding Greater China), and our collaboration with CStone Pharmaceuticals to develop and commercialize avapritinib, pralsetinib and fisogatinib in Greater China, as well as our ability to maintain these collaborations and establish other strategic collaborations;

- the potential benefits of our exclusive license agreement with Clementia Pharmaceuticals, Inc. to develop and commercialize BLU-782 for fibrodysplasia ossificans progressiva;
- the development of a companion diagnostic test for AYVAKIT to identify patients with a PDGFRA D842V mutation or companion diagnostic tests for our current or future drug candidates;
- our financial performance, estimates of our expenses, future revenues, capital requirements and our needs for future financing, including our ability to achieve a self-sustainable financial profile;
- developments relating to our competitors and our industry; and
- the impact and scope of the COVID-19 pandemic on our business, operations, strategy, goals and anticipated milestones, including our ongoing and planned research and discovery activities, ability to conduct ongoing and planned clinical trials, clinical supply of current or future drug candidates, commercial supply of AYVAKIT and any current or future drug candidates for which we receive marketing approval, and the launch, marketing and sale of AYVAKIT and any current and future drug candidates for which we receive marketing approval.

Any forward-looking statements in this Quarterly Report on Form 10-Q reflect our current views with respect to future events or to our future financial performance and involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. We have included important factors in the cautionary statements included in this Quarterly Report on Form 10-Q, particularly in the “Risk Factors” section, that could cause actual results or events to differ materially from the forward-looking statements that we make. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make or enter into.

You should read this Quarterly Report on Form 10-Q and the documents that we have filed as exhibits to this Quarterly Report on Form 10-Q completely and with the understanding that our actual future results, performance or achievements may be materially different from what we expect. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This Quarterly Report on Form 10-Q also contains estimates, projections and other information concerning our industry, our business and the markets for certain diseases, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources.

For purposes of this Quarterly Report on Form 10-Q, including the footnotes to our condensed consolidated financial statements, (i) with respect to our cancer immunotherapy collaboration, Roche means F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc. and (ii) with respect to our collaboration for pralsetinib, Roche means F. Hoffmann-La Roche Ltd and Genentech, Inc.

PART I – FINANCIAL INFORMATION

Item 1. Financial Statements

Blueprint Medicines Corporation
Condensed Consolidated Balance Sheets
(in thousands, except share and per share data)
(Unaudited)

	June 30, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 288,678	$ 113,938
Investments, available-for-sale	233,120	369,616
Accounts receivable, net	3,403	663
Unbilled accounts receivable	20,877	22,749
Inventory	4,359	—
Prepaid expenses and other current assets	17,875	9,820
Total current assets	568,312	516,786
Investments, available-for-sale	128,475	64,406
Property and equipment, net	36,745	38,361
Operating lease right-of-use assets, net	70,471	72,753
Restricted cash	5,168	5,166
Other assets	8,286	10,222
Total assets	$ 817,457	$ 707,694
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	5,591	4,793
Accrued expenses	84,062	88,706
Current portion of operating lease liabilities	7,416	6,823
Current portion of deferred revenue	8,017	6,160
Total current liabilities	105,086	106,482
Operating lease liabilities, net of current portion	85,727	89,126
Deferred revenue, net of current portion	36,688	39,913
Other long-term liabilities	8,589	7,814
Total liabilities	236,090	243,335
Commitments (Note 15)		
Stockholders' equity:		
Preferred stock, $0.001 par value; 5,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock, $0.001 par value; 120,000,000 shares authorized; 54,284,501 and 49,272,223 shares issued and outstanding at June 30, 2020 and December 31, 2019, respectively	54	49
Additional paid-in capital	1,762,099	1,412,083
Accumulated other comprehensive loss	(1,120)	(2,535)
Accumulated deficit	(1,179,666)	(945,238)
Total stockholders' equity	581,367	464,359
Total liabilities and stockholders' equity	$ 817,457	$ 707,694

Blueprint Medicines Corporation
Condensed Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except per share data)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Revenues:				
Product revenue, net	$ 5,680	$ —	$ 9,138	$ —
Collaboration revenue	2,663	5,110	5,372	5,840
Total revenues	8,343	5,110	14,510	5,840
Cost and operating expenses:				
Cost of sales	127	—	150	—
Research and development	91,079	87,101	175,225	161,351
Selling, general and administrative	42,174	21,923	77,829	38,476
Total cost and operating expenses	133,380	109,024	253,204	199,827
Other income (expense):				
Interest income, net	1,586	4,275	4,490	6,985
Other income, net	(23)	(42)	(224)	(86)
Total other income	1,563	4,233	4,266	6,899
Net loss	$ (123,474)	$ (99,681)	$ (234,428)	$ (187,088)
Other comprehensive loss:				
Unrealized gain (losses) on available-for-sale investments	(1,057)	845	1,435	1,115
Currency translation adjustments	6	7	(21)	(8)
Comprehensive loss	$ (124,525)	$ (98,829)	$ (233,014)	$ (185,981)
Net loss per share — basic and diluted	$ (2.28)	$ (2.04)	$ (4.39)	$ (4.03)
Weighted-average number of common shares used in net loss per share — basic and diluted	54,217	48,843	53,436	46,458

Blueprint Medicines Corporation
Condensed Consolidated Statements of Stockholders' Equity
(in thousands)
(Unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2019	49,272,223	$ 49	$ 1,412,083	$ (2,534)	$ (945,239)	$ 464,359
Issuance of common stock under stock plan	186,166	1	1,612	—	—	1,613
Stock-based compensation expense	—	—	17,026	—	—	17,026
Follow on offering, net of issuance costs	4,710,144	4	308,419	—	—	308,423
Unrealized gain (loss) on available-for-sale securities	—	—	—	2,492	—	2,492
Cumulative translation adjustment	—	—	—	(27)	—	(27)
Net loss	—	—	—	—	(110,953)	(110,953)
Balance at March 31, 2020	54,168,533	$ 54	$ 1,739,140	$ (69)	$ (1,056,192)	$ 682,933
Issuance of common stock under stock plan	98,950	$ —	$ 2,335	$ —	$ —	$ 2,335
Purchase of common stock under ESPP	17,018	—	942	—	—	942
Stock-based compensation expense	—	—	19,675	—	—	19,675
Unrealized gain (loss) on available-for-sale securities	—	—	—	(1,057)	—	(1,057)
Cumulative translation adjustment	—	—	—	6	—	6
Net loss	—	—	—	—	(123,474)	(123,474)
Other	—	—	7	—	—	7
Balance at June 30, 2020	54,284,501	$ 54	$ 1,762,099	$ (1,120)	$ (1,179,666)	$ 581,367
Balance at December 31, 2018	44,037,026	$ 44	$ 1,016,690	$ (180)	$ (597,545)	$ 419,009
Issuance of common stock under stock plan	134,439	—	2,061	—	—	2,061
Stock-based compensation expense	—	—	10,295	—	—	10,295
Unrealized gain (loss) on available-for-sale securities	—	—	—	270	—	270
Cumulative translation adjustment	—	—	—	(15)	—	(15)
Net loss	—	—	—	—	(87,407)	(87,407)
Balance at March 31, 2019	44,171,465	$ 44	$ 1,029,046	$ 75	$ (684,952)	$ 344,213
Issuance of common stock under stock plan	215,299	—	5,813	—	—	5,813
Purchase of common stock under ESPP	10,718	—	522	—	—	522
Follow on offering, net of issuance costs	4,662,162	5	327,437	—	—	327,442
Stock-based compensation expense	—	—	13,666	—	—	13,666
Unrealized gain (loss) on available-for-sale securities	—	—	—	845	—	845
Cumulative translation adjustment	—	—	—	7	—	7
Net loss	—	—	—	—	(99,681)	(99,681)
Balance at June 30, 2019	49,059,644	$ 49	$ 1,376,484	$ 927	$ (784,633)	$ 592,827

Blueprint Medicines Corporation
Condensed Consolidated Statements of Cash Flows
(in thousands)
(Unaudited)

	Six Months Ended June 30,	
	2020	**2019**
Cash flows from operating activities		
Net loss	$ (234,428)	$ (187,088)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	3,239	2,392
Noncash lease expense	2,823	2,337
Stock-based compensation	36,387	23,961
Accretion of premiums and discounts on investments	(26)	(2,973)
Other	269	—
Changes in assets and liabilities:		
Accounts receivable	(2,740)	(686)
Unbilled accounts receivable	1,872	(4,363)
Inventory	(2,748)	—
Prepaid expenses and other current assets	(9,159)	(4,840)
Other assets	2,018	(179)
Accounts payable	802	3,291
Accrued expenses	(4,573)	9,994
Deferred revenue	(1,368)	(1,697)
Operating lease liabilities	(2,860)	(1,565)
Net cash used in operating activities	(210,492)	(161,416)
Cash flows from investing activities		
Purchases of property and equipment	(2,466)	(3,940)
Purchases of investments	(232,148)	(465,289)
Maturities of investments	306,035	310,490
Net cash provided by (used in) investing activities	71,421	(158,739)
Cash flows from financing activities		
Proceeds from public offerings of common stock, net of issuance cost	308,750	327,750
Net proceeds from stock option exercises and employee stock purchase plan	4,886	6,911
Payment of offering costs	(311)	(280)
Other financing activities	—	(72)
Net cash provided by financing activities	313,325	334,309
Net increase in cash, cash equivalents, and restricted cash	174,254	14,154
Cash, cash equivalents and restricted cash at beginning of period	119,604	73,429
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(12)	3
Cash, cash equivalents and restricted cash at end of period	$ 293,846	$ 87,586
Supplemental cash flow information		
Public offering costs incurred but unpaid at period end	$ 5	$ 28
Property and equipment purchases unpaid at period end	$ 116	$ 3,328
Cash paid for taxes, net	$ 47	$ 97

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the condensed consolidated balance sheets that sum to the total of the same such amounts shown in the condensed consolidated statements of cash flows (in thousands).

	June 30, 2020	**June 30, 2019**
Cash and cash equivalents	$ 288,678	$ 82,425
Restricted cash	5,168	5,161
Total cash, cash equivalents, and restricted cash shown in condensed consolidated statements of cash flows	$ 293,846	$ 87,586

Blueprint Medicines Corporation
Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Nature of Business

Blueprint Medicines Corporation (the Company), a Delaware corporation incorporated on October 14, 2008, is a precision therapy company focused on genomically defined cancers, rare diseases and cancer immunotherapy. The Company's approach is to leverage its novel target discovery engine to systematically and reproducibly identify kinases that are drivers of diseases and to craft highly selective and potent drug candidates that may provide significant and durable clinical responses for patients without adequate treatment options.

The Company's first commercial product is approved by the U.S. Food and Drug Administration (FDA) under the brand name AYVAKIT™ (avapritinib) for the treatment of adults with unresectable or metastatic gastrointestinal stromal tumor (GIST) harboring a platelet-derived growth factor receptor alpha (PDGFRA) exon 18 mutation, including PDGFRA D842V mutations. AYVAKIT is the first precision therapy approved to treat a genomically defined population of patients with GIST. The Company is devoting substantially all of its efforts to research and development for current and future drug candidates and commercialization of AYVAKIT and any current or future drug candidates that obtain marketing approval.

As of June 30, 2020, the Company had cash, cash equivalents and investments of $650.3 million. Based on the Company's current operating plans, the Company anticipates that its existing cash, cash equivalents and investments will be sufficient to enable it to fund its current operations for at least the next twelve months from the issuance of the financial statements.

2. Summary of Significant Accounting Policies and Recent Accounting Pronouncements

Basis of Presentation

The unaudited interim condensed consolidated financial statements of the Company included herein have been prepared in accordance with accounting principles generally accepted in the United States (GAAP) as found in the Accounting Standards Codification (ASC), Accounting Standards Update (ASU) of the Financial Accounting Standards Board (FASB) and the rules and regulations of the Securities and Exchange Commission (SEC). Certain information and footnote disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted from this report, as is permitted by such rules and regulations. Accordingly, these financial statements should be read in conjunction with the financial statements as of and for the year ended December 31, 2019 and notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on February 13, 2020 (the 2019 Annual Report on Form 10-K).

The unaudited interim condensed consolidated financial statements have been prepared on the same basis as the audited financial statements, and updated, as necessary, in this report. In the opinion of the Company's management, the accompanying unaudited interim condensed consolidated financial statements contain all adjustments that are necessary to present fairly the Company's financial position as of June 30, 2020, the results of its operations for the three and six months ended June 30, 2020 and 2019, stockholder's equity for the three and six months ended June 30, 2020 and 2019 and cash flows for the six months ended June 30, 2020 and 2019. Such adjustments are of a normal and recurring nature. The results for the three and six months ended June 30, 2020 are not necessarily indicative of the results for the year ending December 31, 2020 or for any future period.

The accompanying condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries, Blueprint Medicines Security Corporation, which is a Massachusetts subsidiary created to buy, sell and hold securities, Blueprint Medicines (Switzerland) GmbH, Blueprint Medicines (Netherlands) B.V., Blueprint Medicines (UK) Ltd, Blueprint Medicines (Germany) GmbH, Blueprint Medicines Spain, S.L., Blueprint Medicines (France) SAS and Blueprint Medicines (Italy) S.r.L. All intercompany transactions and balances have been eliminated.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires the Company's management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates. Management considers many factors in selecting appropriate financial accounting policies and in developing the estimates and assumptions that are used in the preparation of the financial statements. Management must apply significant judgment in this process. Management's estimation process often may yield a range of potentially reasonable estimates and management must select an amount that falls within that range of reasonable estimates. Estimates are used in the following areas, among others: revenue recognition, operating lease right-of-use assets, operating lease liabilities, stock-based compensation expense, accrued expenses, and income taxes. The full extent to which the COVID-19 pandemic will directly or indirectly impact the Company's business, results of operations and financial condition, including sales, expenses, reserves and allowances, manufacturing, clinical trials, research and development costs and employee-related amounts, will depend on future developments that are highly uncertain, including as a result of new information that may emerge concerning COVID-19 and the actions taken to contain or treat COVID-19, as well as the economic impact thereof on local, regional, national and international customers and markets. The Company had made estimates of the impact of COVID-19 within its financial statements and there may be changes to those estimates in future periods. Actual results may differ from these estimates.

Significant Accounting Policies

The significant accounting policies used in preparation of these condensed consolidated financial statements for the three and six months ended June 30, 2020 are consistent with those discussed in Note 2 to the consolidated financial statements in the 2019 Annual Report on Form 10-K, except as noted below with respect to the Company's accounting policies for product revenue, accounts receivable, and inventory.

Product Revenue

The Company generated product revenue from sales of AYVAKIT to specialty pharmacy providers in the U.S. These customers subsequently dispense the product directly to patients. In addition, the Company entered into arrangements with payors that provide for government mandated rebates, discounts and allowances with respect to the utilization of AYVAKIT.

Product revenue is recognized when the customer takes control of the product, typically upon delivery to the customer. Product revenue is recorded at the net sales price, or transaction price, which includes estimated reserves for variable consideration resulting from chargebacks, government rebates, trade discounts and allowances, product returns and other incentives that are offered within the contract with customers, healthcare providers, payors and other indirect customers relating to the sales of the Company's product. Reserves are established based on the amounts earned or to be claimed on the related sales. Where appropriate, the Company utilizes the expected value method to determine the appropriate amount for estimates of variable consideration based on factors such as the Company's current contractual and statutory requirements, specific known market events and trends, industry data and forecasted customer buying and payment patterns. The amount of variable consideration that is included in the transaction price may be constrained and is included in net product revenues only to the extent that it is probable that a significant reversal in the amount of the cumulative revenue recognized will not occur in a future period. Actual amounts of consideration ultimately received may differ from the Company's estimates. If actual results vary from the Company's estimates, the Company adjusts these estimates, which would affect net product revenue and earnings in the period such variances become known.

Chargebacks: Chargebacks for fees and discounts represent the estimated obligations resulting from contractual commitments to sell product to qualified healthcare providers and government agencies at prices lower than the list prices charged to the customers who directly purchase the product from the Company. The customers charge the Company for the difference between what they pay for the product and the ultimate contractually committed or government required lower selling price to the qualified healthcare providers. These reserves are estimated using the expected value method based upon a range of possible outcomes and are established in the same period that the related revenue is recognized, resulting in a reduction of product revenue.

Government rebates: Government rebates consist of Medicare, Tricare and Medicaid rebates, which were estimated using the expected value method, based upon a range of possible outcomes for the estimated payor mix. These

reserves are recorded in the same period the related revenue is recognized, resulting in a reduction of product revenue. For Medicare, the Company also estimates the number of patients in the prescription drug coverage gap for whom it will owe a rebate under the Medicare Part D program.

Trade discounts and allowances: The Company provides the customers with discounts that are explicitly stated in the contracts and recorded as a reduction of revenue in the period the related product revenue is recognized. In addition, the Company also receives sales order management, inventory management and data services from the customers in exchange for certain fees.

Product returns: The Company estimates the amount of its product sales that may be returned by its customers and records this estimate as a reduction of revenue in the period the related product revenue is recognized. The Company currently estimates product return liabilities using expected value method based on available industry data and its visibility into the inventory remaining in the distribution channel.

Other deductions: Co-pay assistance relates to financial assistance provided to qualified patients, whereby the Company may assist them with prescription drug co-payments required by the patient's insurance provider. Reserves for co-pay assistance are recorded in the same period the related revenue is recognized, resulting in a reduction of product revenue.

Accounts Receivable, net

Accounts receivable arise from product sales and amounts due from the Company's collaboration partners. The amount from product sales represents amounts due from specialty pharmacy providers in the U.S. The Company monitors economic conditions to identify facts or circumstances that may indicate that its receivables are at risk of collection. The Company provides reserves against accounts receivable for estimated losses that may result from a customer's inability to pay based on the composition of its accounts receivable, current economic conditions and historical credit loss activity. Amounts determined to be uncollectible are charged or written-off against the reserve. For the three and six months ended June 30, 2020, the Company did not record any expected credit losses related to outstanding accounts receivable.

Inventory

Inventories are stated at the lower of cost or estimated net realizable value with cost based on the first-in first-out method. Inventory that can be used in either the production of clinical or commercial products is expensed as research and development costs when identified for use in clinical trials.

Prior to the regulatory approval of its drug candidates, the Company incurs expenses for the manufacture of drug product supplies to support clinical development that could potentially be available to support the commercial launch of those drugs. Until the date at which regulatory approval has been received or is otherwise considered probable, the Company records all such costs as research and development expenses.

The Company performs an assessment of the recoverability of capitalized inventories during each reporting period and writes down any excess and obsolete inventory to its net realizable value in the period in which the impairment is first identified. Such impairment charges, should they occur, are recorded as a component of cost of product sales in the condensed consolidated statements of operations and comprehensive loss. The determination of whether inventory costs will be realizable requires the use of estimates by management. If actual market conditions are less favorable than projected by management, additional write-downs of inventory may be required.

New Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies that the Company adopts as of the specified effective date. Unless otherwise discussed below, the Company does not

believe that the adoption of recently issued standards have or may have a material impact on its condensed consolidated financial statements and disclosures.

Credit Losses

In June 2016, the FASB issued *ASU No. 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The FASB subsequently issued amendments to ASU 2016-13, which had the same effective date and transition date of January 1, 2020. These standards require that credit losses be reported using an expected losses model rather than the incurred losses model that is currently used, and establish additional disclosures related to credit risks. For available-for-sale debt securities with unrealized losses, these standards now require allowances to be recorded instead of reducing the amortized cost of the investment. This standard limits the amount of credit losses to be recognized for available-for-sale debt securities to the amount by which carrying value exceeds fair value and requires the reversal of previously recognized credit losses if fair value increases.

The Company adopted the new standard on a prospective basis on January 1, 2020 and has completed the assessment of the standard based on the composition of its accounts receivable, investment portfolio of financial instruments, current and forecasted economic conditions and historical credit loss activity as of January 1, 2020. The adoption of this standard did not have a significant impact on the Company's condensed consolidated financial statements and related disclosures.

Fair Value Measurements

In August 2018, the FASB issued *ASU No. 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework Changes to the Disclosure Requirements for Fair Value Measurement*. This standard modifies certain disclosure requirements on fair value measurements. The Company adopted the new standard on January 1, 2020 and the adoption of this standard did not have a material impact on related disclosures.

Collaborative Arrangements

In November 2018, the *FASB issued ASU No. 2018-18, Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606.* This standard makes targeted improvements for collaborative arrangements as follows:

- Clarifies that certain transactions between collaborative arrangement participants should be accounted for as revenue under *ASC 606, Revenue from Contracts with Customers*, when the collaborative arrangement participant is a customer in the context of a unit of account. In those situations, all the guidance in ASC 606 should be applied, including recognition, measurement, presentation and disclosure requirements;

- Adds unit-of-account guidance to *ASC 808, Collaborative Arrangements*, to align with the guidance in ASC 606 (that is, a distinct good or service) when an entity is assessing whether the collaborative arrangement or a part of the arrangement is within the scope of ASC 606; and

- Requires that in a transaction with a collaborative arrangement participant that is not directly related to sales to third parties, presenting that transaction together with revenue recognized under ASC 606 is precluded if the collaborative arrangement participant is not a customer.

The Company adopted the new standard on January 1, 2020. A retrospective transition approach is required for either all contracts or only for contracts that are not completed at the date of initial application of ASC 606, with a cumulative adjustment to opening retained earnings. The adoption of this standard did not have a material impact on its condensed consolidated financial position and results of operations.

Internal-Use Software

In August 2018, the FASB issued *ASU No. 2018-15, Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That*

Is a Service Contract, which clarifies the accounting for implementation costs in cloud computing arrangements. The standard is effective for interim and annual periods beginning after December 15, 2019, with early adoption permitted, and can be adopted prospectively or retrospectively.

The Company adopted the new standard on January 1, 2020 on a prospective basis. The adoption of this standard did not have a significant impact on the Company's condensed consolidated financial position and results of operations. However, the adoption of this standard will result in an increase in capitalized assets related to qualifying cloud computing arrangement implementation costs incurred after the adoption date.

Income Taxes

In December 2019, the FASB issued *ASU No. 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, as part of its initiative to reduce complexity in the accounting standards. The amendments in ASU 2019-12 eliminate certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. ASU 2019-12 also clarifies and simplifies other aspects of the accounting for income taxes. The amendments in ASU 2019-12 are effective for the fiscal years beginning after December 15, 2020. Early adoption is permitted, including adoption in any interim period. The Company has early adopted this amendment as of January 1, 2020. The adoption of the standard did not have a material impact to the Company's condensed consolidated financial position and results of operations as well as related income tax disclosures.

Reclassification

Certain items in the prior year's condensed consolidated financial statements have been reclassified to conform to the current presentation.

3. Cash Equivalents and Investments

Cash equivalents and investments, available-for-sale, consisted of the following at June 30, 2020 and December 31, 2019 (in thousands):

June 30, 2020	**Amortized Cost**	**Unrealized Gain**	**Unrealized Losses**	**Fair Value**
Cash equivalents:				
Money market funds	$ 285,014	$ —	$ —	$ 285,014
U.S. treasury obligations	—	—	—	—
Investments, available-for-sale:				
U.S. government agency securities	168,474	730	(17)	169,187
U.S. treasury obligations	191,180	1,228		192,409
Total	$ 644,668	$ 1,958	$ (17)	$ 646,609

December 31, 2019	**Amortized Cost**	**Unrealized Gain**	**Unrealized Losses**	**Fair Value**
Cash equivalents:				
Money market funds	$ 98,946	$ —	$ —	$ 98,946
U.S. treasury obligations	14,992	—	—	14,992
Investments, available-for-sale:				
U.S. government agency securities	128,156	160	(4)	128,312
U.S. treasury obligations	305,360	358	(8)	305,710
Total	$ 547,454	$ 518	$ (12)	$ 547,960

As of June 30, 2020 the Company held six securities that were in an unrealized loss position with an aggregate fair value of $32.0 million. As of December 31, 2019, the Company held 11 debt securities in an unrealized loss position with an aggregate fair value of $82.1 million.

As of June 30, 2020, 22 securities with an aggregate fair value of $128.5 million have remaining maturities between one year and five years. As of December 31, 2019, nine securities with an aggregate fair value of $64.4 million had remaining maturities greater than one year.

4. Fair Value of Financial Instruments

The following table summarizes cash equivalents and marketable securities measured at fair value on a recurring basis as of June 30, 2020 (in thousands):

Description	June 30, 2020	Active Markets (Level 1)	Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Financial Assets				
Cash equivalents:				
Money market funds	$ 285,014	$ 285,014	$ —	$ —
U.S. treasury obligations	—	—	—	—
Investments, available-for-sale:				
U.S. government agency securities	169,187	—	169,187	—
U.S. treasury obligations	192,409	192,409	—	—
Total	$ 646,609	$ 477,423	$ 169,187	$ —

The following table summarizes cash equivalents and marketable securities measured at fair value on a recurring basis as of December 31, 2019 (in thousands):

Description	December 31, 2019	Active Markets (Level 1)	Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Financial Assets				
Cash equivalents:				
Money market funds	$ 98,946	$ 98,946	$ —	$ —
U.S. treasury obligations	14,992	14,992	—	—
Investments, available-for-sale:				
U.S. government agency securities	128,312	—	128,312	—
U.S. treasury obligations	305,710	305,710	—	—
Total	$ 547,960	$ 419,648	$ 128,312	$ —

5. Product Revenue Reserves and Allowances

In January 2020, the FDA approved AYVAKIT for the treatment of adults with unresectable or metastatic GIST harboring PDGFRA exon 18 mutation, including PDGFRA D842V mutations. To date, the Company's only source of product revenue has been from the U.S. sales of AYVAKIT, and the total net product revenue was $5.7 million and $9.1 million for the three and six months ended June 30, 2020, respectively.

The following table summarizes activity in each of the product revenue allowance and reserve categories for the six months ended June 30, 2020 (in thousands):

	Total
Beginning balance at January 1, 2020	$ —
Provision related to sales in the current period	1,230
Adjustment related to prior periods sales	—
Credits and payments made	(400)
Ending balance at June 30, 2020	$ 830

The total reserves above, which are included in the Company's condensed consolidated balance sheets, are summarized as follows (in thousands):

	June 30, 2020
Reduction of accounts receivable, net	$ 186
Component of accrued expenses	644
Total revenue-related reserves	$ 830

6. Inventory

Capitalized inventory consists of the following at June 30, 2020 (in thousands):

	June 30, 2020	December 31, 2019
Work in process	$ 4,221	$ —
Finished goods	138	—
Total	$ 4,359	$ —

Inventory amounts written down as a result of excess, obsolescence, unmarketability or other reasons are charged to cost of sales was zero for the three and six months ended June 30, 2020.

7. Restricted Cash

At June 30, 2020 and December 31, 2019, $5.2 million and $5.7 million, respectively, of the Company's cash is restricted by a bank primarily related to security deposits for the Company's building lease agreements.

8. Property and Equipment, Net

Property and equipment and related accumulated depreciation are as follows (in thousands):

	Estimated Useful Life (Years)	June 30, 2020	December 31, 2019
Lab equipment	5	$ 10,929	$ 8,975
Furniture and fixtures	4	3,590	3,512
Computer equipment	3	1,571	1,558
Leasehold improvements	Term of lease	36,003	35,975
Software	3	408	417
Construction-in-progress		1,166	1,608
		53,667	52,045
Less: accumulated depreciation and amortization		(16,922)	(13,684)
Total		$ 36,745	$ 38,361

Property, plant and equipment are recorded at historical cost, net of accumulated depreciation. For the three and six months ended June 30, 2020, depreciation expense totaled $1.7 million and $3.2 million, respectively, compared to $1.2 million and $2.4 million, respectively, for the three and six months ended June 30, 2019.

9. Accrued Expenses

Accrued expenses consist of the following (in thousands):

	June 30, 2020	December 31, 2019
Research, development and commercial contract costs	$ 56,183	$ 59,420
Employee compensation	14,985	13,519
Accrued professional fees	10,475	12,042
Revenue-related reserves	644	—
Other	1,776	3,725
Total	$ 84,062	$ 88,706

10. Collaboration and License Agreements

Clementia

On October 15, 2019, the Company entered into a license agreement (the Clementia agreement) with Clementia Pharmaceuticals, Inc. (Clementia), a wholly-owned subsidiary of Ipsen S.A. Under the Clementia agreement, the Company granted an exclusive, worldwide, royalty-bearing license to Clementia to develop and commercialize BLU-782, the Company's oral, highly selective investigational ALK2 inhibitor in Phase 1 clinical development for the treatment of fibrodysplasia ossificans progressiva (FOP), as well as specified other compounds related to the BLU-782 program.

Under the Clementia agreement, the Company received an upfront cash payment of $25.0 million and a $20.0 million cash milestone payment in October 2019 and July 2020, respectively. Subject to the terms of the Clementia agreement, the Company is eligible to receive up to $490.0 million in additional potential development, regulatory and sales-based milestone payments for licensed products. In addition, Clementia is obligated to pay to the Company royalties on aggregate annual worldwide net sales of licensed products at tiered percentage rates ranging from the low- to mid-teens, subject to adjustment in specified circumstances under the Clementia agreement, and Clementia purchased specified manufacturing inventory from the Company for a total of $1.5 million.

Unless earlier terminated in accordance with the terms of the Clementia agreement, the agreement will expire on a country-by-country, licensed product-by-licensed product basis on the date when no royalty payments are or will become due. Clementia may terminate the agreement at any time on or after the second anniversary of the effective date of the agreement upon at least 12 months' prior written notice to the Company, which cannot be delivered before the first anniversary of the effective date. Either party may terminate the agreement for the other party's uncured material breach or insolvency and in certain other circumstances agreed to by the parties. In certain termination circumstances, the Company is entitled to retain specified licenses to be able to continue to exploit the Clementia licensed products.

The Company evaluated the Clementia agreement under ASC 606, as the agreement represented a transaction with a customer. The Company identified the following material promises under the agreement: (1) the exclusive license to develop, manufacture and commercialize BLU-782; (2) the technology transfer of BLU-782 program; (3) the transfer of existing manufacturing inventory; and (4) the transfer of in-process manufacturing inventory. In addition, the Company determined that the exclusive license and technology transfer were not distinct from each other, as the exclusive license has limited value without the corresponding technology transfer. As such, for the purposes of ASC 606, the Company determined that these four material promises, described above, should be combined into three performance obligations: (1) the exclusive license and the technology transfer; (2) the transfer of existing manufacturing inventory; and (3) the transfer of in-process manufacturing inventory.

The Company determined that the transaction price as of the outset of the arrangement was $46.5 million, which consists of the upfront amount of $25.0 million, the $20.0 million cash milestone payment received in July 2020, the purchase of existing manufacturing inventory of $1.2 million and the purchase of in-process manufacturing inventory of $0.3 million. The other potential milestone payments that the Company is eligible to receive were excluded from the transaction price, as all milestone amounts were fully constrained based on the probability of achievement. The transaction price was allocated to the three performance obligations on a relative stand-alone selling price basis. The

Company satisfies the performance obligations upon delivery of the license and completion of the technology transfer and inventory transfers.

During 2019, the Company completed the delivery of the license, the technology transfer and the transfer of existing manufacturing inventory and recognized a total of $46.2 million as revenue. The $20.0 million cash milestone payment subsequently received in July 2020 was recorded as unbilled accounts receivable as of June 30, 2020 and December 31, 2019, respectively.

During the three and six months ended June 30, 2020, the Company completed the transfer of the in-process manufacturing inventory and recognized revenue of $0.3 million accordingly. No revenue was recognized during the three and six months ended June 30, 2019. There was no revenue deferred as a contract liability associated with the Clementia agreement as of June 30, 2020 and December 31, 2019.

CStone Pharmaceuticals

On June 1, 2018, the Company entered into a collaboration and license agreement (the CStone agreement) with CStone pursuant to which the Company granted CStone exclusive rights to develop and commercialize the Company's drug candidates avapritinib, pralsetinib and fisogatinib, including back-up forms and certain other forms thereof, in Mainland China, Hong Kong, Macau and Taiwan (each, a CStone region and collectively, the CStone territory), either as a monotherapy or as part of a combination therapy.

The Company received an upfront cash payment of $40.0 million, and subject to the terms of the CStone agreement, will be eligible to receive up to approximately $346.0 million in milestone payments, including $118.5 million related to development and regulatory milestones and $227.5 million related to sales-based milestones. In addition, CStone will be obligated to pay the Company tiered percentage royalties on a licensed product-by-licensed product basis ranging from the mid-teens to low twenties on annual net sales of each licensed product in the CStone territory, subject to adjustment in specified circumstances. CStone will be responsible for costs related to the development of the licensed products in the CStone territory, other than specified costs related to the development of fisogatinib as a combination therapy in the CStone territory that will be shared by the Company and CStone.

Pursuant to the terms of the CStone agreement, CStone will be responsible for conducting all development and commercialization activities in the CStone territory related to the licensed products, and the Company and CStone plan to conduct a proof-of-concept clinical trial in China evaluating fisogatinib in combination with CS1001, a clinical-stage anti-programmed death ligand-1 immunotherapy being developed by CStone, as a first-line therapy for the treatment of patients with hepatocellular carcinoma.

The CStone agreement will continue on a licensed product-by-licensed product and CStone region-by-CStone region basis until the later of (i) 12 years after the first commercial sale of a licensed product in a CStone region in the CStone territory and (ii) the date of expiration of the last valid patent claim related to the Company's patent rights or any joint collaboration patent rights for the licensed product that covers the composition of matter, method of use or method of manufacturing such licensed product in such region. Subject to the terms of the CStone agreement, CStone may terminate the CStone agreement in its entirety or with respect to one or more licensed products for convenience by providing written notice to the Company after June 1, 2019, and CStone may terminate the CStone agreement with respect to a licensed product for convenience at any time by providing written notice to the Company following the occurrence of specified events. In addition, the Company may terminate the CStone agreement under specified circumstances if CStone or certain other parties challenges the Company's patent rights or any joint collaboration patent rights or if CStone or its affiliates do not conduct any material development or commercialization activities with respect to one or more licensed products for a specified period of time, subject to specified exceptions. Either party may terminate the CStone agreement for the other party's uncured material breach or insolvency. In certain termination circumstances, the parties are entitled to retain specified licenses to be able to continue to exploit the licensed products, and in the event of termination by CStone for the Company's uncured material breach, the Company will be obligated to pay CStone a low single digit percentage royalty on a licensed product-by-licensed product basis on annual net sales of such licensed product in the CStone territory, subject to a cap and other specified exceptions.

The Company evaluated the CStone agreement to determine whether it is a collaborative arrangement for purposes of ASC 808. The Company determined that there were two material components of the CStone agreement:

(i) the CStone territory-specific license and related activities in the CStone territory, and (ii) the parties' participation in global development of the licensed products. The Company concluded that the CStone territory-specific license and related activities in the CStone territory are not within the scope of ASC 808 because the Company is not exposed to significant risks and rewards. The Company concluded that CStone is a customer with regard to the component that includes the CStone territory-specific license and related activities in CStone territory, which include manufacturing. For the parties' participation in global development of the licensed products, the Company concluded that the research and development activities and cost-sharing payments related to such activities are within the scope of ASC 808 as both parties are active participants exposed to the risk of the activities under the CStone agreement. The Company concluded that CStone is not a customer with regard to the global development component in the context of the CStone agreement. Therefore, payments received by the Company for global development activities under the CStone agreement, including manufacturing, will be accounted for as a reduction of related expenses.

A summary of manufacturing and research and development services related to the global development activities during the three and six months ended June 30, 2020 and 2019 is as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Manufacturing and research and development services related to global development activities	$ 920	$ 370	$ 2,450	$ 1,128

The Company evaluated the CStone territory-specific license and related activities in the CStone territory under ASC 606, as these transactions are considered transactions with a customer. The Company identified the following material promises under the arrangement: (1) the three exclusive licenses granted in the CStone territory to develop, manufacture and commercialize the three licensed products; (2) the initial know-how transfer for each licensed product; (3) manufacturing activities related to development and commercial supply of the licensed products; (4) participation in the joint steering committee (JSC) and joint project teams (JPT); (5) regulatory responsibilities; and (6) manufacturing technology and continuing know-how transfers. The Company determined that each licensed product is distinct from the other licensed products. In addition, the Company determined that the exclusive licenses and initial know-how transfers for each licensed product were not distinct from each other, as each exclusive license has limited value without the corresponding initial know-how transfer. For purposes of ASC 606, the Company determined that that participation on the JSC and JPTs, the regulatory responsibilities and the manufacturing technology and continuing know-how transfers are qualitatively and quantitatively immaterial in the context of the CStone agreement and therefore are excluded from performance obligations. As such, the Company determined that these six material promises, described above, should be combined into one performance obligation for each of the three candidates.

The Company evaluated the provision of manufacturing activities related to development and commercial supply of the licensed products as an option for purposes of ASC 606 to determine whether these manufacturing activities provide CStone with any material rights. The Company concluded that the manufacturing activities were not issued at a significant and incremental discount, and therefore do not provide CStone with any material rights. As such, the manufacturing activities are excluded as performance obligations at the outset of the arrangement.

Based on these assessments, the Company identified three distinct performance obligations at the outset of the CStone agreement, which consists of the following for each licensed product: (1) the exclusive license and (2) the initial know-how transfer.

Under the CStone agreement, in order to evaluate the transaction price for purposes of ASC 606, the Company determined that the upfront amount of $40.0 million constituted the entirety of the consideration to be included in the transaction price as of the outset of the arrangement, which was allocated to the three performance obligations. The potential milestone payments that the Company is eligible to receive were excluded from the transaction price, as all milestone amounts were fully constrained based on the probability of achievement. The Company satisfied the performance obligations upon delivery of the licenses, initial know-how transfers and product trademark and recognized the upfront payment of $40.0 million as revenue during the second quarter of 2018.

The Company will reevaluate the transaction price at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur, and if necessary, the Company will adjust its estimate of the transaction price, and any addition to the transaction price would be recognized as revenue when it becomes probable

that inclusion would not lead to a significant revenue reversal. During the six months ended June 30, 2020, one development and regulatory milestone was achieved and the associated aggregate cash consideration of $2.0 million for such milestone was added to the estimated transaction price for the CStone agreement.

A summary of revenue recognized under the CStone agreement during the three and six months ended June 30, 2020 and 2019 is as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
License milestone revenue	$ —	$ 4,000	$ 2,000	$ 4,000
Manufacturing services related to territory-specific activities	1,263	144	1,397	144
Total CStone collaboration revenue	$ 1,263	$ 4,144	$ 3,397	$ 4,144

The following table presents the contract assets associated with the CStone agreement as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020	December 31, 2019
Accounts receivable, net	$ 706	$ 663
Unbilled accounts receivable	$ 561	$ 2,749

There was no revenue deferred as a contract liability associated with the CStone agreement as of June 30, 2020 and December 31, 2019.

Roche – Immunotherapy Collaboration

In March 2016, the Company entered into a collaboration and license agreement (as amended, the Roche immunotherapy agreement) with F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc. (collectively, Roche) for the discovery, development and commercialization of up to five small molecule therapeutics targeting kinases believed to be important in cancer immunotherapy (including the kinase target MAP4K1, which is believed to play a role in T cell regulation), as single products or possibly in combination with other therapeutics.

Under the Roche immunotherapy agreement, Roche was granted up to five option rights to obtain an exclusive license to exploit products derived from the collaboration programs in the field of cancer immunotherapy. Such option rights are triggered upon the achievement of Phase 1 proof-of-concept. As a result of an amendment to the Roche immunotherapy agreement in the fourth quarter of 2019, the parties are currently conducting activities for up to four programs under the collaboration. For up to two collaboration programs, if Roche exercises its option, Roche will receive worldwide, exclusive commercialization rights for the licensed products. For up to two collaboration programs, if Roche exercises its option, the Company will retain commercialization rights in the U.S. for the licensed products, and Roche will receive commercialization rights outside of the U.S. for the licensed products. The Company will also retain worldwide rights to any products for which Roche elects not to exercise its applicable option.

Prior to Roche's exercise of an option, the Company will have the lead responsibility for drug discovery and pre-clinical development of all collaboration programs. In addition, the Company will have the lead responsibility for the conduct of all Phase 1 clinical trials other than those Phase 1 clinical trials for any product in combination with Roche's portfolio of therapeutics, for which Roche will have the right to lead the conduct of such Phase 1 clinical trials. Pursuant to the Roche immunotherapy agreement, the parties will share the costs of Phase 1 development for each collaboration program. In addition, Roche will be responsible for post-Phase 1 development costs for each licensed product for which it retains global commercialization rights, and the Company and Roche will share post-Phase 1 development costs for each licensed product for which the Company retains commercialization rights in the U.S.

The Company received an upfront cash payment of $45.0 million in March 2016 upon execution of the Roche immunotherapy agreement, and subject to the terms of the Roche immunotherapy agreement, the Company will be

eligible to receive up to approximately $940.0 million in contingent option fees and milestone payments related to specified research, pre-clinical, clinical, regulatory and sales-based milestones. Of the total contingent payments, up to approximately $190.0 million are for option fees and milestone payments for research, pre-clinical and clinical development events prior to licensing across all four potential collaboration programs.

In addition, for any licensed product for which Roche retains worldwide commercialization rights, the Company will be eligible to receive tiered royalties ranging from low double-digits to high-teens on future net sales of the licensed product. For any licensed product for which the Company retains commercialization rights in the U.S., the Company and Roche will be eligible to receive tiered royalties ranging from mid-single-digits to low double-digits on future net sales in the other party's respective territories in which it commercializes the licensed product. The upfront cash payment and any payments for milestones, option fees and royalties are non-refundable, non-creditable and not subject to set-off.

The Roche immunotherapy agreement will continue until the date when no royalty or other payment obligations are or will become due, unless earlier terminated in accordance with the terms of the Roche immunotherapy agreement. Prior to its exercise of its first option, Roche may terminate the Roche immunotherapy agreement at will, in whole or on a collaboration target-by-collaboration target basis, upon 120 days' prior written notice to the Company. Following its exercise of an option, Roche may terminate the Roche immunotherapy agreement at will, in whole, on a collaboration target-by-collaboration target basis, on a collaboration program-by-collaboration program basis or, if a licensed product has been commercially sold, on a country-by-country basis, (i) upon 120 days' prior written notice if a licensed product has not been commercially sold or (ii) upon 180 days' prior written notice if a licensed product has been commercially sold. Either party may terminate the Roche immunotherapy agreement for the other party's uncured material breach or insolvency and in certain other circumstances agreed to by the parties. In certain termination circumstances, the Company is entitled to retain specified licenses to be able to continue to exploit the licensed products.

The Company assessed this arrangement in accordance with ASC 606 upon the adoption of the new standard on January 1, 2018, and concluded that the contract counterparty, Roche, is a customer prior to the exercise, if any, of an option by Roche. The Company identified the following material promises under the arrangement: (1) a non-transferable, sub-licensable and non-exclusive license to use the Company's intellectual property and collaboration compounds to conduct research activities; (2) research and development activities through Phase 1 clinical trials under the research plan; (3) five option rights for licenses to develop, manufacture, and commercialize the collaboration targets; (4) participation on a joint research committee (JRC) and joint development committee (JDC); and (5) regulatory responsibilities under Phase 1 clinical trials. The Company determined that the license and research and development activities were not distinct from another, as the license has limited value without the performance of the research and development activities. Participation on the JRC and JDC to oversee the research and development activities was determined to be quantitatively and qualitatively immaterial and therefore is excluded from performance obligations. The regulatory responsibilities related to filings and obtaining approvals related to the drugs that may result from each program do not represent separate performance obligations based on their dependence on the research and development efforts. As such, the Company determined that these promises should be combined into a single performance obligation.

The Company evaluated the option rights for licenses to develop, manufacture, and commercialize the collaboration targets to determine whether it provides Roche with any material rights. The Company concluded that the options were not issued at a significant and incremental discount, and therefore do not provide material rights. As such, they are excluded as performance obligations at the outset of the arrangement.

Based on these assessments, the Company identified one performance obligation at the outset of the Roche immunotherapy agreement, which consists of: (1) the non-exclusive license; (2) the research and development activities through Phase 1; and (3) regulatory responsibilities under Phase 1 clinical trials.

Under the Roche immunotherapy agreement, in order to evaluate the appropriate transaction price, the Company determined that as of January 1, 2018, the upfront amount of $45.0 million constituted the entirety of the consideration to be included in the transaction price as of the outset of the arrangement, which was allocated to the single performance obligation. The option exercise payments that may be received are excluded from the transaction price until each customer option is exercised as it was determined that the options are not material rights. The potential milestone payments that the Company is eligible to receive prior to the exercise of the options were initially excluded from the transaction price, as all milestone amounts were fully constrained based on the probability of achievement. The

Company will reevaluate the transaction price at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur, and, if necessary, adjust its estimate of the transaction price.

In June 2018 and October 2019, the Company achieved and received a $10.0 million research milestone payment and an $8.0 million research milestone payment related to the Roche immunotherapy agreement, respectively. These amounts were added to the estimated transaction price and allocated to the existing performance obligation as it became probable that a significant reversal of cumulative revenue would not occur for each of the research milestones achieved.

The Company recognizes revenue associated with the performance obligation as the research and development services are provided using an input method, according to the costs incurred as related to the research and development activities on each program and the costs expected to be incurred in the future to satisfy the performance obligation. The transfer of control occurs over this time period and, in management's judgment, is the best measure of progress towards satisfying the performance obligation. The amounts received that have not yet been recognized as revenue are deferred as a contract liability on the Company's consolidated balance sheet and will be recognized over the remaining research and development period until the performance obligation is satisfied.

A summary of revenue recognized under the Roche immunotherapy agreement during the three and six months ended June 30, 2020 and 2019 is as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Roche collaboration research and development services revenue	$ 1,109	$ 966	$ 1,684	$ 1,697

During the three and six months ended June 30, 2020 and 2019, the Company recognized the following revenue due to the changes in the contract liability balances (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Amounts included in the contract liability at the beginning of the period	$ 1,061	$ 966	$ 2,050	$ 1,953

As of June 30, 2020, the Company had revenue deferred as a contract liability related to the Roche immunotherapy agreement of $44.7 million, of which $8.0 million was included in current liabilities, and the research and development services related to the performance obligation are expected to be performed over a remaining period of approximately 4.8 years.

11. Stock-based compensation

2015 Stock Option and Incentive Plan

In 2015, the Company's board of directors and stockholders approved the 2015 Stock Option and Incentive Plan (the 2015 Plan), which replaced the Company's 2011 Stock Option and Grant Plan, as amended (the 2011 Plan). The 2015 Plan includes incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock, restricted stock units, unrestricted stock, performance share awards and cash-based awards. The Company initially reserved a total of 1,460,084 shares of common stock for the issuance of awards under the 2015 Plan. The 2015 Plan provides that the number of shares reserved and available for issuance under the 2015 Plan will be cumulatively increased on January 1 of each calendar year by 4% of the number of shares of common stock issued and outstanding on the immediately preceding December 31 or such lesser amount as specified by the compensation committee of the board of directors. For the calendar year beginning January 1, 2020, the number of shares reserved for issuance under the 2015 Plan was increased by 1,970,888 shares. In addition, the total number of shares reserved for issuance is subject to adjustment in the event of a stock split, stock dividend or other change in the Company's capitalization. As of June 30, 2020, there were 2,453,214 shares available for future grant under the 2015 Plan.

Stock options

The following table summarizes the stock option activity for the six months ended June 30, 2020:

	Shares	Weighted-Average Exercise Price
Outstanding at December 31, 2019	5,795,710	$ 58.82
Granted	1,296,203	58.40
Exercised	(208,510)	18.93
Canceled	(222,413)	77.27
Outstanding at June 30, 2020	6,660,990	$ 59.37
Exercisable at June 30, 2020	3,136,170	$ 46.60

As of June 30, 2020, the total unrecognized compensation expense related to unvested stock option awards was $138.8 million, which is expected to be recognized over a weighted-average period of approximately 2.84 years.

Restricted stock units

The following table summarizes the restricted stock units activity for the six months ended June 30, 2020:

	Shares	Weighted-Average Grant Date Fair Value
Unvested shares at December 31, 2019	419,755	$ 82.50
Granted	853,895	56.46
Vested	(76,606)	85.95
Forfeited	(45,633)	69.62
Unvested shares at June 30, 2020	1,151,411	$ 63.47

As of June 30, 2020, the total unrecognized compensation expense related to unvested restricted stock units was $65.6 million, which is expected to be recognize over a weighted-average period of approximately 3.41 years.

2020 Inducement Plan

In March 2020, the Company's board of directors adopted the 2020 Inducement Plan (the Inducement Plan), pursuant to which the Company may grant, subject to the terms of the Inducement Plan and Nasdaq rules, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock units, and other stock-based awards. The Company initially reserved a total of 1,000,000 shares of common stock for the issuance of awards under the Inducement Plan. The number of shares reserved and available for issuance under the Inducement Plan can be increased at any time with the approval of the Company's board of directors. The Inducement Plan permits the board of directors or a committee thereof to use the stock-based awards available under the Inducement Plan to attract key employees for the growth of the Company. As of June 30, 2020, there were 68,726 shares issued under the Inducement Plan.

2015 Employee Stock Purchase Plan

In 2015, the Company's board of directors and stockholders approved the 2015 Employee Stock Purchase Plan (the 2015 ESPP), which became effective upon the closing of the Company's initial public offering in May 2015. The Company initially reserved a total of 243,347 shares of common stock for issuance under the 2015 ESPP. The 2015 ESPP provides that the number of shares reserved and available for issuance under the 2015 ESPP will be cumulatively increased on January 1 of each calendar year by 1% of the number of shares of common stock issued and outstanding on the immediately preceding December 31 or such lesser amount as specified by the compensation committee of the board of directors. For the calendar year beginning January 1, 2020, the number of shares reserved for issuance under the 2015 ESPP was increased by 492,722 shares. The Company issued 17,018 and 10,718 shares under the 2015 ESPP during the six months ended June 30, 2020 and 2019, respectively.

Stock-based compensation expense

The Company recognized stock-based compensation expense totaling $19.5 million and $36.4 million for the three and six months ended June 30, 2020, respectively. Stock-based compensation expense by award type included within the unaudited condensed consolidated statements of operations and comprehensive loss was as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Stock options	$ 14,629	$ 12,016	$ 28,344	$ 21,595
Restricted stock units	4,844	1,544	7,998	2,168
Employee stock purchase plan	202	106	359	198
Subtotal	19,675	13,666	36,701	23,961
Capitalized stock-based compensation costs	(147)	—	(314)	—
Stock-based compensation expense included in total cost and operating expenses	$ 19,528	$ 13,666	$ 36,387	$ 23,961

Stock-based compensation expense by classification within the unaudited condensed consolidated statements of operations and comprehensive loss is as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Research and development	$ 8,709	$ 7,503	$ 16,507	$ 13,293
Selling, general and administrative	10,819	6,163	19,880	10,668
Total	19,528	13,666	36,387	23,961

12. Net Loss per Share

Basic net loss per share is calculated by dividing net loss by the weighted average shares outstanding during the period, without consideration for common stock equivalents. Diluted net loss per share is calculated by adjusting weighted average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period. For purposes of the dilutive net loss per share calculation, stock options, unvested restricted stock units and ESPP shares are considered to be common stock equivalents but are excluded from the calculation of diluted net loss per share, as their effect would be anti-dilutive; therefore, basic and diluted net loss per share were the same for all periods presented as a result of the Company's net loss.

The following common stock equivalents were excluded from the calculation of diluted net loss per share for the periods indicated because including them would have had an anti-dilutive effect.

	Six Months Ended June 30,	
	2020	2019
Stock options	6,660,990	5,506,867
Restricted stock units	1,151,411	323,854
ESPP shares	25,576	11,641
Total	7,837,977	5,842,362

13. Income Taxes

Coronavirus Aid, Relief and Economic Security Act

In response to the COVID-19 pandemic, the Coronavirus Aid, Relief and Economic Security Act (CARES Act) was signed into law in March 2020. The CARES Act lifts certain deduction limitations originally imposed by the Tax Cuts and Jobs Act of 2017 (2017 Tax Act). Corporate taxpayers may carryback net operating losses (NOLs) originating during 2018 through 2020 for up to five years, which was not previously allowed under the 2017 Tax Act. The CARES Act also eliminates the 80% of taxable income limitations by allowing corporate entities to fully utilize NOL carryforwards to offset taxable income in 2018, 2019 or 2020. Taxpayers may generally deduct interest up to the sum of 50% of adjusted taxable income plus business interest income (30% limit under the 2017 Tax Act) for tax years beginning January 1, 2019 and 2020. The CARES Act allows taxpayers with alternative minimum tax credits to claim a refund in 2020 for the entire amount of the credits instead of recovering the credits through refunds over a period of years, as originally enacted by the 2017 Tax Act.

In addition, the CARES Act raises the corporate charitable deduction limit to 25% of taxable income and makes qualified improvement property generally eligible for 15-year cost-recovery and 100% bonus depreciation. The enactment of the CARES Act did not result in any material adjustments to the Company's income tax provision for the three and six months ended June 30, 2020, or to its net deferred tax assets and related allowances as of June 30, 2020.

14. Leases

The Company's building leases are comprised of office and laboratory spaces under non-cancelable operating leases. The lease agreements have remaining lease terms of two to nine years and contain various clauses for renewal at the Company's option. The renewal options were not included in the calculation of the operating lease assets and the operating lease as the renewal option is not reasonably certain of being exercised. The lease agreements do not contain residual value guarantees and the components of lease cost for the three and six months ended June 30, 2020 and 2019 were as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
Operating leases:	2020	2019	2020	2019
Lease cost	$ 4,328	$ 4,126	$ 8,709	$ 7,739
Sublease income	(730)	(708)	(1,451)	(1,409)
Net lease cost	$ 3,598	$ 3,418	$ 7,258	$ 6,330

The Company has not entered into any material short-term leases or financing leases as of June 30, 2020.

Supplemental cash flow information related to leases for the six months ended June 30, 2020 was as follows (in thousands):

	Six Months Ended June 30,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:	$ 7,172	$ 5,242
Lease liabilities arising from obtaining right-of-use assets:		
Operating leases	$ 497	$ 23,300

The weighted average remaining lease term and weighted average discount rate of the operating leases are as follows:

	Operating leases
Weighted average remaining lease term in years	8.9
Weighted average discount rate	8.2%

15. Commitments

Manufacturing Agreements

In connection with the commercialization of AYVAKIT, the Company has negotiated manufacturing agreements with certain vendors that require the Company to meet minimum purchase obligations on an annual basis. The aggregate amount of future minimum purchase obligations under these manufacturing agreements is approximately $25.5 million as of June 30, 2020.

16. Subsequent Events

Roche – Pralsetinib Collaboration

Collaboration Agreement. On July 13, 2020, the Company entered into a collaboration agreement (the Roche collaboration agreement) with F. Hoffmann-La Roche Ltd and Genentech, Inc., a member of the Roche Group (collectively, Roche), pursuant to which the Company granted Roche exclusive rights to develop and commercialize the Company's drug candidate pralsetinib worldwide, excluding the CStone territory, and a co-exclusive license in the U.S. to develop and commercialize pralsetinib. In addition, Roche will have the right to opt in to a next-generation RET compound co-developed by the Company and Roche.

Under the Roche collaboration agreement, the Company received an upfront cash payment of $675.0 million in the third quarter of 2020. In addition, the Company will be eligible to receive up to an additional $927.0 million in contingent payments, including specified development, regulatory and sales-based milestones for pralsetinib and any licensed product containing a next-generation RET compound.

In the U.S., the Company and Roche will work together to co-commercialize pralsetinib and will equally share responsibilities, profits and losses. In addition, the Company is eligible to receive tiered royalties ranging from high-teens to mid-twenties on annual net sales of pralsetinib outside the U.S., excluding the CStone territory. In addition, the Company and Roche have agreed to co-develop pralsetinib globally in RET-altered solid tumors, including non-small cell lung cancer, medullary thyroid carcinoma and other thyroid cancers, as well as other solid tumors. The Company and Roche will share global development costs for pralsetinib at a rate of 45 percent for the Company and 55 percent for Roche up to a specified amount of aggregate joint development costs, after which the Company's share of global development costs for pralsetinib will be reduced by a specified percentage. The Company and Roche will also share specified global development costs for any next-generation RET compound co-developed under the collaboration in a similar manner.

Unless earlier terminated in accordance with its terms, the Roche collaboration agreement will expire on a licensed product-by-licensed product basis (i) in the U.S. upon the expiration of the gross profit sharing term for such licensed product and (ii) outside the U.S. on a country-by-country basis at the end of the applicable royalty term for such licensed product. Roche may terminate the agreement in its entirety or on a licensed product-by-licensed product or country-by-country basis subject to certain notice periods. Either party may terminate the Roche collaboration agreement for the other party's uncured material breach or insolvency. Subject to the terms of the Roche collaboration agreement, effective upon termination of the agreement, the Company is entitled to retain specified licenses to be able to continue to exploit the licensed products.

The Company is currently evaluating the revenue recognized under the Roche collaboration agreement and expects to recognize revenue related to a majority of the $675.0 million upfront cash payment during the third quarter of 2020.

Stock Purchase Agreement. In connection with the Roche collaboration agreement, on July 13, 2020, the Company entered into a stock purchase agreement with Roche Holdings, Inc. (Roche Holdings) pursuant to which the Company issued and sold 973,386 of its shares of common stock to Roche Holdings in the third quarter of 2020 in a private placement at a purchase price of $96.57 per share and received approximately $94.0 million in gross proceeds. Under the stock purchase agreement, the Company will issue and sell an additional 62,133 of its shares of common stock to Roche Holdings in a private placement at a purchase price of $96.57 per share and will receive approximately $6.0

million in additional gross proceeds, subject to the expiration or termination of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and other customary closing conditions.

The Company is currently evaluating the accounting treatment for the stock purchase agreement and expects to recognize a majority of the investment within Stockholders' Equity.

Clementia License Agreement

Under the Clementia agreement, the Company received a $20.0 million cash milestone payment in July 2020.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and the unaudited consolidated financial statements and related notes thereto and management's discussion and analysis of financial condition and results of operations included in our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the Securities and Exchange Commission, or the SEC, on February 13, 2020. Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this Quarterly Report on Form 10-Q, our actual results or timing of certain events could differ materially from the results or timing described in, or implied by, these forward-looking statements.

Overview

We are a precision therapy company focused on genomically defined cancers, rare diseases and cancer immunotherapy. Our approach is to leverage our novel target discovery engine to systematically and reproducibly identify kinases that are drivers of diseases and to craft highly selective and potent therapies that may provide significant and durable clinical responses for patients without adequate treatment options. This integrated biology and chemistry approach enables us to identify, characterize and design drug candidates to inhibit novel kinase targets that have been difficult to selectively inhibit. We believe that our uniquely targeted, scalable approach empowers the rapid design and development of new treatments and increases the likelihood of success. We have one precision therapy approved by the U.S. Food and Drug Administration, or FDA, and are currently advancing multiple investigational medicines in clinical development, along with multiple research programs.

Avapritinib and BLU-263 — Systemic Mastocytosis and other Mast Cell Disorders

Avapritinib

We are developing avapritinib for the treatment of systemic mastocytosis, or SM, a rare disorder that causes an overproduction of mast cells and the accumulation of mast cells in the bone marrow and other organs, which can lead to a wide range of debilitating symptoms and organ dysfunction and failure. Nearly all cases of SM are driven by the KIT D816V mutation, which aberrantly activates mast cells.

We are currently evaluating avapritinib in an ongoing registration-enabling Phase 1 clinical trial in advanced SM, which we refer to as our EXPLORER trial, and an ongoing registration-enabling Phase 2 clinical trial in advanced SM, which we refer to as our PATHFINDER trial. In June 2020, we presented updated data from the EXPLORER trial at the European Hematology Association 25th Annual Congress, and we plan to report top-line data from the EXPLORER trial and the PATHFINDER trial in the third quarter of 2020. In addition, we are evaluating avapritinib in an ongoing registration-enabling Phase 2 clinical trial in indolent SM, which we refer to as our PIONEER trial. In March 2020, we reported updated data from the dose-finding portion (Part 1) of the PIONEER trial at an investor conference call and on a virtual forum established by the American Academy of Allergy, Asthma & Immunology, and in June 2020, we presented additional data from Part 1 of the PIONEER trial at the European Academy of Allergy and Clinical Immunology 2020 Congress. We recently initiated patient screening for the registration-enabling Part 2 of the PIONEER trial, and our goal is to complete enrollment in Part 2 of the PIONEER trial as early as the end of 2020. However, this timing could be impacted depending on the duration, scope and severity of the COVID-19 pandemic.

We plan to submit a supplemental new drug application, or NDA, to the FDA for avapritinib for the treatment of advanced SM in the fourth quarter of 2020. We anticipate the supplemental NDA will be focused on data from patients in the EXPLORER and PATHFINDER trials who were treated with avapritinib at a starting dose of 200 mg once daily, or QD, supported by pooled data from all doses.

The FDA has granted orphan drug designation to avapritinib for the treatment of mastocytosis, and the European Commission has granted orphan medicinal product designation to avapritinib for the treatment of mastocytosis. In addition, the FDA has granted breakthrough therapy designation to avapritinib for the treatment of

advanced SM, including the subtypes of aggressive SM, SM with an associated hematologic neoplasm and mast cell leukemia.

BLU-263

We are developing BLU-263 for the treatment of indolent SM and other mast cell disorders. BLU-263 is an investigational, orally available, potent and highly selective KIT inhibitor. BLU-263 is designed to have equivalent potency as avapritinib, improved selectivity for KIT, with low off-target activity, and lower penetration of the central nervous system relative to avapritinib based on preclinical data, which we believe will enable development of BLU-263 in a broad population of patients with indolent SM, including patients with lower disease burden requiring potentially life-long chronic therapy, as well as patients with other KIT-driven mast cell disorders. We are currently conducting a Phase 1 trial of BLU-263 in healthy volunteers.

Pralsetinib — RET-altered Cancers

We are developing pralsetinib for the treatment of RET-altered non-small cell lung cancer, or NSCLC, thyroid carcinoma, including medullary thyroid carcinoma, or MTC, and other solid tumors. Pralsetinib is an investigational, orally available, potent and highly selective inhibitor that targets RET, a receptor tyrosine kinase. Pralsetinib is designed to inhibit the activating RET fusions and mutations that drive cancer growth and remain active in the presence of resistance mutations that we predict will arise from treatment with first generation therapies. RET activating fusions and mutations drive disease in subsets of patients with NSCLC, and cancers of the thyroid, including MTC and papillary thyroid cancer, or PTC, and our research suggests that RET may drive disease in subsets of patients with colon cancer, breast cancer, pancreatic cancer and other cancers.

We are currently evaluating pralsetinib in an ongoing registration-enabling Phase 1/2 clinical trial in patients with RET-altered NSCLC, MTC and other advanced solid tumors, which we refer to as our ARROW trial. In January 2020, we reported top-line data from the ARROW trial in RET fusion-positive NSCLC patients treated with pralsetinib at 400 mg QD, and in April 2020, we reported top-line data from the ARROW trial in RET-mutant MTC patients treated with pralsetinib at 400 mg QD. In June 2020, we presented updated data from the ARROW trial of pralsetinib in RET fusion-positive NSCLC and other RET-altered solid tumors at the American Society of Clinical Oncology Annual Meeting, and we plan to present updated data from the ARROW trial of pralsetinib in RET-mutant MTC in the second half of 2020. We are also evaluating pralsetinib in an ongoing Phase 3 clinical trial in patients with first-line RET fusion-positive NSCLC, which we refer to as our AcceleRET Lung trial. Pursuant to our collaboration with Roche, we plan to co-develop pralsetinib globally in RET-altered solid tumors, including NSCLC, MTC and other thyroid cancers, as well as other solid tumors. See "*Collaborations and Licenses—Roche—Pralsetinib Collaboration*."

In the first quarter of 2020, we completed the submission of a rolling NDA to the FDA for pralsetinib for the treatment of patients with RET fusion-positive NSCLC. In May 2020, the FDA accepted this NDA and set a Prescription Drug User Fee Act, or PDUFA, action date of November 23, 2020. In May 2020, we announced that the European Medicines Agency, or EMA, validated our marketing authorization application, or MAA, for pralsetinib for RET fusion-positive NSCLC. Validation of the MAA confirms that the application is sufficiently complete to begin the formal review process. We plan to submit additional marketing applications for pralsetinib for RET fusion-positive NSCLC through the FDA's Project Orbis initiative, which provides a framework for concurrent submission and review of marketing applications for oncology products among international health authorities. In the second quarter of 2020, we also submitted an NDA to the FDA for pralsetinib for the treatment of patients with advanced or metastatic RET mutant MTC and RET fusion-positive thyroid cancers under the FDA's Oncology Center of Excellence Real-Time Oncology Review pilot program, or RTOR program. The FDA's RTOR program aims to explore a more efficient review process to ensure that safe and effective treatments are available to patients as early as possible, while maintaining and improving review quality by the FDA.

The FDA has granted orphan drug designation to pralsetinib for the treatment of RET-rearranged NSCLC, JAK1/2-positive NSCLC or TRKC-positive NSCLC, and the FDA has granted breakthrough therapy designation to pralsetinib for the treatment of patients with RET fusion-positive NSCLC that has progressed following platinum-based chemotherapy and to pralsetinib for the treatment of patients with RET mutation-positive MTC that requires systemic treatment and for which there are no acceptable alternative treatments.

Avapritinib — Gastrointestinal Stromal Tumors

We are also developing and, in the U.S., commercializing avapritinib for the treatment of patients with PDGFRA exon 18 mutant gastrointestinal stromal tumors, or GIST, a rare disease that is a sarcoma, or tumor of bone or connective tissue, of the gastrointestinal tract.

Avapritinib is approved by the FDA under the brand name AYVAKIT for the treatment of adults with unresectable or metastatic GIST harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations. The EMA is currently reviewing our MAA for avapritinib for the treatment of adult patients with PDGFRA D842V mutant GIST, regardless of prior therapy. In July 2020, the EMA Committee for Medicinal Products for Human Use, or CHMP, adopted a positive opinion, recommending conditional marketing authorization for avapritinib under this MAA. The CHMP opinion is under review by the European Commission, and we anticipate a final decision by the end of September 2020. In addition, in March 2020, the China National Medical Products Administration accepted an NDA submitted by CStone Pharmaceuticals, or CStone, for avapritinib for the treatment of adults with unresectable or metastatic PDGFRA exon 18 mutant GIST and fourth-line GIST. CStone also submitted an NDA to the Taiwan Food and Drug Administration, or the TFDA, for avapritinib for the indication of adult patients with unresectable or metastatic GIST harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations, and received priority review designation from the TFDA. As previously announced, we do not plan to further develop avapritinib for additional GIST indications beyond PDGFRA exon 18 mutant GIST.

The FDA has granted breakthrough therapy designation to avapritinib for the treatment of patients with unresectable or metastatic GIST harboring the PDGFRA D842V mutation. The FDA has also granted orphan drug designation to avapritinib for the treatment of GIST and fast track designation to avapritinib for (i) the treatment of patients with unresectable or metastatic GIST that progressed following treatment with imatinib and a second tyrosine kinase inhibitor and (ii) the treatment of patients with unresectable or metastatic GIST with the PDGFRA D842V mutation regardless of prior therapy. In addition, the European Commission has granted orphan medicinal product designation to avapritinib for the treatment of GIST.

Fisogatinib — Hepatocellular Carcinoma

We are developing fisogatinib for the treatment of advanced hepatocellular carcinoma, or HCC. Fisogatinib is an investigational, orally available, potent and highly selective inhibitor that targets FGFR4, a kinase that is aberrantly activated in a defined subset of patients with HCC, the most common type of liver cancer. We are currently evaluating fisogatinib in an ongoing Phase 1 clinical trial in patients with advanced HCC. As part of our collaboration with CStone, we are also evaluating fisogatinib in combination with CS1001, a clinical-stage anti-PDL1 immunotherapy being developed by CStone, for the treatment of locally advanced or metastatic HCC in an ongoing Phase 1b/2 trial conducted in multiple clinical sites in China. The FDA has granted orphan drug designation to fisogatinib for the treatment of HCC.

Discovery Platform

We plan to continue to leverage our discovery platform to systematically and reproducibly identify kinases that are drivers of diseases in genomically defined patient populations and craft drug candidates that potently and selectively target these kinases. In the first quarter of 2020, we announced the nomination of BLU-945, our development candidate for the treatment of EGFR Exon 19/L858R+T790M+C797S, which we refer to as resistant EGFR-positive triple mutant NSCLC. We currently have four wholly-owned discovery programs (including one program with a development candidate), consisting of the following: BLU-945; a pre-development candidate program targeting EGFR Exon 19/L858R+C797S, which we refer to as resistant EGFR-positive double mutant NSCLC; and two pre-development candidate programs for undisclosed kinase targets. BLU-945 and the discovery program targeting EGFR Exon 19/L858R+C797S are designed to target acquired resistance mutations in NSCLC patients following treatment with

osimertinib. In addition to BLU-945, we plan to nominate up to two additional development candidates by the end of 2020.

Development and Commercialization Rights

We currently have worldwide development and commercialization rights to avapritinib and fisogatinib, other than the rights licensed to CStone for these drug candidates in Mainland China, Hong Kong, Macau and Taiwan, or the CStone territory. We have granted Roche an exclusive license to develop and commercialize pralsetinib worldwide, excluding the CStone territory and the U.S., and a co-exclusive license in the U.S. to develop and commercialize pralsetinib. We have granted CStone an exclusive license to develop and commercialize pralsetinib in the CStone territory. We have granted an exclusive worldwide license to Clementia Pharmaceuticals, Inc., or Clementia, a wholly-owned subsidiary of Ipsen S.A., to develop and commercialize BLU-782. See "*—Collaborations and Licenses*" below.

We have worldwide development and commercialization rights to BLU-263.

We currently have worldwide development and commercialization rights to all of our discovery programs, other than the discovery-stage cancer immunotherapy programs under our collaboration with Roche.

Collaborations and Licenses

Roche—Immunotherapy Collaboration. In March 2016, we entered into a collaboration with Roche to discover, develop and commercialize up to four small molecule therapeutics targeting kinases believed to be important in cancer immunotherapy (including the kinase target MAP4K1, which is believed to play a role in T cell regulation), as single products or possibly in combination with other therapeutics.

Roche—Pralsetinib Collaboration. In July 2020, we entered into a collaboration with Roche to develop and commercialize pralsetinib for the treatment of RET-altered cancers. Under the collaboration, we and Genentech will co-commercialize pralsetinib in the U.S., and Roche has exclusive commercialization rights for pralsetinib outside of the U.S., excluding the CStone territory. In addition, we and Roche plan to co-develop pralsetinib globally in RET-altered solid tumors, including NSCLC, MTC and other thyroid cancers, and expand development of pralsetinib in multiple treatment settings. We and Roche also plan to explore development of a next-generation RET inhibitor as part of the collaboration.

CStone. In June 2018, we entered into a collaboration with CStone to develop and commercialize avapritinib, pralsetinib and fisogatinib, including back-up forms and certain other forms, in the CStone territory either as a monotherapy or as part of a combination therapy.

Clementia. In October 2019, we entered into a license agreement with Clementia and granted Clementia an exclusive, worldwide, royalty-bearing license to develop and commercialize BLU-782, as well as specified other compounds related to the BLU-782 program. BLU-782 is an investigational, orally available, potent and highly selective inhibitor that targets mutant activin-like kinase 2, or ALK2, in development for the treatment of fibrodysplasia ossificans progressiva, or FOP. The FDA has granted a rare pediatric disease designation, orphan drug designation and fast track designation to BLU-782, each for the treatment of FOP.

In addition to the collaborations and licenses described above, we will continue to evaluate potential additional collaborations, partnerships and licenses that could maximize the value of our programs and allow us to leverage the expertise of strategic collaborators, partners and licensors, including in additional geographies where we may not have current operations or expertise. We are also focused on engaging in collaborations, partnerships and license agreements to capitalize on our discovery platform outside of our primary strategic focus area of cancer and rare diseases. In addition, we may explore opportunities to acquire or in-license additional businesses, technologies or drugs, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing business.

Note on the COVID-19 Pandemic

Due to the evolving and uncertain global impacts of the COVID-19 pandemic, we cannot precisely determine or quantify the impact this pandemic will have on our business, operations and financial performance for the remainder of our fiscal year ending December 31, 2020 and beyond. We have established a work-from-home policy for all employees, other than those performing or supporting business-critical activities, such as certain members of our laboratory and facilities staff, and we will continue to evaluate and update this policy for each of our locations based on guidance from federal, state and local government authorities. For our ongoing and planned clinical trials, while we anticipate and have experienced some temporary delays or disruptions due to the COVID-19 pandemic, we are working with any impacted clinical trial sites to ensure study continuity, enable medical monitoring, facilitate study procedures and maintain clinical data and records, including the use of local laboratories for testing and tumor imaging, home delivery of study drug and remote data and records monitoring. In addition, we currently have sufficient supply or plans for supply to meet our anticipated global commercial and clinical development needs for avapritinib, pralsetinib, fisogatinib and BLU-263 through 2021. However, depending on the length and ultimate impact of the COVID-19 pandemic, our suppliers could be adversely impacted, which may result in delays or disruptions in our current or future supply chain. For our commercial activities for AYVAKIT and planned commercial activities for pralsetinib, we have shifted commercial and medical affairs field activities across our portfolio toward virtual formats where possible in order to allow us to continue to serve the needs of healthcare providers, patients and other stakeholders during this critical time. We will continue to assess the duration, scope and severity of the COVID-19 pandemic and the existing and potential impacts on our business, operations and financial performance, and we will continue to work closely with our third-party vendors, collaborators and other parties in order to seek to advance our pipeline of targeted therapies as quickly as possible, while making the health and safety of our employees and their families, healthcare providers, patients and communities a top priority. Please refer to our Risk Factors in Part II, Item IA of this Quarterly Report on Form 10-Q for further discussion of risks related to the COVID-19 pandemic.

Financial Operations Overview

To date, we have financed our operations primarily through public offerings of our common stock, private placements of our convertible preferred stock, collaborations, a debt financing and limited product revenue. Through June 30, 2020, we have received an aggregate of $1.8 billion from such transactions, including $1.5 billion in aggregate gross proceeds from the sale of common stock in our May 2015 initial public offering, or IPO, and follow-on public offerings, $115.1 million in gross proceeds from the issuance of convertible preferred stock, $18.8 million in upfront and milestone payments under our former collaboration with Alexion Pharma Holding, or Alexion, $63.0 million in upfront and milestone payments under our immunotherapy collaboration with Roche, $54.0 million in upfront and milestone payments under our collaboration with CStone, a $25.0 million upfront payment under our license agreement with Clementia and $10.0 million in gross proceeds from a debt financing. In addition, in July 2020, we received total cash payments of $769.0 million related to our collaboration for pralsetinib with Roche and a $20.0 million milestone payment related to our license agreement with Clementia.

Since inception, we have incurred significant operating losses. Our net losses were $234.4 million for the six months ended June 30, 2020 and $347.7 million, $236.6 million and $148.1 million for the years ended December 31, 2019, 2018 and 2017, respectively. As of June 30, 2020, we had an accumulated deficit of $1,179.7 million. We expect to continue to incur significant expenses and operating losses over the next few years. We anticipate that our expenses will continue to increase in connection with our ongoing activities, particularly as we:

- continue to advance and initiate clinical development activities for avapritinib, pralsetinib, and other current or future drug candidates;
- seek marketing approval for avapritinib for additional indications and in additional geographies and seek marketing approvals for pralsetinib and any other current or future drug candidates;
- maintain and expand our sales, marketing and distribution infrastructure to continue to commercialize AYVAKIT and any current or future drug candidates for which we may obtain marketing approval, including pralsetinib;
- continue to manufacture increasing quantities of drug substance and drug product material for use in pre-clinical studies, clinical trials and commercialization;
- continue to discover, validate and develop additional drug candidates or development candidates, including BLU-945;
- conduct research and development activities under our collaborations with Roche and CStone;
- conduct development and commercialization activities for companion diagnostic tests for AYVAKIT, pralsetinib and any other current or future drug candidates;
- maintain, expand and protect our intellectual property portfolio;
- acquire or in-license other approved drugs, drug candidates or technologies;
- hire additional research, clinical, quality, manufacturing, regulatory, commercial and general and administrative personnel; and
- incur additional costs associated with operating as a public company.

Revenue

In January 2020, the FDA granted approval of avapritinib under the brand name AYVAKIT for the treatment of adults with unresectable or metastatic GIST harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations, and we have commenced the sale of AYVAKIT in the U.S.

Through June 30, 2020, our revenue consisted of sales of AYVAKIT and collaboration revenue under our immunotherapy collaboration with Roche and our collaboration with CStone, including amounts that were recognized related to upfront payments, milestone payments and amounts due to us for manufacture, research and development services, and license revenue under our license agreement with Clementia.

In the future, we expect to generate revenue from a combination of sales of AYVAKIT and any current or future drug candidates for which we receive marketing approval, royalties on drug sales and cost reimbursements, as well as upfront, milestone, profit sharing, royalty and other payments, if any, under any current or future collaborations and licenses, including revenues related to the supply of our drug candidates or approved drugs to our various collaboration partners. We expect that any revenue we generate will fluctuate from quarter to quarter as a result of the timing and amount of product sales, license fees, research and development services and related reimbursements, payments for manufacturing services, and option fees, milestone payments or other payments under our collaboration or license agreements, if any.

Cost of Sales

Our cost of sales includes the cost of producing and distributing inventories that are related to product revenue during the respective period, including salary related and stock-based compensation expense for employees involved

with production and distribution, freight, and indirect overhead costs. In addition, shipping and handling costs for product shipments are recorded in cost of sales as incurred. Cost of sales for newly launched products will not be significant until the initial pre-launch inventory is depleted, and additional inventory is manufactured. As a result, the gross margin of AYVAKIT sales for the three and six months ended June 30, 2020 was enhanced by use of active pharmaceutical ingredients and components that were previously expensed as research and development expense in prior years.

Expenses

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research and development activities, including our drug discovery efforts, and the development of our drug candidates, which include:

- employee-related expenses including salaries, benefits, and stock-based compensation expense;
- expenses incurred under agreements with third parties that conduct research and development, pre-clinical activities, clinical activities and manufacturing on our behalf;
- expenses incurred under agreements with third parties for the development and commercialization of companion diagnostic tests;
- the cost of consultants;
- the cost associated with regulatory quality assurance and quality control operations;
- the cost of lab supplies and acquiring, developing and manufacturing pre-clinical study materials, clinical trial materials and commercial supply materials; and
- facilities, depreciation, and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, insurance, and other operating costs in support of research and development activities.

Research and development costs are expensed as incurred. Costs for certain activities are recognized based on an evaluation of the progress to completion of specific tasks. Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are capitalized. The capitalized amounts are expensed as the related goods are delivered or the services are performed.

The successful development of our drug candidates is highly uncertain. As such, at this time, we cannot reasonably estimate or know the nature, timing and estimated costs of the efforts that will be necessary to complete the remainder of the development of these drug candidates. We are also unable to predict when, if ever, material net cash inflows will commence from our drug candidates. This is due to the numerous risks and uncertainties associated with developing drugs, including the uncertainty of:

- establishing an appropriate safety profile with IND-enabling toxicology studies;
- successful initiation, enrollment in, and completion of clinical trials;
- receipt of marketing approvals from applicable regulatory authorities;
- establishing commercial manufacturing capabilities or making arrangements with third-party manufacturers;

- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for AYVAKIT and our drug candidates;
- commercializing AYVAKIT and our drug candidates, if and when approved, whether alone or in collaboration with others;
- market acceptance of AYVAKIT and any future drug we may commercialize; and
- continued acceptable safety profile of the drugs following approval.

A change in the outcome of any of these variables with respect to the development of any of our drug candidates would significantly change the costs and timing associated with the development of that drug candidate.

Research and development activities are central to our business model. Drug candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect research and development costs to increase significantly for the foreseeable future as our drug candidate development programs progress. However, we do not believe that it is possible at this time to accurately project total program-specific expenses through commercialization. There are numerous factors associated with the successful commercialization of any of our drug candidates, including future trial design and various regulatory requirements, many of which cannot be determined with accuracy at this time based on our stage of development. In addition, future commercial and regulatory factors beyond our control will impact our clinical development programs and plans.

A significant portion of our research and development expenses have been external expenses, which we track on a program-by-program basis following nomination as a development candidate. Our internal research and development expenses are primarily personnel-related expenses, including stock-based compensation expense. Except for internal research and development expenses related to collaboration agreements, we do not track our internal research and development expenses on a program-by-program basis as they are deployed across multiple projects under development.

The following table summarizes our external research and development expenses by program for the three and six months ended June 30, 2020 and 2019. Other development and pre-development candidate expenses, unallocated expenses and internal research and development expenses have been classified separately.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(in thousands)		(in thousands)	
Avapritinib external expenses	$ 17,882	$ 26,986	$ 38,935	$ 51,663
Pralsetinib external expenses	26,334	21,828	49,032	37,886
Fisogatinib external expenses	615	985	2,771	2,248
BLU-263 external expenses	3,499	—	6,064	—
Other development and pre-development candidate expenses and unallocated expenses*	18,051	18,687	30,999	34,707
Internal research and development expenses	24,698	18,615	47,424	34,847
Total research and development expenses	$ 91,079	$ 87,101	$ 175,225	$ 161,351

* Other development and pre-development candidate expenses also includes reimbursable expenses under our collaboration agreements.

We expect that our research and development expenses will increase in future periods as we expand our operations and incur additional costs in connection with our clinical trials and preparing regulatory filings. These increases will likely include the costs related to the implementation and expansion of clinical trial sites and related patient enrollment, monitoring, program management and manufacturing expenses for active pharmaceutical ingredient, or API, drug product and drug substance for current and future clinical trials and commercial inventory. In addition, we expect that our research and development expenses will increase in future periods as we incur additional costs in

connection with research and development activities under our immunotherapy collaboration with Roche, development activities under our collaboration with CStone, development activities under our collaboration for pralsetinib with Roche and development activities for companion diagnostic tests for AYVAKIT, pralsetinib and any current or future drug candidates.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for pre-launch and post-launch commercial operations for personnel in executive, finance, accounting, commercial, business development, information technology, legal and human resources functions. Other significant costs include facility costs not otherwise included in research and development expenses, commercial development activities, legal fees related to intellectual property and corporate matters and fees for accounting and consulting services.

We expect that our selling, general and administrative expenses will continue to increase in the future to support additional research and development activities and commercialization activities, including expanding our sales, marketing and distribution infrastructure to commercialize any drugs for which we may obtain marketing approval for additional indications or in additional geographies and expanding our operations. These increases will likely include increased costs related to the hiring of additional personnel, legal, auditing and filing fees and general compliance and consulting expenses, among other expenses. We have incurred and will continue to incur additional costs associated with operating as a public company and expanding the scope of our operations.

Interest Income, net

Interest income, net consists primarily of income earned on cash equivalents and investments. We expect our interest income, net will increase in future periods due to our increase in average investment balances following receipt of the upfront payments related to our collaboration for pralsetinib with Roche.

Other Income, net

Other income, net consists primarily of foreign currency transaction gains or losses.

Critical Accounting Policies and Estimates

Our critical accounting policies are those policies that require the most significant judgments and estimates in the preparation of our financial statements. Management has determined that our most critical accounting policies are those relating to revenue recognition, accrued research and development expenses, available-for-sale investments, stock-based compensation and leases.

For a description of our critical accounting policies, please see “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Financial Operations Overview—Critical Accounting Policies and Estimates” in our Annual Report on Form 10-K for the year ended December 31, 2019. Other than as described below, there have been no significant changes to our critical accounting policies since December 31, 2019.

Product Revenue

We generate product revenue from sales of AYVAKIT to specialty pharmacy providers in the U.S. These customers subsequently dispense the product directly to patients. In addition, we entered into arrangements with payors that provide for government mandated rebates, discounts and allowances with respect to the utilization of AYVAKIT.

Product revenue is recognized when the customer takes control of the product, typically upon delivery to the customer. Product revenue is recorded at the net sales price, or transaction price, which includes estimated reserves for variable consideration resulting from chargebacks, government rebates, trade discounts and allowances, product returns and other incentives that are offered within the contract with customers, healthcare providers, payors and other indirect

customers relating to the sales of our product. Reserves are established based on the amounts earned or to be claimed on the related sales. Where appropriate, we utilize the expected value method to determine the appropriate amount for estimates of variable consideration based on factors such as our current contractual and statutory requirements, specific known market events and trends, industry data and forecasted customer buying and payment patterns. The amount of variable consideration that is included in the transaction price may be constrained and is included in net product revenues only to the extent that it is probable that a significant reversal in the amount of the cumulative revenue recognized will not occur in a future period. Actual amounts of consideration ultimately received may differ from our estimates. If actual results vary from our estimates, we adjust these estimates, which would affect net product revenue and earnings in the period such variances become known.

Chargebacks: Chargebacks for fees and discounts represent the estimated obligations resulting from contractual commitments to sell product to qualified healthcare providers and government agencies at prices lower than the list prices charged to the customers who directly purchase the product from us. The customers charge us for the difference between what they pay for the product and the ultimate contractually committed or government required lower selling price to the qualified healthcare providers. These reserves are estimated using the expected value method based upon a range of possible outcomes and are established in the same period that the related revenue is recognized, resulting in a reduction of product revenue.

Government rebates: Government rebates consist of Medicare, Tricare and Medicaid rebates, which were estimated using the expected value method, based upon a range of possible outcomes for the estimated payor mix. These reserves are recorded in the same period the related revenue is recognized, resulting in a reduction of product revenue. For Medicare, we also estimate the number of patients in the prescription drug coverage gap for whom we will owe a rebate under the Medicare Part D program.

Trade discounts and allowances: We provide the customers with discounts that are explicitly stated in the contracts and recorded as a reduction of revenue in the period the related product revenue is recognized. In addition, we also receive sales order management, inventory management and data services from the customers.

Product returns: We estimate the amount of product sales that may be returned by our customers and records this estimate as a reduction of revenue in the period the related product revenue is recognized. We currently estimate product return liabilities using expected value method based on available industry data and our visibility into the inventory remaining in the distribution channel.

Other deductions: Co-pay assistance relates to financial assistance provided to qualified patients, whereby we may assist them with prescription drug co-payments required by the patient’s insurance provider. Reserves for co-pay assistance are recorded in the same period the related revenue is recognized, resulting in a reduction of product revenue.

Accounts Receivable

Accounts receivables arise from product sales and amounts due from our collaboration partners. The amount from product sales represents amounts due from specialty pharmacy providers in the U.S. We monitor economic conditions to identify facts or circumstances that may indicate that our receivables are at risk of collection. We provide reserves against accounts receivable for estimated losses that may result from a customer’s inability to pay based on the composition of our accounts receivable, current economic conditions and historical credit loss activity. Amounts determined to be uncollectible are charged or written-off against the reserve.

Inventory

Inventories are stated at the lower of cost or estimated net realizable value with cost based on the first-in first-out method. Inventory that can be used in either the production of clinical or commercial products is expensed as research and development costs when identified for use in clinical trials.

Prior to the regulatory approval of our drug candidates, we incur expenses for the manufacture of drug product supplies to support clinical development that could potentially be available to support the commercial launch of those

drugs. Until the date at which regulatory approval has been received or is otherwise considered probable, we record all such costs as research and development expenses.

We perform an assessment of the recoverability of capitalized inventories during each reporting period and write down any excess and obsolete inventory to its net realizable value in the period in which the impairment is first identified. Such impairment charges, should they occur, are recorded as a component of cost of product sales in the condensed consolidated statements of operations and comprehensive loss. The determination of whether inventory costs will be realizable requires the use of estimates by management. If actual market conditions are less favorable than projected by management, additional write-downs of inventory may be required.

Results of Operations

Comparison of Three Months Ended June 30, 2020 and 2019

The following table summarizes our results of operations for the three months ended June 30, 2020 and 2019, together with the changes in those items in dollars and as a percentage:

	Three Months Ended June 30,			
	2020	2019	Dollar Change	% Change
	(in thousands)			
Revenues:				
Product revenue, net	$ 5,680	$ —	$ 5,680	100 %
Collaboration revenue	2,663	5,110	(2,447)	(48)
Total revenues	8,343	5,110	3,233	63
Cost and operating expenses:				
Cost of sales	127	—	127	100
Research and development	91,079	87,101	3,978	5
Selling, general and administrative	42,174	21,923	20,251	92
Total cost and operating expenses	133,380	109,024	24,356	22
Other income (expense):				
Interest income, net	1,586	4,275	(2,689)	(63)
Other income, net	(23)	(42)	19	45
Total other income	1,563	4,233	(2,670)	(63)
Net loss	$ (123,474)	$ (99,681)	$ 23,793	24 %

Product Revenue, Net

We started generating revenue from sales of AYVAKIT in the first quarter of 2020 following FDA approval of AYVAKIT for the treatment of adults with unresectable or metastatic GIST harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations. For the three months ended June 30, 2020, we recorded net product revenue of $5.7 million.

Collaboration Revenue

Collaboration revenue decreased by $2.4 million from $5.1 million for the three months ended June 30, 2019 to $2.7 million for the three months ended June 30, 2020. For the three months ended June 30, 2020, we recorded collaboration revenue of $1.3 million under the CStone agreement associated with manufacturing services related to territory-specific activities. For the three months ended June 30, 2019, we recorded collaboration revenue of $4.1 million under the CStone agreement primarily related to development milestones achieved as of such period. We recorded collaboration revenue of $1.1 million and $1.0 million under the immunotherapy agreement with Roche for the three months ended June 30, 2020 and 2019, respectively, primarily related to amortization of the total $63.0 million of upfront and milestone payments received as of such periods. For the three months ended June 30, 2020, we recorded $0.3 million revenue under the Clementia agreement related to the transfer of inventory. No revenue was recognized under the Clementia agreement for the three months ended June 30, 2019.

Cost of Product Sales

Cost of product sales was $0.1 million for the three months ended June 30, 2020 and was related to manufacturing costs associated with AYVAKIT sales. Costs associated with the manufacture of AYVAKIT prior to FDA approval were expensed and, therefore, are not included in cost of sales during the current period.

Research and Development Expense

Research and development expense increased by $4.0 million from $87.1 million for the three months ended June 30, 2019 to $91.1 million for the three months ended June 30, 2020. The increase in research and development expense was primarily related to an increase of approximately $5.6 million in personnel expenses due to an increase in

headcount, which was driven by growth in the clinical and manufacturing organizations, and an increase of $1.2 million in stock-based compensation expense.

Selling, General and Administrative Expense

Selling, general and administrative expense increased by $20.3 million from $21.9 million for the three months ended June 30, 2019 to $42.2 million for the three months ended June 30, 2020. The increase in selling, general and administrative expense was primarily related to an increase of $14.6 million in personnel expenses, including an increase of $4.7 million in stock-based compensation expense, associated with building our commercial infrastructure for commercialization of AYVAKIT and for the potential commercialization of pralsetinib.

Interest Income, Net

Interest income, net, decreased by $2.7 million from $4.3 million for the three months ended June 30, 2019 to $1.6 million for the three months ended June 30, 2020. The decrease was primarily due to a lower rate of return on investments caused by the severe liquidity crisis in the capital markets resulting from the COVID-19 pandemic.

Other Income, Net

Other income, net, was unchanged for the three months ended June 30, 2020 compared to the three months ended June 30, 2019.

Comparison of Six Months Ended June 30, 2020 and 2019

The following table summarizes our results of operations for the six months ended June 30, 2020 and 2019, together with the changes in those items in dollars and as a percentage:

	Six Months Ended June 30,			
	2020	2019	Dollar Change	% Change
		(in thousands)		
Revenues:				
Product revenue, net	$ 9,138	$ —	$ 9,138	100 %
Collaboration revenue	5,372	5,840	(468)	(8)
Total revenues	14,510	5,840	8,670	148
Cost and operating expenses:				
Cost of sales	150	—	150	100
Research and development	175,225	161,351	13,874	9
Selling, general and administrative	77,829	38,476	39,353	102
Total cost and operating expenses	253,204	199,827	53,377	27
Other income (expense):				
Interest income, net	4,490	6,985	(2,495)	(36)
Other income, net	(224)	(86)	(138)	(160)
Total other income	4,266	6,899	(2,633)	(38)
Net loss	$ (234,428)	$ (187,088)	$ (47,340)	25 %

Product Revenue, Net

We started generating revenue from sales of AYVAKIT in the first quarter of 2020 following FDA approval of AYVAKIT for the treatment of adults with unresectable or metastatic GIST harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations. For the six months ended June 30, 2020, we recorded net product revenue of $9.1 million.

Collaboration Revenue

Collaboration revenue decreased by $0.5 million from $5.8 million for the six months ended June 30, 2019 to $5.4 million for the six months ended June 30, 2020. We recorded collaboration revenue of $3.4 million and $4.1 million under the CStone agreement associated with development milestones achieved and manufacturing services related to territory-specific activities for the six months ended June 30, 2020 and 2019, respectively. We recorded collaboration revenue of $1.7 million and $1.7 million under the Roche immunotherapy agreement for the six months ended June 30, 2020 and 2019, respectively, primarily related to amortization of the total $63.0 million of upfront and milestone payments received as of such periods. For the six months ended June 30, 2020, $0.3 million revenue under the Clementia agreement related to the transfer of inventory. No revenue was recognized under the Clementia agreement for the six months ended June 30, 2019.

Cost of Product Sales

Cost of product sales was $0.1 million for the six months ended June 30, 2020 and was related to manufacturing costs associated with AYVAKIT sales. Costs associated with the manufacture of AYVAKIT prior to FDA approval were expensed and, therefore, are not included in cost of sales during the current period.

Research and Development Expense

Research and development expense increased by $13.9 million from $161.4 million for the six months ended June 30, 2019 to $175.2 million for the six months ended June 30, 2020. The increase in research and development expense was primarily related to an increase of approximately $12.5 million in personnel expenses, primarily due to an increase in headcount, which was driven by growth in the clinical and manufacturing organizations and an increase of $3.2 million in stock-based compensation expense.

Selling, General and Administrative Expense

Selling, general and administrative expense increased by $39.4 million from $38.5 million for the six months ended June 30, 2019 to $77.8 million for the six months ended June 30, 2020. The increase in selling, general and administrative expense was primarily related to an increase of approximately $29.0 million in personnel expenses, including an increase of $9.2 million in stock-based compensation expense, associated with building our commercial infrastructure for commercialization of AYVAKIT and for the potential commercialization of pralsetinib.

Interest Income, Net

Interest income, net, decreased by $2.5 million from $7.0 million for the six months ended June 30, 2019 to $4.5 million for the six months ended June 30, 2020. The decrease was primarily due to a lower rate of return on investments caused by the severe liquidity crisis in the capital markets resulting from the COVID-19 pandemic.

Other Income, Net

Other income, net, increased by $0.1 million from $0.1 million for the six months ended June 30, 2019 to $0.2 million for the six months ended June 30, 2020.

Liquidity and Capital Resources

Sources of Liquidity

To date, we have financed our operations primarily through public offerings of our common stock, private placements of our convertible preferred stock, collaborations, a license agreement, a debt financing and limited product revenue.

Through June 30, 2020, we have received an aggregate of $1.8 billion from such transactions, including $1.5 billion in aggregate gross proceeds from the sale of common stock in our May 2015 IPO and follow-on public offerings, $115.1 million in gross proceeds from the issuance of convertible preferred stock, $18.8 million in upfront and milestone

payments from Alexion, $63.0 million in upfront and milestone payments from Roche under our immunotherapy collaboration, $54.0 million in upfront and milestone payments from CStone, a $25.0 million in upfront payment from Clementia and $10.0 million in gross proceeds from a debt financing. In addition, in July 2020, we received total cash payments of $769.0 million related to our collaboration for pralsetinib with Roche and a $20.0 million milestone payment related to our license agreement with Clementia.

As of June 30, 2020, we had cash, cash equivalents and investments of $650.3 million.

Cash Flows

The following table provides information regarding our cash flows for the six months ended June 30, 2020 and 2019:

	Six Months Ended June 30,	
(in thousands)	**2020**	**2019**
Net cash used in operating activities	$ (210,492)	$ (161,416)
Net cash provided by (used in) investing activities	71,421	(158,739)
Net cash provided by financing activities	313,325	334,309
Net increase in cash and cash equivalents	$ 174,254	$ 14,154

Net Cash Used in Operating Activities. For the six months ended June 30, 2020, compared to the same period in 2019, the $49.1 million increase in net cash used in operating was primarily due to the increased net loss during this period of $47.3 million, which was driven by increased headcount and headcount-related expenses and spending on pre-clinical, clinical, manufacturing and commercial activities.

Net Cash Provided by Investing Activities. For the six months ended June 30, 2020, compared to the same period in 2019, the $230.2 million increase in net cash provided by investing activities was primarily due to a decrease in net purchases of available-for-sale investments.

Net Cash Provided by Financing Activities. For the six months ended June 30, 2020, compared to the same period in 2019, the $21.0 million decrease in net cash provided by financing activities was primarily due to $19.0 million decrease in net proceeds received from our January 2020 follow-on public offering as compared with our April 2019 follow-on public offering.

Funding Requirements

We expect our expenses to increase in connection with our ongoing activities, particularly as we continue the research and development of, initiate or continue clinical trials of, and seek marketing approval for our drug candidates, including marketing approval for AYVAKIT for additional indications or in additional geographies. In addition, we expect to incur additional significant commercialization expenses for AYVAKIT and other drug candidates, if approved, related to drug sales, marketing, manufacturing and distribution to the extent that such sales, marketing, manufacturing and distribution are not the responsibility of potential collaborators or licensors. We will also incur additional significant costs if we choose to pursue additional indications or geographies for any of our approved drugs or drug candidates or otherwise expand more rapidly than we presently anticipate. Accordingly, we may seek to obtain additional funding from time to time in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we may be forced to delay, reduce or eliminate certain of our research and development programs or future commercialization efforts.

As of June 30, 2020, we had cash, cash equivalents and investments of $650.3 million. Based on our current operating plans, we anticipate our existing cash, cash equivalents and investments, together with the upfront payments under our collaboration with Roche for pralsetinib and anticipated future product revenues, will provide sufficient capital to enable us to achieve a self-sustainable financial profile.

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

- the success of our commercialization efforts and market acceptance for AYVAKIT or any of our current or future drug candidates for which we receive marketing approval;
- the costs of maintaining, expanding or contracting for sales, marketing and distribution capabilities in connection with commercialization of AYVAKIT and any of our current or future drug candidates for which we receive marketing approval;
- the costs of securing manufacturing, packaging and labeling arrangements for development activities and commercial production, including API, drug substance and drug product material for use in pre-clinical studies, clinical trials, our compassionate use program and for use as commercial supply, as applicable;
- the scope, progress, results and costs of drug discovery, pre-clinical development, laboratory testing and clinical trials for our approved drugs and drug candidates;
- the costs, timing and outcome of regulatory review of marketing applications for our drug candidates, including avapritinib for additional indications or in additional geographies and for pralsetinib;
- the success of our collaborations with Roche and CStone and our license agreement with Clementia, as well as our ability to establish and maintain additional collaborations, partnerships or licenses on favorable terms, if at all;
- the achievement of milestones or occurrence of other developments that trigger payments under our existing collaboration or license agreements, or any collaboration, partnership or license agreements that we may enter into in the future;
- the extent to which we are obligated to reimburse, or entitled to reimbursement of, research and development, clinical or other costs under future collaboration agreements, if any;
- the extent to which we acquire or in-license other approved drugs, drug candidates or technologies and the terms of any such arrangements;
- the success of our current or future collaborations for the development and commercialization of companion diagnostic tests;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims; and
- the costs of continuing to expand our operations.

Identifying potential drug candidates, conducting pre-clinical development and testing and clinical trials and, for any drug candidates that receive marketing approval, establishing and maintaining commercial infrastructure is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain additional marketing approvals, including for avapritinib for additional indications or in additional geographies or for pralsetinib, and achieve substantial revenues for any of our drugs that receive marketing approval, including for AYVAKIT in the U.S. In addition, AYVAKIT and any current or future drug candidates that receive marketing approvals, including AYVAKIT for additional indications or in additional geographies, may not achieve commercial success. Accordingly, we may need to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

Until such time, if ever, as we can generate substantial drug revenues, we expect to finance our cash needs primarily through a combination of public and private equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. We do not have any committed external source of funds, other than our

collaborations with Roche and CStone and the license agreement with Clementia, which are limited in scope and duration and subject to the achievement of milestones or royalties on sales of licensed products, if any. To the extent that we raise additional capital through the sale of common stock or securities convertible or exchangeable into common stock, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that materially adversely affect the rights of our common stockholders. Debt financing, if available, would increase our fixed payment obligations and may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

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

Contractual Obligations

Our contractual obligations primarily consist of our obligations under non-cancellable operating leases and unconditional purchase obligations.

As of June 30, 2020, except for minimum purchase obligations associated with certain commercial manufacturing agreements of approximately $25.5 million, there have been no other material changes to our contractual obligations and commitments from those described under “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in the Annual Report on Form 10-K for the year ended December 31, 2019.

Off-Balance Sheet Arrangements

We did not have, during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under applicable SEC rules.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

As of June 30, 2020 and December 31, 2019, we had cash, cash equivalents and investments of $650.3 million and $548.0 million, respectively, consisting primarily of money market funds and investments in U.S. government agency and treasury obligations.

Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, including recent changes resulting from the impact of the COVID-19 pandemic. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, we believe an immediate 10% change in interest rates would not have a material effect on the fair market value of our investment portfolio. We have the ability to hold our investments until maturity, and therefore, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a change in market interest rates on our investment portfolio.

We are also exposed to market risk related to changes in foreign currency exchange rates, including recent changes resulting from the impact of the COVID-19 pandemic. From time to time, we contract with vendors that are located in Asia and Europe, which are denominated in foreign currencies. We are subject to fluctuations in foreign currency rates in connection with these agreements. We do not currently hedge our foreign currency exchange rate risk. As of June 30, 2020 and December 31, 2019, we had minimal or no liabilities denominated in foreign currencies.

Inflation generally affects us by increasing our cost of labor, clinical trial and manufacturing costs. We do not believe that inflation had a material effect on our business, financial condition or results of operations during the three and six months ended June 30, 2020 and 2019.

Item 4. Controls and Procedures

Management's Evaluation of our Disclosure Controls and Procedures

We maintain "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (1) recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms and (2) accumulated and communicated to our management, including our principal executive and principal financial officer, as appropriate to allow timely decisions regarding required disclosure. Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their control objectives.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer (our principal executive officer and principal financial officer, respectively), evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2020. Based upon such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of June 30, 2020, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the fiscal quarter covered by this report that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

We are not currently a party to any material legal proceedings.

Item 1A. Risk Factors

The following risk factors and other information included in this Quarterly Report on Form 10-Q should be carefully considered. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we presently deem less significant may also impair our business operations. Please see the Section titled "Forward-Looking Statements" of this Quarterly Report on Form 10-Q for a discussion of some of the forward-looking statements that are qualified by these risk factors. If any of the following risks occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected.

Risks Related to Our Financial Position and Need for Additional Capital

We are a precision therapy company with a limited operating history. We have incurred significant operating losses since our inception and anticipate that we will incur continued losses for the foreseeable future.

We are a precision therapy company with a limited operating history on which investors can base an investment decision. Biopharmaceutical drug development is a highly speculative undertaking and involves a substantial degree of risk. We commenced operations in April 2011. Our operations to date have been limited primarily to organizing and staffing our company, business planning, raising capital, developing our technology, identifying potential drug candidates, undertaking pre-clinical studies, conducting clinical trials for our drug candidates and establishing a commercial infrastructure. In January 2020, the U.S. Food and Drug Administration, or FDA, granted approval of avapritinib under the brand name AYVAKIT for the treatment of adults with unresectable or metastatic gastrointestinal stromal tumors, or GIST, harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations. With the exception of AYVAKIT in the U.S., all of our drug candidates are still in preclinical and clinical development. We are in the early stages of transitioning from a company with a research focus to a company capable of supporting commercial activities and we have not yet demonstrated our ability to conduct large-scale sales and marketing activities necessary for successful commercialization. We may not be successful in such a transition.

Since inception, we have focused substantially all of our efforts and financial resources on organizing and staffing our company, business planning, raising capital, establishing our intellectual property, building our discovery platform, including our proprietary compound library and new target discovery engine, identifying kinase drug targets and potential drug candidates, producing the active pharmaceutical ingredient, or API, drug substance and drug product material for use in pre-clinical studies and clinical trials, conducting pre-clinical studies and commencing clinical development, pre-commercial activities for AYVAKIT and pralsetinib and the commercial launch of AYVAKIT. To date, we have financed our operations primarily through public offerings of our common stock, private placements of our convertible preferred stock, collaborations, a license agreement, a debt financing and limited product revenue. Through June 30, 2020, we have received an aggregate of $1.8 billion from such transactions, including $1.5 billion in aggregate gross proceeds from the sale of common stock in our May 2015 initial public offering, or IPO, and follow-on public offerings, $115.1 million in gross proceeds from the issuance of convertible preferred stock, $18.8 million in upfront and milestone payments under our former collaboration with Alexion Pharma Holding, or Alexion, $63.0 million in upfront and milestone payments under our immunotherapy collaboration with F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc., $54.0 million in upfront and milestone payments under our collaboration with CStone Pharmaceuticals, or CStone, a $25.0 million upfront payment under our license agreement with Clementia Pharmaceuticals, Inc., or Clementia, and $10.0 million in gross proceeds from a debt financing. In addition, in July 2020, we received total cash payments of $769.0 million related to our collaboration for pralsetinib with F. Hoffmann-La Roche Ltd and Genentech, Inc and a $20.0 million milestone payment related to our license agreement with Clementia.

Since inception, we have incurred significant operating losses. Our net losses were $234.4 million for the six months ended June 30, 2020 and $347.7 million, $236.6 million, and $148.1 million for the years ended December 31, 2019, 2018 and 2017, respectively. As of June 30, 2020, we had an accumulated deficit of $1,179.7 million.

Substantially all of our operating losses have resulted from costs incurred in connection with our research and development programs and from general and administrative costs associated with our operations. We expect to continue to incur significant expenses and operating losses over the next few years. We anticipate that our expenses will continue to increase in connection with our ongoing activities. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' equity and working capital. We expect our research and development expenses to significantly increase in connection with continuing our existing clinical trials and beginning additional clinical trials. In addition, we will incur significant sales, marketing and outsourced-manufacturing expenses in connection with the commercialization of any of our approved drugs. In addition, we have incurred and will continue to incur substantial costs associated with operating as a public company. Because of the numerous risks and uncertainties associated with developing pharmaceuticals, we are unable to predict the extent of any future losses or when we will become profitable, if at all. Even if we do become profitable, we may not be able to sustain or increase our profitability on a quarterly or annual basis. Our ability to become profitable depends upon our ability to generate substantial revenue.

To date, we have not generated substantial revenue from sales of AYVAKIT. We also have not obtained marketing approval for AYVAKIT outside of the U.S. or for any other indications, and we have not obtained marketing approval for any of our other drug candidates, which are in preclinical or clinical development stages. We do not expect to generate significant revenue from our drug candidates unless and until we obtain marketing approval of, and begin to sell, such drug candidates. Our ability to generate substantial revenue depends on a number of factors, including, but not limited to, our ability to:

- initiate and successfully complete clinical trials that meet their clinical endpoints;
- initiate and successfully complete all safety studies required to obtain U.S. and foreign marketing approval for our drug candidates;
- continue to maintain and expand commercial manufacturing capabilities or make arrangements with third-party manufacturers for clinical supply and commercial manufacturing;
- establish and maintain a sales, marketing and distribution infrastructure to commercialize AYVAKIT and any current or future drug candidates for which we obtain marketing approval; and
- achieve market acceptance in the medical community and with third-party payors for AYVAKIT and any current or future drug candidates for which we receive marketing approval.

We expect to incur significant sales and marketing costs as we commercialize AYVAKIT for PDGFRA exon 18 mutant GIST in the U.S. and, if approved, commercialize avapritinib for PDGFRA mutant GIST outside the U.S., jointly commercialize pralsetinib in the U.S. and commercialize avapritinib for systemic mastocytosis globally. Even if we initiate and successfully complete pivotal clinical trials of our drug candidates, and our drug candidates are approved for commercial sale, and despite expending these costs, our drug candidates may not be commercially successful. We may not achieve profitability soon after generating drug sales, if ever. If we are unable to generate drug revenue, we will not become profitable and may be unable to continue operations without continued funding.

Our business, results of operations and future growth prospects could be materially and adversely affected by the COVID-19 pandemic.

Due to the evolving and uncertain global impacts of the COVID-19 pandemic, we cannot precisely determine or quantify the impact this pandemic will have on our business operations for the remainder of our fiscal year ending December 31, 2020 or beyond. The extent to which COVID-19 may impact our business, results of operations and future growth prospects will depend on a variety of factors and future developments, which are highly uncertain and cannot be predicted with confidence, including the duration, scope and severity of the pandemic, the duration and extent of travel restrictions and social distancing in the U.S. and other countries, business closures or business disruptions and the effectiveness of actions taken in the U.S. and other countries to contain and treat COVID-19.

For example, public health actions being undertaken globally in response to the COVID-19 pandemic, including quarantines, stay-at-home, executive and similar government orders and the prioritization of healthcare resources, could adversely impact our business, results of operations and future growth prospects. For ongoing and

planned clinical trials, we anticipate and have experienced some temporary delays or disruptions due to the COVID-19 pandemic, including limited or reduced patient access to trial investigators, hospitals and trial sites, delayed initiation of new clinical trial sites and limited on-site personnel support at various trial sites, which could adversely impact our development plans, including the initiation of planned clinical trials, the rate of enrollment and our ability to conduct ongoing clinical trials. There may also be local orders affecting one or more trial sites, which may trigger mandated changes to our clinical trial protocols or temporary suspensions in the affected trial sites. In addition, quarantines, stay-at-home, executive and similar government orders, or the perception that such orders, shutdowns or other restrictions on the conduct of business operations have occurred and could continue to occur or be expanded in scope or duration, which could adversely impact ongoing and planned clinical trials, our employees and business operations, personnel at our third-party suppliers and other vendors in the U.S. and other countries, the availability, cost or supply of materials, which may cause delays or disruptions to development plans for our drug candidates or clinical or commercial supply chains for our current or future approved drugs and drug candidates, and sales and marketing activities related to AYVAKIT and any drug candidates for which we may receive marketing approval in the U.S. or other geographies in the future.

To the extent the COVID-19 pandemic adversely affects our business, results of operations and future growth prospects, it may also have the effect of heightening many of the other risks described in this “Risk Factors” section.

We may seek to raise additional funding from time to time. If we are unable to raise capital when needed, we may be forced to delay, reduce or eliminate some of our drug development programs or commercialization efforts.

The development of pharmaceuticals is capital-intensive. We are currently advancing multiple drug candidates and development programs through clinical and preclinical development. We expect our expenses to increase in connection with our ongoing activities, particularly as we continue the research and development of, initiate or continue clinical trials of, and seek marketing approval for our drug candidates, including marketing approval for avapritinib for additional indications or in additional geographies and for pralsetinib. In addition, we expect to incur additional significant commercialization expenses for AYVAKIT and other drug candidates, if approved, related to drug sales, marketing, manufacturing and distribution to the extent that such sales, marketing, manufacturing and distribution are not the responsibility of potential collaborators or licensors. We may also need to raise additional funds if we choose to pursue additional indications or geographies for any of our approved drugs or drug candidates or otherwise expand more rapidly than we presently anticipate. Accordingly, we may seek additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we may be forced to delay, reduce or eliminate certain of our research and development programs or future commercialization efforts.

As of June 30, 2020, we had cash, cash equivalents and investments of $650.3 million. Based on our current operating plans, we anticipate our existing cash, cash equivalents and investments, together with the upfront payments under our collaboration with Roche for pralsetinib and anticipated future product revenues, will provide sufficient capital to enable us to achieve a self-sustainable financial profile. Our future capital requirements will depend on and could increase significantly as a result of many factors, including:

- the success of our commercialization efforts and market acceptance for AYVAKIT or any of our current or future drug candidates for which we receive marketing approval;
- the costs of maintaining, expanding or contracting for sales, marketing and distribution capabilities in connection with commercialization of AYVAKIT and any of our current or future drug candidates for which we receive marketing approval;
- the costs of securing manufacturing, packaging and labeling arrangements for development activities and commercial production, including API, drug substance and drug product material for use in pre-clinical studies, clinical trials, our compassionate use program and for use as commercial supply, as applicable;
- the scope, progress, results and costs of drug discovery, pre-clinical development, laboratory testing and clinical trials for our approved drugs and drug candidates;

- the costs, timing and outcome of regulatory review of marketing applications for our drug candidates, including avapritinib for additional indications or in additional geographies and for pralsetinib;
- the success of our collaborations with Roche and CStone and our license agreement with Clementia, as well as our ability to establish and maintain additional collaborations, partnerships or licenses on favorable terms, if at all;
- the achievement of milestones or occurrence of other developments that trigger payments under our existing collaboration or license agreements, or any collaboration, partnership or license agreements that we may enter into in the future;
- the extent to which we are obligated to reimburse, or entitled to reimbursement of, research and development, clinical or other costs under future collaboration agreements, if any;
- the extent to which we acquire or in-license other approved drugs, drug candidates or technologies and the terms of any such arrangements;
- the success of our current or future collaborations for the development and commercialization of companion diagnostic tests;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims; and
- the costs of continuing to expand our operations.

Identifying potential drug candidates and conducting pre-clinical development and testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain additional marketing approvals, including for avapritinib for additional indications or in additional geographies or for pralsetinib, and achieve sales for any of our drug candidates that receive marketing approval. In addition, our approved drugs and drug candidates, if approved, may not achieve commercial success. Accordingly, we may need to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize any of our approved drugs or drug candidates. Dislocations in the financial markets have generally made equity and debt financing more difficult to obtain and may have a material adverse effect on our ability to meet our fundraising needs. We cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. Moreover, the terms of any financing may adversely affect the holdings or the rights of our stockholders and the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our shares to decline. The sale of additional equity or convertible securities would dilute all of our stockholders. The incurrence of indebtedness would result in increased fixed payment obligations and we may be required to agree to certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. We could also be required to seek funds through collaborations, partnerships, licensing arrangements or otherwise at an earlier stage than would be desirable and we may be required to relinquish rights to some of our technologies, drugs or drug candidates or otherwise agree to terms unfavorable to us, any of which may have a material adverse effect on our business, operating results and prospects.

If we are unable to obtain funding on a timely basis, we may be required to significantly curtail, delay or discontinue one or more of our research or development programs or the commercialization of any of our approved drugs or be unable to expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition and results of operations.

Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies or drug candidates.

Until such time, if ever, as we can generate substantial drug revenues, we expect to finance our cash needs primarily through a combination of public and private equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. We do not have any committed external source of funds, other than our collaborations with Roche and CStone and the license agreement with Clementia, which are limited in scope and duration and subject to the achievement of milestones or royalties on sales of licensed products, if any. To the extent that we raise additional capital through the sale of common stock or securities convertible or exchangeable into common stock, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that materially adversely affect the rights of our common stockholders. Debt financing, if available, would increase our fixed payment obligations and may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

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

Risks Related to Drug Development and Regulatory Approval

If we are unable to advance our drug candidates to clinical development, obtain regulatory approval for our drug candidates, including for avapritinib for additional indications or in additional geographies or for pralsetinib, and ultimately commercialize them, or experience significant delays in doing so, our business will be materially harmed.

We have four drug candidates currently in clinical development: avapritinib, pralsetinib, fisogatinib and BLU-263. All of our other drug candidates and development candidates are currently in pre-clinical or earlier stages of development. We have invested significant efforts and financial resources in the identification and pre-clinical development of kinase inhibitors, including the development of our drugs and drug candidates. Our ability to generate substantial drug revenues, if ever, will depend heavily on the successful development and commercialization of our drugs and drug candidates. Each of our drug candidates, including avapritinib for additional indications or in additional geographies, will require additional pre-clinical or clinical development, management of clinical, pre-clinical and manufacturing activities, regulatory approval in multiple jurisdictions, obtaining manufacturing supply, building of a commercial organization, substantial investment and significant marketing efforts before we generate substantial revenues from drug sales. Further clinical development, manufacturing and regulatory activities, and substantial investment will be required before we may obtain marketing approval for avapritinib for additional indications or in additional geographies, if at all. In addition, for some of our drug candidates, in order to select patients most likely to respond to treatment and rapidly confirm mechanistic and clinical proof-of-concept, or to identify appropriate patients for any drug candidates for which we obtain approval, we may be required or we may seek to develop companion diagnostic tests, which are assays or tests to identify an appropriate patient population. For example, we have entered into agreements with third parties to develop and commercialize companion diagnostics for avapritinib in order to identify GIST patients with the PDGFRA D842V mutation, fisogatinib in order to identify HCC patients with FGFR4 pathway activation and pralsetinib in order to identify NSCLC patients with RET fusions and medullary thyroid carcinoma, or MTC patients with RET mutations. Companion diagnostic tests are subject to regulation as medical devices and must themselves be cleared or approved for marketing by the FDA or certain other foreign regulatory agencies before we may commercialize our drug candidates. The success of our approved drugs and drug candidates will depend on several factors, including the following:

- successful enrollment in, and initiation and completion of, clinical trials, including our ongoing and planned clinical trials for avapritinib, pralsetinib, fisogatinib and BLU-263 and other current or future drug candidates;

- successful initiation and completion of pre-clinical studies for our other drug candidates;

- approval of INDs to commence future clinical trials for our other drug candidates;
- successful development of any companion diagnostic tests for use with our current or future drug candidates;
- receipt of regulatory approvals from applicable regulatory authorities;
- establishing commercial manufacturing capabilities or making arrangements with third-parties for clinical supply and commercial manufacturing, packaging and labeling and the receipt by such third-party manufacturers of requisite approvals to supply commercial inventories of our approved drugs and drug candidates;
- obtaining and maintaining patent and trade secret protection or regulatory exclusivity for our drugs and drug candidates;
- successful commercialization of our approved drugs and drug candidates, if and when approved, whether alone or in collaboration with others;
- acceptance of our approved drugs and drug candidates, if and when approved, by patients, the medical community and third-party payors;
- effectively competing with other therapies;
- obtaining and maintaining healthcare coverage and adequate reimbursement;
- enforcing and defending intellectual property rights and claims; and
- maintaining a continued acceptable safety profile of our approved drugs and drug candidates following approval.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize our drug candidates, which would materially harm our business. If we do not receive regulatory approvals for our drug candidates, we may not be able to continue our operations.

We do not know whether we will be able to develop any other drugs of commercial value.

Our scientific approach focuses on using our novel target discovery engine and our proprietary compound library to identify new kinase targets in disease indications. Our focus on using our novel target discovery engine to identify potential kinase targets in disease indications may not result in the discovery and development of commercially viable drugs for these diseases. The use of our proprietary compound library may not lead to the development of commercially viable drugs. Even if we are able to develop a drug candidate that successfully targets these kinases in pre-clinical studies, we may not succeed in demonstrating safety and efficacy of the drug candidate in clinical trials.

Clinical drug development involves a lengthy and expensive process, with an uncertain outcome. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our drug candidates.

Avapritinib is in clinical development for PDGFRA exon 18 mutant GIST outside the U.S. and for systemic mastocytosis globally, and all of our other drug candidates are in pre-clinical or clinical development. The risk of failure for preclinical and clinical development is high. It is impossible to predict when or if any of our drug candidates will prove effective and safe in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of any drug candidate, we must complete pre-clinical studies and then conduct extensive clinical trials to demonstrate the safety and efficacy of our drug candidates in humans. Clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing. For example, we recently announced top-line data from

our Phase 3 clinical trial comparing avapritinib to regorafenib in third-line GIST, which we refer to as our VOYAGER trial, which showed the VOYAGER trial did not meet the primary endpoint of an improvement in progression-free survival, or PFS, for avapritinib versus regorafenib. The outcome of pre-clinical development testing and early clinical trials may not be predictive of the success of later clinical trials, interim results of a clinical trial do not necessarily predict final results, and results for one indication may not be predictive of the success in additional indications. Moreover, pre-clinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their drug candidates performed satisfactorily in pre-clinical studies and clinical trials have nonetheless failed to obtain marketing approval of their drug candidates. Our pre-clinical studies, current clinical trials and future clinical trials may not be successful.

Successful completion of our clinical trials is a prerequisite to submitting a new drug application, or NDA, to the FDA and a marketing authorization application, or MAA, in the European Union for each drug candidate and, consequently, the ultimate approval and commercial marketing of our drug candidates, including avapritinib and pralsetinib. We do not know whether any of our clinical trials for additional indications for avapritinib or for our drug candidates will be completed on schedule, if at all, or will provide clinical data sufficient to support regulatory submissions for or approval of such additional indications or drug candidates.

We may experience delays in completing our pre-clinical studies and initiating or completing clinical trials, and we may experience numerous unforeseen events during, or as a result of, any current or future clinical trials that we could conduct that could delay or prevent our ability to receive marketing approval or commercialize our drug candidates, including:

- regulators or institutional review boards, or IRBs, or ethics committees may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may experience delays in reaching, or fail to reach, agreement on acceptable terms with prospective trial sites and prospective contract research organizations, or CROs, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- clinical trials of our drug candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional pre-clinical studies or clinical trials or we may decide to abandon drug development programs;
- patients treated with our drug candidates may develop mutations that confer resistance to treatment, which may limit the market opportunity for our drug candidates or prevent us from completing our clinical trials, obtaining regulatory approval for or commercializing our drug candidates;
- the number of patients required for clinical trials of our drug candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate, or participants may drop out of these clinical trials or fail to return for post-treatment follow-up at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all, or may deviate from the clinical trial protocol or drop out of the trial, which may require that we add new clinical trial sites or investigators;
- we may elect to, or regulators or IRBs or ethics committees may require that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials may be greater than we anticipate;
- the supply or quality of our drug candidates or other materials necessary to conduct our clinical trials may be insufficient or inadequate;

- our drug candidates may have undesirable side effects or other unexpected characteristics, causing us or our investigators, regulators or IRBs or ethics committees to suspend or terminate the trials, or reports may arise from pre-clinical or clinical testing of other cancer therapies that raise safety or efficacy concerns about our drug candidates; and

- the FDA or other regulatory authorities may require us to submit additional data or impose other requirements before permitting us to initiate a clinical trial.

We could encounter delays if a clinical trial is suspended or terminated by us, by the IRBs of the institutions in which such trials are being conducted, by the Data Safety Monitoring Board, or DSMB, for such trial or by the FDA or other regulatory authorities, including due to unforeseen impacts from the COVID-19 pandemic on our current or planned trials. Such authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. 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 additional indications for our approved drugs or for our drug candidates. Further, the FDA or other regulatory authorities may disagree with our clinical trial design and our interpretation of data from clinical trials, or the FDA or any other regulatory authority may change the requirements for approval even after it has reviewed and commented on the design for our clinical trials.

If we are required to conduct additional clinical trials or other testing of our drug candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical trials of our drug candidates or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we may:

- be delayed in obtaining marketing approval for avapritinib for additional indications or in additional geographies, or be delayed in obtaining marketing approval for our drug candidates, if at all;

- obtain approval for indications or patient populations that are not as broad as intended or desired;

- be subject to post-marketing testing requirements; or

- fail to achieve market acceptance or have the drug removed from the market after obtaining marketing approval.

Our drug development costs will also increase if we experience delays in testing or regulatory approvals. We do not know whether any of our clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. Significant pre-clinical study or clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our drug candidates or allow our competitors to bring products to market before we do and impair our ability to successfully commercialize our drug candidates and may harm our business and results of operations. Any delays in our pre-clinical or future clinical development programs may harm our business, financial condition and prospects significantly.

If we experience delays or difficulties in the enrollment of patients in clinical trials, our receipt of necessary regulatory approvals could be delayed or prevented.

We may not be able to initiate or continue clinical trials for our drug candidates, including avapritinib for additional indications, if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or similar regulatory authorities outside the U.S. In particular, because we are focused on diseases in genomically defined patient populations, our ability to enroll eligible patients may be limited or may result in slower enrollment than we anticipate. In addition, we have experienced some temporary delays or disruptions in enrollment in our ongoing clinical trials due to the COVID-19 pandemic, and we anticipate we may experience additional delays or disruptions in the future due to the COVID-19 pandemic and changes in local site or IRB policies, availabilities of site staff, reprioritization of hospital resources, restricted access to healthcare professionals and testing sites and other containment measures or concerns among patients about participating in clinical trials during a pandemic.

In addition, some of our competitors have ongoing clinical trials for drug candidates that treat the same indications as AYVAKIT and our drug candidates, and patients who would otherwise be eligible for our clinical trials may instead enroll in clinical trials of our competitors' drug candidates.

Patient enrollment may be affected by other factors including:

- the severity of the disease under investigation;
- the size of the target patient population;
- the eligibility criteria for the clinical trial;
- the availability of an appropriate genomic screening test;
- the perceived risks and benefits of the drug candidate under study;
- the efforts to facilitate timely enrollment in clinical trials;
- the patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment; and
- the proximity and availability of clinical trial sites for prospective patients.

Because the target patient populations for AYVAKIT and our drug candidates are relatively small, it may be difficult to successfully identify patients, which could delay enrollment for our trials.

We focus our research and development on treatments for cancer and rare diseases, including genomically defined cancer and diseases driven by abnormal kinase activation. Because the target patient populations for AYVAKIT and our drug candidates are relatively small, it may be difficult to successfully identify patients. We have entered into agreements with third parties to develop a companion diagnostic test for avapritinib in order to identify GIST patients with the PDGFRA D842V mutation, fisogatinib in order to identify HCC patients with FGFR4 pathway activation and pralsetinib in order to identify NSCLC patients with RET fusions and MTC patients with RET mutations, and we may engage third parties to develop companion diagnostic tests for use in some of our other current or future clinical trials. However, we may experience delays in reaching, or fail to reach, agreement on acceptable terms to develop companion diagnostic tests with third parties, and any third parties whom we engage to develop companion diagnostic tests may experience delays or may not be successful in developing such companion diagnostic tests, furthering the difficulty in identifying patients for our clinical trials. In addition, current commercially available diagnostic tests to identify appropriate patients for our clinical trials or any approved drug candidates may become unavailable in the future.

Our inability to enroll a sufficient number of patients in our clinical trials, or to identify patients appropriate for enrollment in our clinical trials, would result in significant delays and could require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our drug candidates, which would cause the value of our company to decline and limit our ability to obtain additional financing. If we are unable to include patients with the driver of the disease, including the applicable genomic alteration for diseases in genomically defined patient populations, this could compromise our ability to seek participation in the FDA's expedited review and approval programs, including breakthrough therapy designation and fast track designation, or otherwise to seek to accelerate clinical development and regulatory timelines.

If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals both for our drug candidates and for any related companion diagnostic tests, we will not be able to commercialize, or will be delayed in commercializing, such drug candidates, and our ability to generate revenue will be materially impaired.

Our drug candidates and any companion diagnostic tests related to our approved drugs or drug candidates, including the companion diagnostic tests that we are developing for AYVAKIT in order to identify GIST patients with

the PDGFRA D842V mutation, pralsetinib in order to identify NSCLC patients with RET fusions and fisogatinib in order to identify HCC patients with FGFR4 pathway activation, and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale, distribution, import and export, are subject to comprehensive regulation by the FDA and other regulatory agencies in the U.S. and by comparable authorities in other countries. Before we can commercialize any of our drug candidates, we must obtain marketing approval. We may also need marketing clearance or approval for any related companion diagnostic tests, including the companion diagnostic tests that we are developing for avapritinib, pralsetinib and fisogatinib. Except for FDA approval of AYVAKIT for the treatment of adults with unresectable or metastatic GIST harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations, we have not received regulatory authorization to market any of our drug candidates or related companion diagnostic tests from regulatory authorities in any jurisdiction, and it is possible that these current or future drug candidates or related companion diagnostic tests will ever obtain regulatory approval. We have only limited experience in filing and supporting the applications necessary to gain regulatory approvals and expect to rely on third-party CROs and/or regulatory consultants to assist us in this process. Securing regulatory approval requires the submission of extensive pre-clinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the drug candidate's safety and efficacy. Securing regulatory approval also requires the submission of information about the drug manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Our drug candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining regulatory approvals, if approval is obtained at all, both in the U.S. and abroad is expensive, may take many years if additional clinical trials are required and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the drug candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted NDA for a drug candidate, pre-market approval, or PMA, application for a companion diagnostic test or equivalent application types, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional pre-clinical, clinical or other studies. We currently have marketing applications pending for pralsetinib in the U.S. and Europe.

Our drug candidates could be delayed in receiving, or fail to receive, regulatory approval for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a drug candidate is safe and effective for its proposed indication or a related companion diagnostic test is suitable to identify appropriate patient populations;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- we may be unable to demonstrate that a drug candidate's clinical and other benefits outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from pre-clinical studies or clinical trials;
- the data collected from clinical trials of our drug candidates may not be sufficient to support the submission of an NDA or other submission or to obtain regulatory approval in the U.S. or elsewhere;

- the FDA or comparable foreign regulatory authorities may find deficiencies with or fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies;

- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval; and

- delays or disruptions impacting the FDA or comparable foreign regulatory authorities due to the COVID-19 pandemic.

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 not approve the price we intend to charge for our drugs and related companion diagnostic tests, may grant approval contingent on the performance of costly post-marketing clinical trials or other post-marketing requirements, 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.

If we experience delays in obtaining approval or if we fail to obtain approval of our drug candidates and companion diagnostic tests related to our approved drugs and drug candidates, the commercial prospects for our approved drugs or drug candidates may be harmed and our ability to generate revenues will be materially impaired.

Our drugs and drug candidates may cause undesirable side effects that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

Undesirable side effects caused by any of our approved drugs or drug candidates could cause us to interrupt, delay or halt pre-clinical studies or 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 or other regulatory authorities. As is the case with all oncology drugs, it is likely that there may be side effects associated with the use of our approved drugs and drug candidates. Results of our trials could reveal a high and unacceptable severity and prevalence of these or other side effects. In such an event, our trials could be suspended or terminated, and the FDA or comparable foreign regulatory authorities could order us to cease further development of or deny approval of our drugs or drug candidates for any or all targeted indications. The drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete clinical trials or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly.

Further, our approved drugs and drug candidates could cause undesirable side effects in pre-clinical studies or clinical trials related to on-target toxicity. For example, the FGF19/FGFR4 signaling axis has been shown to play a role in the regulation of de novo bile acid synthesis. Modulation of this signaling axis by treatment with a small molecule FGFR4 inhibitor could lead to the clinical symptoms that were observed with administration of an FGF19 antibody. If on-target toxicity is observed, or if our approved drugs or drug candidates have characteristics that are unexpected, we may need to abandon their development or limit development to more narrow uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective. Many compounds that initially showed promise in early stage testing for treating cancer have later been found to cause side effects that prevented further development of the compound.

Further, clinical trials by their nature utilize a sample of the potential patient population. With a limited number of patients and limited duration of exposure, rare and severe side effects of our drugs or drug candidates may only be uncovered with a significantly larger number of patients exposed to the drugs or drug candidate. If we or others identify undesirable side effects caused by any of our approved drugs or drug candidates (or any other similar drugs) after marketing approval, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw or limit their approval of such drug;

- regulatory authorities may require the addition of labeling statements, such as a “boxed” warning or a contraindication;

- we may be required to create a medication guide outlining the risks of such side effects for distribution to patients;
- we may be required to change the way such drug is distributed or administered, conduct additional clinical trials or change the labeling of such drug;
- regulatory authorities may require a Risk Evaluation and Mitigation Strategy, or REMS, plan to mitigate risks, which could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools;
- we may be subject to regulatory investigations and government enforcement actions;
- we may decide to remove such drug from the marketplace;
- we could be sued and held liable for injury caused to individuals exposed to or taking our drugs and drug candidates; and
- our reputation may suffer.

We believe that any of these events could prevent us from achieving or maintaining market acceptance of the affected drugs or drug candidates and could substantially increase the costs of commercializing our approved drugs and drug candidates, if approved, and significantly impact our ability to successfully commercialize our approved drugs and drug candidates and generate revenues.

A breakthrough therapy designation by the FDA for our drug candidates, including avapritinib and pralsetinib, may not lead to a faster development or regulatory review or approval process, and it does not increase the likelihood that our drug candidates will receive marketing approval.

The FDA has granted breakthrough therapy designation to avapritinib for the treatment of patients with unresectable or metastatic GIST harboring the PDGFRA D842V mutation, and the FDA has granted breakthrough therapy designation to avapritinib for the treatment of advanced SM, including the subtypes of aggressive SM, SM with an associated hematologic neoplasm and mast cell leukemia. In addition, the FDA has granted breakthrough therapy designation to pralsetinib for the treatment of patients with RET fusion-positive NSCLC that has progressed following platinum-based chemotherapy and to pralsetinib for the treatment of patients with RET mutation-positive MTC that requires systemic treatment and for which there are no acceptable alternative treatments. We may also seek breakthrough therapy designation for some of our other drug candidates. A breakthrough therapy is defined as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For drugs that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens.

Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our drug candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of a breakthrough therapy designation for a drug candidate may not result in a faster development process, review or approval compared to other drugs and does not assure ultimate approval by the FDA. In addition, even if one or more of our drug candidates qualify as breakthrough therapies, the FDA may later decide that the drugs no longer meet the conditions for qualification.

A fast track designation by the FDA may not actually lead to a faster development or regulatory review or approval process for our drug candidates.

The FDA has granted fast track designation to avapritinib for (i) the treatment of patients with unresectable or metastatic GIST that progressed following treatment with imatinib and a second tyrosine kinase inhibitor and (ii) the

treatment of patients with unresectable or metastatic GIST with the PDGFRA D842V mutation regardless of prior therapy. We may also seek fast track designation for some of our other drug candidates. If a drug is intended for the treatment of a serious or life-threatening condition and the drug demonstrates the potential to address unmet medical needs for this condition, the drug sponsor may apply for fast track designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular drug candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Even though we have received fast track designation for avapritinib for the treatment of patients with unresectable or metastatic GIST that progressed following treatment with imatinib and a second tyrosine kinase inhibitor and for the treatment of patients with unresectable or metastatic GIST with the PDGFRA D842V mutation regardless of prior therapy, or even if we receive fast track designation for our other drug candidates, we may not experience a faster development process, review or approval. The FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program.

While we have received orphan drug designation for our drug candidates avapritinib, pralsetinib and fisogatinib for specified indications, we may seek orphan drug designation for some of our other drug candidates. However, we may be unsuccessful in obtaining or may be unable to maintain the benefits associated with orphan drug designation, including the potential for market exclusivity.

The FDA has granted orphan drug designation to avapritinib for the treatment of GIST and the treatment of mastocytosis, to pralsetinib for the treatment of RET-rearranged NSCLC, JAK1/2-positive NSCLC or TRKC-positive NSCLC and to fisogatinib for the treatment of HCC. In addition, the European Commission has granted medicinal product designation to avapritinib for the treatment of GIST and the treatment of mastocytosis. As part of our business strategy, we may seek orphan drug designation for some of our other drug candidates, and we may be unsuccessful. Regulatory authorities in some jurisdictions, including the U.S. and the European Union, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a drug as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the U.S., or a patient population greater than 200,000 in the U.S. where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the U.S. In the U.S., orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers.

Similarly, in the European Union, the European Commission grants medicinal product designation after receiving the opinion of the European Medicines Agency, or EMA, Committee for Orphan Medicinal Products on an orphan medicinal product designation application. Orphan medicinal product designation is intended to promote the development of drugs that are intended for the diagnosis, prevention or treatment of life-threatening or chronically debilitating conditions affecting not more than 5 in 10,000 persons in the European Union and for which no satisfactory method of diagnosis, prevention, or treatment has been authorized (or the drug would be a significant benefit to those affected). In addition, designation is granted for drugs intended for the diagnosis, prevention, or treatment of a life-threatening, seriously debilitating or serious and chronic condition and when, without incentives, it is unlikely that sales of the drug in the European Union would be sufficient to justify the necessary investment in developing the drug. In the European Union, orphan medicinal product designation entitles a party to financial incentives such as reduction of fees or fee waivers.

Generally, if a drug with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the drug is entitled to a period of marketing exclusivity, which precludes the EMA or the FDA from approving another marketing application for the same drug and indication for that time period, except in limited circumstances. The applicable period is seven years in the U.S. and ten years in the European Union. The European Union exclusivity period can be reduced to six years if a drug no longer meets the criteria for orphan drug designation or if the drug is sufficiently profitable so that market exclusivity is no longer justified.

Even if we obtain orphan drug exclusivity for a drug, that exclusivity may not effectively protect the designated drug from competition because different drugs can be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve the same drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. Moreover, orphan drug exclusive marketing rights in the U.S. may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is

unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition. Orphan drug designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process. While we intend to continue seek orphan drug designation for our drug candidates, we may never receive such designations. Even if we receive orphan drug designation for any of our drug candidates, there is no guarantee that we will enjoy the benefits of those designations.

Review of our NDA for pralsetinib for the treatment of patients with advanced or metastatic RET mutant MTC and RET fusion-positive thyroid cancers under the FDA's RTOR program and planned additional marketing applications for pralsetinib for RET fusion-positive NSCLC through the FDA's Project Orbis initiative, may not lead to a faster regulatory review or approval for pralsetinib, and they do not increase the likelihood that pralsetinib will obtain marketing approval.

The FDA and other regulatory bodies periodically introduce pilot programs with the goal of a more efficient review of applications for drug or biologic approval, including the Oncology Center of Excellence Real-Time Oncology Review pilot program, or RTOR program, which is currently being tested by the FDA. The RTOR program aims to explore a more efficient review process to ensure that safe and effective treatments are available to patients as early as possible, while maintaining and improving review quality by the FDA. The FDA's Project Orbis initiative provides a framework for concurrent submission and review of marketing applications for oncology products among international health authorities.

In the first quarter of 2020, we completed the submission of a rolling NDA to the FDA for pralsetinib for the treatment of patients with RET fusion-positive NSCLC. In May 2020, the FDA accepted this NDA and set a Prescription Drug User Fee Act, or PDUFA, action date of November 23, 2020. In May 2020, we announced that the European Medicines Agency, or EMA, validated our marketing authorization application, or MAA, for pralsetinib for RET fusion-positive NSCLC. Validation of the MAA confirms that the application is sufficiently complete to begin the formal review process. We plan to submit additional marketing applications for pralsetinib for RET fusion-positive NSCLC through the FDA's Project Orbis initiative, which provides a framework for concurrent submission and review of marketing applications for oncology products among international health authorities. In the second quarter of 2020, we also submitted an NDA to the FDA for pralsetinib for the treatment of patients with advanced or metastatic RET mutant MTC and RET fusion-positive thyroid cancers under the FDA's Oncology Center of Excellence Real-Time Oncology Review pilot program, or RTOR program. The FDA's RTOR program aims to explore a more efficient review process to ensure that safe and effective treatments are available to patients as early as possible, while maintaining and improving review quality by the FDA.

Acceptance into the RTOR program and Project Orbis initiative does not guarantee or influence approvability of any current or future marketing applications for pralsetinib in patients with RET fusion-positive NSCLC or patients with advanced or metastatic RET mutant MTC and RET fusion-positive thyroid cancers, which are subject to the standard benefit-risk evaluation by the FDA and any other applicable health authority. In addition, we may not derive any benefit, such as a more efficient review process compared to marketing applications submitted and reviewed under conventional procedures by the FDA or other health authorities, from inclusion in these programs. These programs are not formal regulatory pathways and may be changed, suspended, or halted at any time, including as a result of the FDA deciding not to continue these programs or determining that a current or future marketing application no longer meets the criteria for inclusion in one or both of these programs. The FDA's RTOR program and Project Orbis initiative do not change the scientific and medical standard for approval or the quality of evidence necessary to support approval. As a result, even if current or future marketing applications are subject to one or more of these programs, they may still be denied based on study data, study design, or other factors.

We will be subject to ongoing obligations and continued regulatory review of our approved drugs and drug candidates, even if we receive regulatory approval, which may result in significant additional expense. In addition, our drugs and drug candidates, if approved, could be subject to labeling and other restrictions and market withdrawal and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our drugs.

If the FDA or a comparable foreign regulatory authority approves any of our drug candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the drug will be subject to extensive and ongoing regulatory requirements. These requirements include

submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with current Good Manufacturing Practices, or cGMPs, and Good Clinical Practices, or GCPs, 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 drug 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. Later discovery of previously unknown problems with a drug, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of the drug, withdrawal of the drug from the market, "dear doctor" letters or drug recalls;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us, or suspension or revocation of marketing approvals;
- drug seizure or detention, or refusal to permit the import or export of drugs; and
- injunctions or the imposition of civil or criminal penalties.

The FDA's 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.

We may not be successful in our efforts to use and expand our discovery platform to build a pipeline of drug candidates.

A key element of our strategy is to use our novel target discovery engine to identify kinases that are drivers of diseases in genomically defined patient populations with high unmet medical need in order to build a pipeline of drug candidates. Although our research and development efforts to date have resulted in a pipeline of drug candidates, we may not be able to continue to identify novel kinase drivers and develop drug candidates. Even if we are successful in continuing to build our pipeline, the potential drug candidates that we identify may not be suitable for clinical development. For example, they may be shown to have harmful side effects or other characteristics that indicate that they are unlikely to be drugs that will be successful in clinical trials or receive marketing approval and achieve market acceptance. If we do not successfully develop and commercialize drug candidates based upon our approach, we will not be able to obtain drug revenues in future periods, which likely would result in significant harm to our financial position and adversely affect our stock price.

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

Because we have limited financial and managerial resources, we focus on research programs and drug candidates that we identify for specific indications. As a result, we may forego or delay pursuit of opportunities with other drug candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial drugs or profitable market opportunities. Our spending on current and future research and development programs and drug candidates for specific indications may not yield any commercially viable drugs. If we do not accurately evaluate the commercial potential or target market for a particular drug candidate, we may relinquish valuable rights to that drug candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such drug candidate.

We may choose not to develop a potential drug candidate, or we may suspend, deprioritize or terminate one or more discovery programs or pre-clinical or clinical drug candidates or programs.

At any time and for any reason, we may determine that one or more of our discovery programs or pre-clinical or clinical drug candidates or programs does not have sufficient potential to warrant the allocation of resources toward such program or drug candidate. Accordingly, we may choose not to develop a potential drug candidate or elect to suspend, deprioritize or terminate one or more of our discovery programs or pre-clinical or clinical drug candidates or programs. For example, we have previously determined to suspend our discovery program for inhibitors of neurotrophic tyrosine receptor kinase, or NTRK, and predicted NTRK resistant mutants, and to deprioritize our discovery program targeting protein kinase cAMP-activated catalytic subunit alpha fusions for the treatment of fibrolamellar carcinoma. If we suspend, deprioritize or terminate a program or drug candidate in which we have invested significant resources, we will have expended resources on a program that will not provide a full return on our investment and may have missed the opportunity to have allocated those resources to potentially more productive uses, including existing or future programs or drug candidates.

Risks Related to Commercialization

We have limited experience as a commercial company and the marketing and sale of AYVAKIT or any future approved drugs may be unsuccessful or less successful than anticipated.

In January 2020, the FDA approved AYVAKIT for the treatment of adults with unresectable or metastatic GIST harboring a PDGFRA exon 18 mutation, including PDGFRA D842V mutations. While we have initiated the commercial launch of AYVAKIT in the U.S., we have limited experience as a commercial company and there is limited information about our ability to successfully overcome many of the risks and uncertainties encountered by companies commercializing drugs in the biopharmaceutical industry. Marketing applications for avapritinib for additional indications and for pralsetinib are currently under review or planned in the U.S. and Europe. To execute our business plan, in addition to successfully marketing and selling AYVAKIT, we will need to successfully:

- establish and maintain our relationships with healthcare providers who will be treating the patients who may receive our drugs and any future drugs;
- obtain adequate pricing and reimbursement for AYVAKIT and any future drugs;
- gain regulatory acceptance for the development and commercialization of the drug candidates in our pipeline;
- develop and maintain successful strategic alliances; and
- manage our spending as costs and expenses increase due to clinical trials, marketing approvals, and commercialization.

If we are unsuccessful in accomplishing these objectives, we may not be able to successfully develop drug candidates, commercialize AYVAKIT or any future drugs, raise capital, expand our business or continue our operations.

The commercial success of AYVAKIT, and of any future drugs, will depend upon the degree of market acceptance by physicians, patients, third-party payors and others in the medical community.

The commercial success of AYVAKIT and of any future drugs will depend in part on the medical community, patients, and third-party or governmental payors. AYVAKIT and any other drugs that we may bring to the market may not gain market acceptance by physicians, patients, third-party payors and others in the medical community. If these drugs do not achieve an adequate level of acceptance, we may not generate significant product revenue and may not

become profitable. The degree of market acceptance of AYVAKIT and of any current or future drug candidates for which we receive marketing approval will depend on a number of factors, including:

- the potential efficacy and potential advantages over alternative treatments;
- the prevalence and severity of any side effects, including any limitations or warnings contained in a drug's approved labeling;
- relative convenience and ease of administration;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the length of time that patients who are prescribed our drugs remain on treatment;
- the pricing of our drugs and any current or future drug candidates for which we receive marketing approval;
- publicity concerning our current and future drugs, or competing products and treatments; and
- sufficient third-party insurance coverage or reimbursement.

Even if a potential drug displays a favorable efficacy and safety profile in preclinical and clinical studies, market acceptance of the drug will not be known until after it is launched. Our efforts to educate the medical community and third-party payors on the benefits of our drugs may require significant resources and may never be successful. Our efforts to educate the marketplace may require more resources than are required by the conventional technologies marketed by our competitors. Any of these factors may cause AYVAKIT, or any current or future drug candidates for which we receive marketing approval, to be unsuccessful or less successful than anticipated.

Although we have established our initial commercial infrastructure, we are continuing to build out our commercial capabilities and have limited sales and distribution experience and limited capabilities for marketing and market access. We expect to invest significant financial and management resources to establish these capabilities and infrastructure to support commercial operations for the sale of AYVAKIT. If we are unable to establish these additional commercial capabilities and infrastructure, we may be unable to generate sufficient revenue to sustain our business.

Although we have established our initial commercial infrastructure, we are continuing to build out our commercial capabilities and infrastructure and have limited sales and distribution experience and limited capabilities for marketing and market access. To successfully commercialize AYVAKIT and any other drugs that may result from our development programs, we will need to develop these capabilities and further expand our infrastructure to support commercial operations in the U.S., Europe and other regions, either on our own or with others. We may be competing with many companies that currently have extensive and well-funded marketing and sales operations. Without a significant internal team or the support of a third party to perform these functions, including marketing and sales functions, we may be unable to compete successfully against these more established companies.

We cannot be sure that we will be able to recruit, hire and retain a sufficient number of sales representatives or that they will be effective at promoting our drugs. In addition, we will need to commit significant additional management and other resources to maintain and grow our sales organization. We may not be able to achieve the necessary development and growth in a cost-effective manner or realize a positive return on our investment. We will also have to compete with other companies to recruit, hire, train and retain sales and marketing personnel.

Factors that may inhibit our efforts to commercialize our drugs include:

- our inability to recruit, train and retain adequate numbers of sales and marketing personnel;
- the inability of sales personnel to obtain access to or to persuade adequate numbers of physicians to prescribe AYVAKIT;
- unforeseen costs and expenses associated with maintaining an independent sales and marketing organization; and
- delays or disruptions to sales and marketing activities due to the COVID-19 pandemic.

In the event that we are unable to effectively deploy our sales organization or distribution strategy on a timely and efficient basis, if at all, the commercialization of our drug candidates could be delayed which would negatively impact our ability to generate product revenues.

Our reliance on single-source third-party suppliers could harm our ability to commercialize AYVAKIT or any other drug candidates that may be approved in the future.

We do not currently own or operate manufacturing facilities for the production of AYVAKIT or any other drug candidates that may be approved in the future. We rely on single-source third-party suppliers to manufacture and supply AYVAKIT and expect to initially rely on single-source third-party supplies for commercial manufacture and supply of pralsetinib, if approved, which may not be able to produce sufficient inventory to meet commercial demand in a timely manner, or at all. Our third-party suppliers may not be required to provide us with any guaranteed minimum production levels or have dedicated capacity for our drugs. As a result, there can be no assurances that we will be able to obtain sufficient quantities of AYVAKIT or any other drug candidates that may be approved in the future, which could have a material adverse effect on our business as a whole.

The incidence and prevalence for target patient populations of our approved drugs and drug candidates have not been established with precision. If the market opportunities for our approved drugs or drug candidates are smaller than we estimate or if any approval that we obtain is based on a narrower definition of the patient population, our revenue and ability to achieve profitability will be adversely affected, possibly materially.

The precise incidence and/or prevalence for GIST, SM, RET-altered NSCLC and MTC, and HCC are unknown. Our projections of the number of people who have these diseases, the frequency of the genetic alterations targeted by our drug candidates and the subset of people with these diseases who have the potential to benefit from treatment with our drug candidates are based on estimates. We estimate that in the U.S., France, Germany, Italy, Spain, the United Kingdom and Japan, or the Major Markets, there are approximately: 75,000 patients with SM, including 3,750 patients with advanced SM and 71,250 patients with indolent SM or smoldering SM (regardless of severity of symptoms); 500 first-line patients with PDGFRA D842V mutant GIST (including resectable, metastatic and unresectable GIST); 8,900 first- and second-line patients with RET-altered NSCLC; 1,300 patients with MTC (regardless of line of therapy or alteration); and 25,900 first- and second-line patients with FGFR4-activated HCC.

The total addressable market opportunity for avapritinib for the treatment of patients with GIST and SM, pralsetinib for the treatment of patients with RET-altered NSCLC and thyroid cancers, including MTC, and fisogatinib for the treatment of patients with advanced HCC will ultimately depend upon, among other things, the diagnosis criteria included in the final label for our current and future drugs for sale for these indications, acceptance by the medical community and patient access, drug pricing and reimbursement. The number of patients in the Major Markets and elsewhere, including the number of addressable patients in those markets, may turn out to be lower than expected, patients may not be otherwise amenable to treatment with our drugs, patients treated with our drugs and drug candidates may develop mutations that confer resistance to treatment or new patients may become increasingly difficult to identify or gain access to, all of which would adversely affect our results of operations and our business.

We face substantial competition, which may result in others discovering, developing or commercializing drugs before or more successfully than we do.

The development and commercialization of new drugs is highly competitive. We face competition with respect to our drugs and current clinical-stage drug candidates, and we will face competition with respect to any drugs and drug candidates that we may seek to develop or commercialize in the future, from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. There are a number of large pharmaceutical and biotechnology companies that currently market and sell drugs or are pursuing the development of therapies in the field of kinase inhibition for cancer and other diseases. Some of these competitive drugs and therapies are based on scientific approaches that are the same as or similar to our approach, and others are based on entirely different approaches. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

Specifically, there are a large number of companies developing or marketing treatments for cancer, including many major pharmaceutical and biotechnology companies. If avapritinib receives marketing approval for advanced SM, it will face competition from Novartis AG's midostaurin, a multi-kinase inhibitor with KIT D816V inhibitory activity. In addition, if avapritinib is approved for advanced SM or if avapritinib or BLU-263 are approved for indolent SM, they may face competition from other drug candidates in development for these indications, including drug candidates being developed by AB Science S.A., Allakos Inc. and Unum Therapeutics Inc.

AYVAKIT may face competition from drug candidates in development for GIST, including those being developed by AB Science S.A., ARIAD Pharmaceuticals, Inc., a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited, AROG Pharmaceuticals, Inc., AstraZeneca plc, Celldex Therapeutics, Inc., Deciphera Pharmaceuticals, LLC, Exelixis, Inc., Ningbo Tai Kang Medical Technology Co. Ltd., Unum Therapeutics Inc. and Xencor, Inc.

If pralsetinib receives marketing approval for patients with RET-driven cancers, it will face competition from Eli Lilly and Company's selpercatinib, which was approved by the FDA in May 2020 for the treatment of RET-driven NSCLC, MTC and thyroid cancer. In addition, it may face competition from other drug candidates in development, including those being developed by AstraZeneca plc, Boston Pharmaceuticals, Inc., Eisai Inc., Exelixis, Inc., GlaxoSmithKline plc, Mirati Therapeutics, Inc., Novartis AG, Pfizer Inc. Roche, Stemline Therapeutics, Inc., and Turning Point Therapeutics, Inc., as well as several approved multi-kinase inhibitors with RET activity being evaluated in clinical trials, including alectinib, apatinib, cabozantinib, dovitinib, lenvatinib, sorafenib, sunitinib and vandetinib.

If fisogatinib receives marketing approval for patients with FGFR4-activated HCC, it will face competition from Bristol-Myers Squibb Company's nivolumab and Merck & Co., Inc.'s pembrolizumab, immune checkpoint inhibitors approved by the FDA for the treatment of HCC, as well as sorafenib, cabozantinib, regorafenib and lenvatinib, multi-kinase inhibitors approved for the treatment of HCC. In addition, fisogatinib may face competition from other drug candidates in development by Abbisko Therapeutics Co., Ltd, AstraZeneca plc, Bayer AG, Celgene Corporation, Eisai Inc., H3 Biomedicine Inc., Incyte Corporation, Johnson & Johnson, Novartis AG, Sanofi S.A., Taiho Pharmaceutical Co., Ltd., U3 Pharma GmbH, a wholly-owned subsidiary of Daiichi Sankyo Company, Limited, and Xoma Ltd.

Many of the companies against which we are competing or against which we may compete in the future have significantly greater financial resources and expertise in research and development, manufacturing, pre-clinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved drugs than we do. Mergers and acquisitions in the pharmaceutical, biotechnology and diagnostic industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize drugs that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any drugs that we or our collaborators may develop. Our competitors also may obtain FDA or other regulatory approval

for their drugs more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we or our collaborators are able to enter the market. The key competitive factors affecting the success of all of our drug candidates, if approved, are likely to be their efficacy, safety, convenience, price, the effectiveness of any related companion diagnostic tests, the level of generic competition and the availability of reimbursement from government and other third-party payors.

Product liability lawsuits against us could cause us to incur substantial liabilities and could limit commercialization of any of our approved drugs or drug candidates that we may develop.

We face an inherent risk of product liability exposure related to the testing of our approved drugs and drug candidates in human clinical trials and use of our drug candidates through compassionate use programs, and an even greater risk in connection with our commercialization of our current and future drugs. If we cannot successfully defend ourselves against claims that any of our approved drugs or drug candidates caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any of our approved drugs or drug candidates that we may develop and commercialize;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- the inability to commercialize any of approved drugs or drug candidates that we may develop.

Although we maintain product liability insurance coverage, it may not be adequate to cover all liabilities that we may incur. We anticipate that we may need to further increase our insurance coverage as we begin additional clinical trials or if we successfully commercialize additional drug candidates. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

If we or our collaborators are unable to successfully develop and commercialize companion diagnostic tests for our drugs and drug candidates, or experience significant delays in doing so we may not realize the full commercial potential of our drugs and drug candidates.

Because we are focused on precision medicine, in which predictive biomarkers will be used to identify the right patients for our drugs and drug candidates, we believe that our success may depend, in part, on the development and commercialization of companion diagnostic tests. There has been limited success to date industrywide in developing and commercializing these types of companion diagnostic tests. To be successful, we need to address a number of scientific, technical and logistical challenges. We have entered into agreements to develop and commercialize companion diagnostic tests with third parties for AYVAKIT in order to identify GIST patients with the PDGFRA D842V mutation, fisogatinib in order to identify HCC patients with FGFR4 pathway activation and pralsetinib in order to identify NSCLC patients with RET fusions and MTC patients with RET mutations. We have not yet initiated commercialization of these companion diagnostic tests or development and commercialization of companion diagnostic tests for any of our other programs. We have little experience in the development and commercialization of companion diagnostic tests and may not be successful in developing and commercializing appropriate companion diagnostic tests to pair with any of our approved drugs or drug candidates that receive marketing approval. In addition, current commercially available diagnostic tests may become unavailable in the future. Companion diagnostic tests are subject to regulation by the FDA and similar regulatory authorities outside the U.S. as medical devices and require separate regulatory clearance or approval prior to commercialization. Given our limited experience in developing and commercializing companion diagnostic tests, we are relying on third parties to design, manufacture, obtain regulatory clearance or approval for and

commercialize the companion diagnostic tests for avapritinib, pralsetinib and fisogatinib, and we expect to rely in whole or in part on third parties to design, manufacture, obtain regulatory clearance or approval for and commercialize any other companion diagnostic tests for our drugs and drug candidates. We and our collaborators may encounter difficulties in developing and obtaining clearance or approval for the companion diagnostic tests, including issues relating to selectivity/specificity, analytical validation, reproducibility, or clinical validation. In addition, our collaborators for any companion diagnostic test that we may seek to develop:

- may not perform their respective obligations as expected or as required under our agreements with them;
- may not pursue commercialization of a companion diagnostic test even if it receives any required regulatory clearances or approvals;
- may elect not to continue the development of a companion diagnostic test based on changes in their or other third parties' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;
- may not commit sufficient resources to the marketing and distribution of a companion diagnostic test; and
- may terminate their relationship with us.

Any delay or failure by us or our collaborators to develop or obtain regulatory clearance or approval of the companion diagnostic tests could delay or prevent approval of our drug candidates. If we, or any third parties that we have engaged or may in the future engage to assist us are unable to successfully develop and commercialize companion diagnostic tests for our drugs and drug candidates, or experience delays in doing so:

- the development of our approved drugs and drug candidates may be adversely affected if we are unable to appropriately select patients for enrollment in our clinical trials;
- our drug candidates may not receive marketing approval if safe and effective use of a therapeutic drug candidate depends on an in vitro diagnostic;
- regulatory authorities may impose post-marketing requirements regarding the development and commercialization of companion diagnostic tests for our drugs and drug candidates; and
- we may not realize the full commercial potential of any of our approved drugs or drug candidates that receive marketing approval if, among other reasons, we are unable to appropriately select patients who are likely to benefit from treatment with our drugs.

As a result, our business would be harmed, possibly materially.

In addition, third party collaborators may encounter production difficulties that could constrain the supply of the companion diagnostic tests, and both they and we may have difficulties gaining acceptance of the use of the companion diagnostic tests in the clinical community. If such companion diagnostic tests fail to gain market acceptance, it would have an adverse effect on our ability to derive revenues from sales of our current and future drugs. In addition, the diagnostic company with whom we contract may decide to discontinue selling or manufacturing the companion diagnostic test that we anticipate using in connection with development and commercialization of our approved drugs and drug candidates or our relationship with such diagnostic company may otherwise terminate. We may not be able to enter into arrangements with another diagnostic company to obtain supplies of an alternative diagnostic test for use in connection with the development and commercialization of our drugs and drug candidates or do so on commercially reasonable terms, which could adversely affect and/or delay the development or commercialization of our drugs and drug candidates.

Even if we are able to commercialize any of our approved drugs or drug candidates, if approved, such drug or drug candidate may become subject to unfavorable pricing regulations or third-party coverage and reimbursement policies, which would harm our business.

The regulations that govern regulatory approvals, pricing and reimbursement for new drugs vary widely from country to country. 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 approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a drug candidate in a particular country, but then be subject to price regulations that delay our commercial launch of the drug candidate, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the drug candidate 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.

Our ability to commercialize any drug candidates successfully also will depend in part on the extent to which coverage and reimbursement for these drug candidates and related treatments will be available from government authorities, private health insurers and other organizations. In the U.S. and markets in other countries, patients generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Adequate coverage and reimbursement from governmental healthcare programs, such as Medicare and Medicaid, and commercial payors is critical to new product acceptance. Our ability to successfully commercialize our products will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and other third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. In the United States, the principal decisions about reimbursement for new medicines are typically made by the Centers for Medicare & Medicaid Services, or CMS, an agency within the U.S. Department of Health and Human Services, or HHS. CMS decides whether and to what extent a new medicine will be covered and reimbursed under Medicare and private payors tend to follow CMS to a substantial degree. The availability of coverage and extent of reimbursement by governmental and private payors is essential for most patients to be able to afford treatments. Sales of these or other products that we may identify will depend substantially, both domestically and abroad, on the extent to which the costs of our products will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government health administration authorities, private health coverage insurers and other third-party payors. If coverage and adequate reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize our products. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us to establish or maintain pricing sufficient to realize a sufficient return on our investment. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular drugs. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for drugs. We cannot be sure that coverage will be available for any drug candidate that we commercialize and, if coverage is available, the level of reimbursement. Reimbursement may impact the demand for, or the price of, any drug candidate for which we obtain marketing approval. If reimbursement is not available or is available only to limited levels, we may not be able to successfully commercialize any drug candidate for which we obtain marketing approval.

There may be significant delays in obtaining reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which the drug is approved by the FDA or similar regulatory authorities outside the U.S. Moreover, eligibility for reimbursement does not imply that any drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower-cost drugs and may be incorporated into existing payments for other services. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the U.S. Private third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. Our inability to promptly obtain coverage and profitable payment rates from both government-funded and private payors for any approved drugs that we develop could

have a material adverse effect on our operating results, our ability to raise capital needed to commercialize drugs and our overall financial condition.

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

In the U.S., there have been and continue to be a number of legislative initiatives to contain healthcare costs. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or the Affordable Care Act, was passed, which substantially changes the way healthcare is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. The Affordable Care Act, among other things, subjects biologic products to potential competition by lower-cost biosimilars, addresses a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, increases the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extends the rebate program to individuals enrolled in Medicaid managed care organizations, establishes annual fees and taxes on manufacturers of certain branded prescription drugs, and a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts (increased to 70% by the Bipartisan Budget Act of 2018, effective January 1, 2019) 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.

In addition, other legislative changes have been proposed and adopted in the U.S. since the Affordable Care Act was enacted. On August 2, 2011, the Budget Control Act of 2011 among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year. These reductions went into effect on April 1, 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2030 unless additional Congressional action is taken. However, the Medicare sequester reductions under the Budget Control Act of 2011 will be suspended from May 1, 2020 through December 31, 2020 due to the COVID-19 pandemic. On January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Moreover, payment methodologies may be subject to changes in healthcare legislation and regulatory initiatives. For example, the Middle Class Tax Relief and Job Creation Act of 2012 required that the Centers for Medicare and Medicaid Services, or CMS, reduce the Medicare clinical laboratory fee schedule by 2% in 2013, which served as a base for 2014 and subsequent years. In addition, effective January 1, 2014, CMS also began bundling the Medicare payments for certain laboratory tests ordered while a patient received services in a hospital outpatient setting. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our drug candidates or companion diagnostic tests or additional pricing pressures.

Since its enactment, some of the provisions of the Affordable Care Act have yet to be fully implemented, while certain provisions have been subject to judicial, congressional, and executive challenges. Since January 2017, President Trump has signed two executive orders and other directives designed to delay the implementation of certain provisions of the Affordable Care Act. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the Affordable Care Act. While Congress has not passed repeal legislation to date, it has enacted laws that modify certain provisions of the Affordable Care Act. The Tax Cuts and Jobs Act of 2017, or TCJA, included a provision which repealed, effective January 1, 2019, the tax-based shared responsibility payment imposed by the Affordable Care Act on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." On December 14, 2018, a U.S. District Court judge in the Northern District of Texas ruled that the individual mandate portion of the Affordable Care Act is an essential and inseverable feature of the Affordable Care Act, and therefore because the mandate was repealed as part of the TCJA, the remaining provisions of the Affordable Care Act are invalid as well. On December 18, 2019, the Fifth Circuit U.S. Court of Appeals held that the individual mandate is unconstitutional, and remanded the case to the lower court to reconsider its earlier invalidation of the full Affordable Care Act. On March 2, 2020, the United States Supreme Court granted the petitions for writs of certiorari to review this case, and has allotted one hour for oral arguments, which are expected to

occur in the fall. Pending review, the Affordable Care Act remains in effect, but it is unclear at this time what effect the latest ruling will have on the status of the Affordable Care Act. Litigation and legislation over the Affordable Care Act are likely to continue, with unpredictable and uncertain results. We will continue to evaluate the effect that the Affordable Care Act and its possible repeal and replacement has on our business.

Further, on January 20, 2017, U.S. President Donald Trump signed an Executive Order directing federal agencies with authorities and responsibilities under the Affordable Care Act to waive, defer, grant exemptions from, or delay the implementation of any provision of the Affordable Care Act that would impose a fiscal burden on states or a cost, fee, tax, penalty or regulatory burden on individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. On October 13, 2017, President Trump signed an Executive Order terminating the cost-sharing subsidies that reimburse insurers under the Affordable Care Act. Several state Attorneys General filed suit to stop the administration from terminating these subsidies, but on October 25, 2017, a federal judge in California denied their request for a restraining order. On June 14, 2018, U.S. Court of Appeals for the Federal Circuit ruled that the federal government was not required to pay more than $12 billion in Affordable Care Act risk corridor payments to third-party payors who argued were owed to them. On April 27, 2020, in *Moda Health Plan, Inc. v. United States* the U.S. Supreme Court reversed the judgment, holding the risk corridors program created a government obligation to pay insurers the full amount set out in the Affordable Care Act and remanded for further preceding. The effects of this gap in reimbursement on third-party payors, the viability of the Affordable Care Act marketplace, providers, and potentially our business, are not yet known.

Moreover, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain Affordable Care Act-mandated fees, including the so called “Cadillac” tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share. However, on December 20, 2019, President Trump signed into law the Further Consolidated Appropriations Act (H.R. 1865), which repeals the Cadillac tax, the health insurance provider tax, and the medical device excise tax. In December 2018, CMS published a final rule permitting further collections and payments to and from certain Affordable Care Act qualified health plans and health insurance issuers under the Affordable Care Act risk adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment. Since then, the Affordable Care Act risk adjustment program payment parameters have been updated annually. In addition, CMS published regulations that would give states greater flexibility in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the health benefits required under the Affordable Care Act for plans sold through these marketplaces. Congress and the Trump administration will likely continue to consider subsequent legislation and further action to repeal, replace or modify the Affordable Care Act. It is unclear what impact any changes to the Affordable Care Act will have on the availability of healthcare and containing or lowering the cost of healthcare. We plan to continue to evaluate the effect that the Affordable Care Act and its possible repeal and replacement may have on our business.

There has been increasing legislative and enforcement interest in the U.S. with respect to drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. For example, at the federal level, the U.S. government’s budget proposal for fiscal year 2021 includes a $135 billion allowance to support legislative proposals seeking to reduce drug prices, increase competition, lower out-of-pocket drug costs for patients, and increase patient access to lower-cost generic and biosimilar drugs. While some proposed measures may require additional authorization to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. Additionally, on December 18, 2019, President Trump, HHS and FDA issued a notice of proposed rulemaking that, if finalized, would allow for the importation of certain prescription drugs from Canada. FDA also issued a Draft Guidance document outlining a potential pathway for manufacturers to obtain an additional National Drug Code, or NDC, for an FDA-approved drug that was originally intended to be marketed in a foreign country and that was authorized for sale in that foreign country. The regulatory and market implications of the notice of proposed rulemaking and Draft Guidance are unknown at this time, but legislation, regulations or policies allowing the reimportation of drugs, if enacted and implemented, could decrease the price we receive for our products and adversely affect our future revenues and prospects for profitability.

On March 10, 2020, the U.S. government sent "principles" for drug pricing to Congress, calling for legislation that would, among other things, cap Medicare Part D beneficiary out-of-pocket pharmacy expenses, provide an option to cap Medicare Part D beneficiary monthly out-of-pocket expenses, and place limits on pharmaceutical price increases. Additionally, the Trump administration previously released a "blueprint" to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase drug manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products, and reduce the out of pocket costs of drug products paid by consumers. HHS has already started the process of soliciting feedback on some of these measures and, at the same time, is immediately implementing others under its existing authority. For example, in May 2019, CMS issued a final rule to allow Medicare Advantage Plans the option of using step therapy for Part B drugs beginning January 1, 2020. This final rule codified CMS's policy change that was effective January 1, 2019.

In addition, individual states have also become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures and, in some cases, to encourage importation from other countries and bulk purchasing.

Healthcare reforms stemming from the repeal of, and potential replacement for, the Affordable Care Act may result in more rigorous coverage criteria and lower reimbursement among regulated third-party payors, and in additional downward pressure on the prices that we receive for sales of our current and future drugs. Any reduction in reimbursement from Medicare or other government-funded federal programs, including the Veterans Health Administration, or state healthcare programs could lead to a similar reduction in payments from private commercial payors. The implementation of cost containment measures or other healthcare reforms may thus prevent us from being able to generate revenue or attain profitability.

Other legislative measures have also been enacted that may impose additional pricing and product development pressures on our business. For example, on May 30, 2018, the Right to Try Act, was signed into law. Among other things, this law provides a federal framework for certain patients to access certain investigational new drug products that have completed a Phase 1 clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a drug manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act, but the manufacturer must develop an internal policy and respond to patient requests according to that policy. We expect that additional foreign, federal and state healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in limited coverage and reimbursement and reduced demand for our drugs and drug candidates, if approved, or additional pricing pressures.

We are currently unable to predict what additional legislation or regulation, if any, relating to the healthcare industry may be enacted in the future or what effect recently enacted federal legislation or any such additional legislation or regulation would have on our business. The pendency or approval of such proposals or reforms could result in a decrease in our stock price or limit our ability to raise capital or to enter into collaboration agreements for the further development and commercialization of our approved drugs and drug candidates.

If, in the future, we are unable to maintain sales and marketing capabilities or enter into agreements with third parties to sell and market our drugs and drug candidates, we may not be successful in commercializing our drugs and drug candidates if and when they are approved, and we may not be able to generate any revenue.

There are risks involved with both establishing our own sales and marketing capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force is expensive and time-consuming and could delay any drug launch. If the commercial launch of a drug candidate for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

If we enter into arrangements with third parties to perform sales, marketing and distribution services, our drug revenues or the profitability of these drug revenues to us are likely to be lower than if we were to market and sell any

current or future drugs ourselves. In addition, we may not be successful in entering into arrangements with third parties to sell and market our current and future drugs or may be unable to do so on terms that are favorable to us. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our drugs effectively. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our drugs and drug candidates, if approved. Further, our business, results of operations, financial condition and prospects will be materially adversely affected.

Our relationships with customers and third-party payors will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, exclusion from government healthcare programs, contractual damages, reputational harm and diminished profits and future earnings.

We are subject to additional healthcare statutory and regulatory requirements and enforcement by the federal government and the states and foreign governments in which we conduct our business. Healthcare providers, physicians and third-party payors play a primary role in the recommendation and prescription of any of our approved drugs and drug candidates for which we obtain marketing approval. Our future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute our drugs and drug candidates for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include, but are not limited to, the following:

- the federal Anti-Kickback Statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal and state healthcare programs such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;

- the federal False Claims Act imposes civil penalties, including through civil whistleblower or qui tam actions, against individuals or entities for, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government. In addition, the government may assert that a claim including items and services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act. Manufacturers can be held liable under the False Claims Act even when they do not submit claims directly to government payors if they are deemed to "cause" the submission of false or fraudulent claims;

- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program regardless of the payor (e.g., public or private), or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services; similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;

- the federal physician payment transparency requirements, sometimes referred to as the "Sunshine Act" under the Affordable Care Act require manufacturers of drugs, devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children's Health Insurance Program to report to the Department of Health and Human Services information related to physician payments and other transfers of value and the ownership and investment interests of such physicians (as defined by the statute) and their immediate family members. Effective January 1, 2022, these reporting obligations will extend to include transfers of value made to certain non-physician providers such as physician assistants and nurse practitioners;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and its implementing regulations, which also imposes obligations on certain covered entity healthcare providers, health plans, and healthcare clearinghouses as well as their business associates that perform certain services involving the use or disclosure of individually identifiable health information, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions;

- the federal false statements statute, which prohibits knowingly and willfully falsifying, concealing, or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items, or services (similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation);

- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers; and

- analogous state laws and regulations, such as state anti-kickback and false claims laws that may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers; and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures, and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

In the U.S., to help patients who have no or inadequate insurance access our drug, we have a patient assistance program that we administer in conjunction with our patient support program vendor. If we or our vendors are deemed to fail to comply with relevant laws, regulations or evolving government guidance in the operation of these programs, we could be subject to damages, fines, penalties or other criminal, civil or administrative sanctions or enforcement actions. We cannot ensure that our compliance controls, policies and procedures will be sufficient to protect against acts of our employees, business partners or vendors that may violate the laws or regulations of the jurisdictions in which we operate. Regardless of whether we have complied with the law, a government investigation could impact our business practices, harm our reputation, divert the attention of management, increase our expenses and reduce the availability of assistance to our patients.

Ensuring that our future business arrangements with third parties comply with applicable healthcare laws and regulations could involve substantial costs. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations, including anticipated activities to be conducted by our sales team, were to be found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, exclusion from government-funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business is found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government-funded healthcare programs.

Our future growth may depend, in part, on our ability to penetrate foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Our future profitability may depend, in part, on our ability to commercialize our drug candidates in foreign markets for which we may rely on collaboration with third parties. We are not permitted to market or promote any of our

drug candidates before we receive regulatory approval from the applicable regulatory authority in that foreign market, and we may never receive such regulatory approval for any of our drug candidates. To obtain separate regulatory approval in many other countries we must comply with numerous and varying regulatory requirements of such countries regarding safety and efficacy and governing, among other things, clinical trials, manufacturing, commercial sales, pricing and distribution of our drug candidates, and we cannot predict success in these jurisdictions. If we seek to develop our drug candidates or obtain approval of our drug candidates and ultimately commercialize our drug candidates in foreign markets, we would be subject to additional risks and uncertainties, including:

- our customers' ability to obtain reimbursement for our drug candidates in foreign markets;
- our inability to directly control commercial activities because we are relying on third parties;
- the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements, including the European General Data Protection Regulation 2016/679, commonly referred to as GDPR;
- different medical practices and customs in foreign countries affecting acceptance in the marketplace;
- import or export licensing requirements;
- longer accounts receivable collection times;
- longer lead times for shipping;
- language barriers for technical training;
- reduced protection of intellectual property rights in some foreign countries;
- the existence of additional potentially relevant third-party intellectual property rights;
- foreign currency exchange rate fluctuations; and
- the interpretation of contractual provisions governed by foreign laws in the event of a contract dispute.

Foreign sales of our drug candidates could also be adversely affected by the imposition of governmental controls, political and economic instability, trade restrictions and changes in tariffs.

Governments outside the U.S. tend to impose strict price controls, which may adversely affect our revenues, if any.

In some countries, particularly countries in the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a drug. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our drug candidate to other available therapies. If reimbursement of our drugs is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be materially harmed. In addition, in 2016, the United Kingdom referendum on its membership in the European Union resulted in a majority of United Kingdom voters voting to exit the European Union, often referred to as Brexit. Brexit has already and may continue to adversely affect European and/or worldwide regulatory conditions. Brexit could lead to legal uncertainty and potentially divergent national laws and regulations, including those related to the pricing of prescription pharmaceuticals, as the United Kingdom determines which European Union laws to replicate or replace. If the United Kingdom were to significantly alter its regulations affecting the pricing of prescription pharmaceuticals, we could face significant new costs. As a result, Brexit could impair our ability to transact business in the European Union and the United Kingdom.

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

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

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

Risks Related to Our Dependence on Third Parties

We may seek to establish additional collaborations and licensing arrangements, and, if we are not able to establish them on commercially reasonable terms, we may have to alter our development and commercialization plans.

Our drug development programs and the commercialization of any of our approved drugs and drug candidates will require substantial additional cash to fund expenses. We may decide to collaborate with additional pharmaceutical and biotechnology companies for the development and commercialization of certain approved drugs or drug candidates or to license the development and commercialization rights of certain approved drugs or drug candidates to third parties.

We face significant competition in seeking appropriate collaborators and licensing partners. Whether we reach a definitive agreement for a collaboration or license will depend, among other things, upon our assessment of the collaborator's or licensing partner's resources and expertise, the terms and conditions of the proposed agreement and the proposed partner's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the U.S., the potential market for the subject drug or drug candidate, the costs and complexities of manufacturing and delivering such drug or drug candidate to patients, the potential of competing drugs, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market conditions generally. The collaborator or licensing partner may also consider alternative drug candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration or licensing arrangement could be more attractive than the one with us for our drug candidate. The terms of any additional collaborations, licenses or other arrangements that we may establish may not be favorable to us. We may also be restricted under our collaboration agreements with Roche and CStone and our license agreement with Clementia from entering into future agreements on certain terms with potential collaborators. Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

We may not be able to negotiate additional collaborations and licensing arrangements on a timely basis, on acceptable terms or at all. If we are unable to do so, we may have to curtail the development of the drug candidate for which we are seeking to collaborate or license, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, 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 may 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 may not be able to further develop our drug candidates or bring them to market and generate drug revenue.

In addition, our collaborations or licenses with Roche, CStone and Clementia, as well as any future collaborations or licenses that we enter into, may not be successful. The success of these arrangements will depend heavily on the efforts and activities of our collaborators and licensing partners. Collaborators generally have significant

discretion in determining the efforts and resources that they will apply to these collaborations. Disagreements between parties to a collaboration arrangement regarding clinical development and commercialization matters can lead to delays in the development process or commercializing the applicable drug candidate and, in some cases, termination of the collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision-making authority. Licensors generally have sole discretion in determining the efforts and resources that they will apply to the licensed products. Collaborations and licenses with pharmaceutical or biotechnology companies and other third parties often are terminated or allowed to expire by the other party. For example, in the fourth quarter of 2017, Alexion terminated our collaboration related to fibrodysplasia ossificans progressiva for convenience following a strategic review by Alexion of its research and development portfolio. Any termination or expiration of our collaboration or license agreements with Roche, CStone or Clementia, or of any future collaboration or license agreement, could adversely affect us financially or harm our business reputation.

We rely on third parties to conduct our clinical trials for our approved drugs and drug candidates. If these third parties do not successfully carry out their contractual duties, comply with regulatory requirements or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our approved drugs and drug candidates and our business could be substantially harmed.

We do not have the ability to independently conduct clinical trials. We rely on medical institutions, clinical investigators, CROs, contract laboratories and other third parties to conduct or otherwise support clinical trials for our approved drugs and drug candidates. We rely heavily on these parties for execution of clinical trials for our drugs and drug candidates and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal and regulatory requirements and scientific standards, and our reliance on CROs will not relieve us of our regulatory responsibilities. For any violations of laws and regulations during the conduct of our clinical trials, we could be subject to warning letters or enforcement action that may include civil penalties up to and including criminal prosecution.

We and our CROs are required to comply with regulations, including GCPs, for conducting, monitoring, recording and reporting the results of clinical trials to ensure that the data and results are scientifically credible and accurate, and that the trial patients are adequately informed of the potential risks of participating in clinical trials and their rights are protected. These regulations are enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities for any drugs in clinical development. The FDA enforces GCP regulations through periodic inspections of clinical trial sponsors, principal investigators and trial sites. If we or our CROs fail to comply with applicable GCPs, the clinical data generated in our clinical trials may be deemed unreliable, and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that, upon inspection, the FDA will determine that our current or future clinical trials comply with GCPs. In addition, our clinical trials must be conducted with drug candidates produced under cGMPs regulations. Our failure or the failure of our CROs to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process and could also subject us to enforcement action. We also are required to register ongoing clinical trials and post the results of completed clinical trials on a government-sponsored database, ClinicalTrials.gov, within certain timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

Although we intend to design the clinical trials for our approved drugs and drug candidates, CROs will conduct all of the clinical trials. As a result, many important aspects of our development programs, including their conduct and timing, will be outside of our direct control. Our reliance on third parties to conduct current or future clinical trials will also result in less direct control over the management of data developed through clinical trials than would be the case if

we were relying entirely upon our own staff. Communicating with outside parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Outside parties may:

- have staffing difficulties;
- fail to comply with contractual obligations;
- experience regulatory compliance issues;
- undergo changes in priorities or become financially distressed; or
- form relationships with other entities, some of which may be our competitors.

Some of these factors may be beyond our control. For example, the performance of our CROs may also be delayed or disrupted by the ongoing COVID-19 pandemic, including due to travel or quarantine policies, availabilities of staff, exposure of CRO staff to COVID-19 or re-prioritization of CRO resources as a result of the pandemic. These factors may materially adversely affect the willingness or ability of third parties to conduct our clinical trials and may subject us to unexpected cost increases that are beyond our control. If the CROs do not perform clinical trials in a satisfactory manner, breach their obligations to us or fail to comply with regulatory requirements, the development, regulatory approval and commercialization of our approved drugs for additional indications and our drug candidates may be delayed, we may not be able to obtain regulatory approval and commercialize our drug candidates, or our development program materially and irreversibly harmed. If we are unable to rely on clinical data collected by our CROs, we could be required to repeat, extend the duration of, or increase the size of any clinical trials we conduct and this could significantly delay commercialization and require significantly greater expenditures.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs. If CROs 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, any clinical trials such CROs are associated with may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for or successfully commercialize our drug for additional indications or our drug candidates. As a result, we believe that our financial results and the commercial prospects for our drugs or our drug candidates in the subject indication would be harmed, our costs could increase and our ability to generate substantial revenue could be delayed.

We contract with third parties for the manufacture of our drug candidates for pre-clinical development and clinical trials, and for the manufacture of AYVAKIT for commercialization. This reliance on third parties increases the risk that we will not have sufficient quantities of our drugs or drug candidates or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We do not currently own or operate, nor do we have any plans to establish in the future, any manufacturing facilities or personnel. We rely, and expect to continue to rely, on third parties for the manufacture of our drug candidates for pre-clinical development and clinical testing, as well as for the commercial manufacture of our current and future drugs. This reliance on third parties increases the risk that we will not have sufficient quantities of our drugs or drug candidates or such quantities at an acceptable cost or quality, which could delay, prevent or impair our development or commercialization efforts.

The facilities used by our contract manufacturers to manufacture our drugs and drug candidates must be approved by the FDA pursuant to inspections that will be conducted after we submit our marketing applications to the FDA. We do not control the manufacturing process of, and will be completely dependent on, our contract manufacturers for compliance with cGMPs in connection with the manufacture of our drugs and drug candidates. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or others, they will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. In addition, we have no control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or a comparable foreign regulatory authority does not approve these facilities for the manufacture of our drugs and drug candidates or is unable to conduct

inspections necessary to approve these facilities due to delays or disruptions caused by the COVID-19 pandemic, or if the FDA or a comparable regulatory authority withdraws any such approval in the future, we may be delayed in obtaining approval of these facilities for the manufacture of our drugs and drug candidates or need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our drug candidates, if approved. Further, our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of drug candidates or drugs, if approved, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect our business and supplies of our drugs and drug candidates.

In response to the COVID-19 pandemic, on March 10, 2020 the FDA announced its intention to postpone most inspections of foreign manufacturing facilities and products while local, national and international conditions warrant. On March 18, 2020, the FDA announced its intention to temporarily postpone routine surveillance inspections of domestic manufacturing facilities and provided guidance regarding the conduct of clinical trials which the FDA continues to update. As of June 23, 2020, the FDA noted it was conducting mission critical domestic and foreign inspections to ensure compliance of manufacturing facilities with FDA quality standards. However, the FDA may not be able to maintain this pace and delays or setbacks are possible in the future. On July 10, 2020, the FDA announced its goal of restarting domestic on-site inspections during the week of July 20, 2020, but such activities will depend on data about the virus' trajectory in a given state and locality and the rules and guidelines that are put in place by state and local governments. The FDA has developed a rating system to assist in determining when and where it is safest to conduct prioritized domestic inspections. Regulatory authorities outside the U.S. may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic and may experience delays in their regulatory activities.

We do not have long-term supply agreements with all of our contract manufacturers, and purchase our required drug supply, including the API, drug product and drug substance used in our drug candidates, on a purchase order basis with certain contract manufacturers. In addition, we may be unable to establish or maintain any agreements with third-party manufacturers or to do so on acceptable terms. Even if we are able to establish and maintain agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:

- reliance on the third party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third party;
- the possible misappropriation of our proprietary information, including our trade secrets and know-how; and
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us.

Any of our approved drugs and drug candidates that we may develop may compete with other approved drugs and drug candidates for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for us. On March 27, 2020, President Trump signed into law the Coronavirus Aid, Relief, and Economic Security (CARES) Act in response to the U.S. COVID-19 pandemic. Throughout the COVID-19 outbreak, there has been public concern over the availability and accessibility of critical medical products, and the CARES Act enhances FDA's existing authority with respect to drug shortage measures. Under the CARES Act, we must have in place a risk management plan in place that identifies and evaluates the risks to the supply of approved drugs for certain serious diseases or conditions for each establishment where the drug or API is manufactured. The risk management plan will be subject to FDA review during an inspection.

Any performance failure on the part of our existing or future manufacturers could delay clinical development or marketing approval. We do not currently have arrangements in place for redundant supply for all of our bulk drug substances. If our current contract manufacturers cannot perform as agreed, we may experience shortages that require reporting to the FDA or foreign regulatory authorities and may be required to replace such manufacturers. Although we believe that there are several potential alternative manufacturers who could manufacture our approved drugs and drug candidates, we may incur added costs and delays in identifying and qualifying any such replacement.

Our current and anticipated future dependence upon others for the manufacture of our drugs or drug candidates could result in significant delays or gaps in availability of such drugs or drug candidates and may adversely affect our future profit margins and our ability to commercialize any drugs that receive marketing approval on a timely and competitive basis.

The third parties upon whom we rely for the supply of the API, drug substance and drug product used in avapritinib and pralsetinib are our sole source of supply, and the loss of any of these suppliers could significantly harm our business.

The API, drug substance and drug product used in avapritinib and pralsetinib are currently supplied to us from single-source suppliers. Our ability to successfully develop our drug candidates, supply our drug candidates for clinical trials and to ultimately supply our commercial drugs in quantities sufficient to meet the market demand, depends in part on our ability to obtain the API, drug substance and drug product for these drugs in accordance with regulatory requirements and in sufficient quantities for clinical testing and commercialization. Although we have entered into arrangements to establish redundant or second-source supply of some of the API, drug product or drug substance for avapritinib and pralsetinib, if any of our suppliers ceases its operations for any reason or is unable or unwilling to supply API, drug product or drug substance in sufficient quantities or on the timelines necessary to meet our needs, including as a result of the COVID-19 pandemic, it could significantly and adversely affect our business, the supply of our drug candidates or approved drugs and our financial condition.

For all of our drug candidates, we intend to identify and qualify additional manufacturers to provide such API, drug substance and drug product prior to submission of an NDA to the FDA and/or an MAA to the EMA. We are not certain, however, that our single-source suppliers will be able to meet our demand for their products, either because of the nature of our agreements with those suppliers, our limited experience with those suppliers or our relative importance as a customer to those suppliers. It may be difficult for us to assess their ability to timely meet our demand in the future based on past performance. While our suppliers have generally met our demand for their products on a timely basis in the past, they may subordinate our needs in the future to their other customers. In addition, we currently have sufficient supply or plans for supply to meet our anticipated global commercial and clinical development needs for avapritinib, pralsetinib, fisogatinib and BLU-263 through 2021. However, the COVID-19 pandemic could adversely impact our suppliers and result in delays or disruptions in our current or future supply chain.

Establishing additional or replacement suppliers for the API, drug substance and drug product used in our drug candidates or approved drugs, if required, may not be accomplished quickly. If we are able to find a replacement supplier, such replacement supplier would need to be qualified and may require additional regulatory approval, which could result in further delay. While we seek to maintain adequate inventory of the API, drug substance and drug product used in our drug candidates and approved drugs, any interruption or delay in the supply of components or materials, or our inability to obtain such API, drug substance and drug product from alternate sources at acceptable prices in a timely manner could impede, delay, limit or prevent our development efforts, which could harm our business, results of operations, financial condition and prospects.

Certain of our research and development, clinical trials and manufacturing and supply for certain raw materials used in AYVAKIT and our drug candidates takes place in China through third-party CROs, collaborators or manufacturers. A significant disruption in the operation of those CROs, collaborators or manufacturers, could materially adversely affect our business, financial condition and results of operations.

We have relied on certain third parties located in China to manufacture and supply certain raw materials used in AYVAKIT and our drug candidates, and we expect to continue to use such third party manufacturers for such purposes. In addition, certain of our drug candidates are being evaluated at clinical trial sites in China under our collaboration with CStone and through CROs located in China. A natural disaster, epidemic or pandemic disease outbreaks, including the recent COVID-19 pandemic, trade war, political unrest or other events in China could disrupt the business or operations of CROs, collaborators, manufacturers or other third parties with whom we conduct business now or in the future. Any disruption in China that significantly impacts such third parties, including services provided by CROs for our research and development programs, clinical trial operations conducted by CROs or our collaborators, or our manufacturers ability to produce raw materials in adequate quantities to meet our needs could impair our ability to operate our business on a day-to-day basis and impede, delay, limit or prevent the research, development or commercialization of our current and future approved drugs or drug candidates. In addition, for any activities conducted in China, we are exposed to the

possibility of product supply disruption and increased costs in the event of changes in the policies of the U.S. or Chinese governments, political unrest or unstable economic conditions in China, and we may be exposed to fluctuations in the value of the local currency in China for goods and services. Our costs for any of these services or activities could also increase as a result of future appreciation of the local currency in China or increased labor costs if the demand for skilled laborers increases in China and the availability of skilled labor declines in China.

Risks Related to Intellectual Property

If we are unable to adequately protect our proprietary technology or obtain and maintain patent protection for our technology and drugs or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and drugs similar or identical to ours, and our ability to successfully commercialize our technology and drugs may be impaired.

Our commercial success depends in part on our ability to obtain and maintain proprietary or intellectual property protection in the U.S. and other countries for our drugs and drug candidates, including avapritinib and pralsetinib, and our core technologies, including our novel target discovery engine and our proprietary compound library and other know-how. We seek to protect our proprietary and intellectual property position by, among other methods, filing patent applications in the U.S. and abroad related to our proprietary compounds, technologies, inventions and improvements that are important to the development and implementation of our business. We also rely on copyright, trade secrets, know-how and continuing technological innovation to develop and maintain our proprietary and intellectual property position.

We own patents and patent applications that relate to the composition of matter for avapritinib, pralsetinib, fisogatinib and BLU-263. We also own applications relating to composition of matter for KIT and PDGFRA inhibitors with multiple compound families, composition of matter for FGFR4 inhibitors with multiple compound families, and composition of matter for inhibitors of RET, including predicted RET resistance mutations, as well as methods of use for these novel compounds. The issued U.S. patent directed to avapritinib composition of matter has a statutory expiration date in 2034, the issued U.S. patent directed to pralsetinib composition of matter has a statutory expiration date in 2036, and the issued U.S. patent directed to fisogatinib composition of matter has a statutory expiration date in 2034. Patent term adjustments or patent term extensions could result in later expiration dates.

As of July 15, 2020, we owned nine issued U.S. patents, 13 issued foreign patents, including one European patent validated in 38 countries, three pending U.S. non-provisional patent applications, five pending U.S. provisional patent applications, one pending PCT international applications and 22 pending foreign patent applications directed to our KIT and PDGFRA program, including avapritinib and BLU-263. The patents that have issued or will issue covering our KIT and PDGFRA program will have a statutory expiration date between 2034 and 2040. Patent term adjustments or patent term extensions could result in later expiration dates for avapritinib or BLU-263.

As of July 15, 2020, we owned six issued U.S. patents, three pending U.S. non-provisional patent applications, three U.S. provisional patent applications, two pending PCT international applications, two issued foreign patents and 29 pending foreign patent applications directed to our RET program, including pralsetinib. The patents that have issued or will issue covering our RET program will have a statutory expiration date between 2036 and 2041. Patent term adjustments or patent term extensions could result in later expiration dates.

As of July 15, 2020, we owned eight issued U.S. patents, three pending U.S. non-provisional patent applications, two pending PCT international application, 25 issued foreign patents and 29 pending foreign patent applications directed to our FGFR4 program, including fisogatinib. The patents that have issued or will issue covering our FGFR4 program will have a statutory expiration date between 2033 and 2039. Patent term adjustments or patent term extensions could result in later expiration dates.

The intellectual property portfolio directed to our platform includes patent applications directed to novel gene fusions and the uses of these fusions for detecting and treating conditions implicated with these fusions. As of July 15, 2020, we owned seven issued U.S. patents, six pending U.S. non-provisional patent applications, five pending European Union patent applications and six issued European patents directed to this technology. Any U.S. or ex-U.S. patent issuing from the pending applications directed to this technology, if issued, will have statutory expiration dates ranging from 2034 to 2035.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation.

The degree of patent protection we require to successfully commercialize any of our approved drugs and drug candidates may be unavailable or severely limited in some cases and may not adequately protect our rights or permit us to gain or keep any competitive advantage. We cannot provide any assurances that any of our patents have, or that any of our pending patent applications that mature into issued patents will include, claims with a scope sufficient to protect avapritinib, pralsetinib, fisogatinib or BLU-263. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the U.S. Furthermore, patents have a limited lifespan. In the U.S., the natural expiration of a patent is generally twenty years after it is filed. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Given the amount of time required for the development, testing and regulatory review of new drug candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned patent portfolio may not provide us with adequate and continuing patent protection sufficient to exclude others from commercializing drugs similar or identical to our drugs and drug candidates, including generic versions of such drugs or drug candidates.

Other parties have developed technologies that may be related or competitive to our own, and such parties may have filed or may file patent applications, or may have received or may receive patents, claiming inventions that may overlap or conflict with those claimed in our own patent applications or issued patents, with respect to either the same methods or formulations or the same subject matter, in either case, that we may rely upon to dominate our patent position in the market. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the U.S. and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in our owned or licensed patents or pending patent applications, or that we were the first-to-file for patent protection of such inventions. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights cannot be predicted with any certainty. For example, we are aware of patents owned by third parties that have generic composition of matter, method of inhibition and method of treatment claims that may cover fisogatinib or generic method of treatment claims that may cover pralsetinib. If the claims of any of these third-party patents are asserted against us, we do not believe fisogatinib, pralsetinib or our proposed activities related to such compounds would be found to infringe any valid claim of these patents. While we may decide to initiate proceedings to challenge the validity of these patents in the future, we may be unsuccessful, and courts or patent offices in the U.S. and abroad could uphold the validity of any such patents. If we were to challenge the validity of any issued U.S. patent in court, we would need to overcome a statutory presumption of validity that attaches to every U.S. patent. This means that in order to prevail, we would have to present clear and convincing evidence as to the invalidity of the patent's claims.

In addition, the patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. Patent prosecution is a lengthy process, during which the scope of the claims initially submitted for examination by the U.S. Patent and Trademark Office, or USPTO, have been significantly narrowed by the time they issue, if at all. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Moreover, in some circumstances, we do not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from third parties. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business.

Even if we acquire patent protection that we expect should enable us to maintain such competitive advantage, third parties may challenge the validity, enforceability or scope thereof, which may result in such patents being narrowed, invalidated or held unenforceable. The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the U.S. and abroad. For example, we may be subject to a third-party submission of prior art to the USPTO challenging the priority of an invention claimed within one of our patents, which submissions may also be made prior to a patent's issuance, precluding the granting of any of our pending patent applications. We may become involved in opposition, derivation, reexamination, inter partes review, post-grant review or interference proceedings challenging our patent rights or the patent rights of others from whom we have obtained licenses to such rights. Competitors may claim that they invented the inventions claimed in our issued patents or patent applications prior to us or may file patent applications before we do. Competitors may also claim that we are infringing on their patents and that we therefore

cannot practice our technology as claimed under our patents, if issued. Competitors may also contest our patents, if issued, by showing the patent examiner that the invention was not original, was not novel or was obvious. In litigation, a competitor could claim that our patents, if issued, are not valid for a number of reasons. If a court agrees, we would lose our rights to those challenged patents.

In addition, we may in the future be subject to claims by our former employees, consultants, advisors, and other third parties who have access to our proprietary know-how asserting an ownership right in our patents or patent applications, as a result of the work they performed on our behalf. Although we generally require all of our employees, consultants and advisors and any other third parties who have access to our proprietary know-how, information or technology to assign or grant similar rights to their inventions to us, we cannot be certain that we have executed such agreements with all parties who may have contributed to our intellectual property, nor can we be certain that our agreements with such parties will be upheld in the face of a potential challenge, or that they will not be breached, for which we may not have an adequate remedy.

An adverse determination in any such submission or proceeding may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and drugs, without payment to us, or could limit the duration of the patent protection covering our technology, drugs and drug candidates. Such challenges may also result in our inability to manufacture or commercialize our drugs or drug candidates, if approved, without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future drugs and drug candidates.

Even if they are unchallenged, our issued patents and our pending patent applications, if issued, may not provide us with any meaningful protection or prevent competitors from designing around our patent claims to circumvent our owned or licensed patents by developing similar or alternative technologies or drugs in a non-infringing manner. For example, a third party may develop a competitive drug that provides benefits similar to one or more of our drugs and drug candidates but that has a different composition that falls outside the scope of our patent protection. If the patent protection provided by the patents and patent applications we hold or pursue with respect to our drugs and drug candidates is not sufficiently broad to impede such competition, our ability to successfully commercialize our drugs or drug candidates, if approved, could be negatively affected, which would harm our business.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability and the ability of our collaborators to develop, manufacture, market and sell our current and future drugs and use our proprietary technologies without infringing the proprietary rights and intellectual property of third parties. The biotechnology and pharmaceutical industries are characterized by extensive and frequent litigation regarding patents and other intellectual property rights. We may in the future become party to, or threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our drugs, drug candidates and technology, including interference proceedings before the USPTO. Our competitors or other third parties may assert infringement claims against us, alleging that our drugs are covered by their patents. Given the vast number of patents in our field of technology, we cannot be certain that we do not infringe existing patents or that we will not infringe patents that may be granted in the future. Many companies have filed, and continue to file, patent applications related to kinase inhibitors. Some of these patent applications have already been allowed or issued, and others may issue in the future. For example, we are aware of patents owned by third parties that have generic composition of matter, method of inhibition and method of treatment claims that may cover fisogatinib or generic method of treatment claims that may cover pralsetinib. If the claims of any of these third-party patents are asserted against us, we do not believe fisogatinib, pralsetinib or our proposed activities related to such compounds would be found to infringe any valid claim of these patents. While we may decide to initiate proceedings to challenge the validity of these patents in the future, we may be unsuccessful, and courts or patent offices in the U.S. and abroad could uphold the validity of any such patents. If we were to challenge the validity of any issued U.S. patent in court, we would need to overcome a statutory presumption of validity that attaches to every U.S. patent. This means that in order to prevail, we would have to present clear and convincing evidence as to the invalidity of the patent’s claims.

Since this area is competitive and of strong interest to pharmaceutical and biotechnology companies, there will likely be additional patent applications filed and additional patents granted in the future, as well as additional research and development programs expected in the future. Furthermore, because patent applications can take many years to issue and may be confidential for 18 months or more after filing, and because pending patent claims can be revised before issuance, there may be applications now pending which may later result in issued patents that may be infringed by the manufacture, use or sale of our drugs and drug candidates. If a patent holder believes any of our approved drugs or drug candidate infringes on its patent, the patent holder may sue us even if we have received patent protection for our drugs, drug candidates and technology. Moreover, we may face patent infringement claims from non-practicing entities that have no relevant drug revenue and against whom our own patent portfolio may thus have no deterrent effect.

If we are found to infringe a third party's intellectual property rights, we could be required to obtain a license from such third party to continue developing and marketing our drug candidates and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain such a license, it could be granted on non-exclusive terms, thereby providing our competitors and other third parties access to the same technologies licensed to us. Without such a license, we could be forced, including by court order, to cease developing and commercializing the infringing technology, drugs or drug candidates. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed such third-party patent rights. A finding of infringement could prevent us from commercializing our current and future drugs or force us to cease some of our business operations, which could materially harm our business.

We may become involved in lawsuits to protect or enforce our patents and other intellectual property rights, which could be expensive, time-consuming and unsuccessful.

Competitors and other third parties may infringe, misappropriate or otherwise violate our patents and other intellectual property rights. To counter infringement or unauthorized use, we may be required to file infringement claims. A court may disagree with our allegations, however, and may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the third-party technology in question. Further, such third parties could counterclaim that we infringe their intellectual property or that a patent we have asserted against them is invalid or unenforceable. In patent litigation in the U.S., defendant counterclaims challenging the validity, enforceability or scope of asserted patents are commonplace. In addition, third parties may initiate legal proceedings against us to assert such challenges to our intellectual property rights. The outcome of any such proceeding is generally unpredictable. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Patents may be unenforceable if someone connected with prosecution of the patent withheld relevant information from the USPTO or made a misleading statement during prosecution. It is possible that prior art of which we and the patent examiner were unaware during prosecution exists, which could render our patents invalid. Moreover, it is also possible that prior art may exist that we are aware of but do not believe is relevant to our current or future patents, but that could nevertheless be determined to render our patents invalid.

An adverse result in any litigation proceeding could put one or more of our patents at risk of being invalidated or interpreted narrowly. If a defendant were to prevail on a legal assertion of invalidity or unenforceability of our patents covering any of our approved drugs or drug candidates, we would lose at least part, and perhaps all, of the patent protection covering such drug or drug candidate. Competing drugs may also be sold in other countries in which our patent coverage might not exist or be as strong. If we lose a foreign patent lawsuit, alleging our infringement of a competitor's patents, we could be prevented from marketing our drugs in one or more foreign countries. Any of these outcomes would have a materially adverse effect on our business.

Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Litigation or other legal proceedings relating to intellectual property claims, with or without merit, is unpredictable and generally expensive and time-consuming and is likely to divert significant resources from our core business, including distracting our technical and management personnel from their normal responsibilities. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments

and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities.

We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating or from successfully challenging our intellectual property rights. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

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

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. In addition, periodic maintenance fees on issued patents often must be paid to the USPTO and foreign patent agencies over the lifetime of the patent. While an unintentional lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we fail to maintain the patents and patent applications covering our drugs or procedures, we may not be able to stop a competitor from marketing drugs that are the same as or similar to our drugs or drug candidates, which would have a material adverse effect on our business.

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

Filing, prosecuting and defending patents on our drugs and drug candidates in all countries throughout the world would be prohibitively expensive. The requirements for patentability may differ in certain countries, particularly in developing countries. Moreover, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws. In addition, the patent laws of some foreign countries do not afford intellectual property protection to the same extent as the laws of the U.S. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property rights. This could make it difficult for us to stop the infringement of our patents or the misappropriation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the U.S. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own drugs and, further, may export otherwise infringing drugs to territories where we have patent protection, if our ability to enforce our patents to stop infringing activities is inadequate. These drugs may compete with our drugs and drug candidates, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Proceedings to enforce our patent rights in foreign jurisdictions, whether or not successful, could result in substantial costs and divert our efforts and resources from other aspects of our business. Furthermore, while we intend to protect our intellectual property rights in the major markets for our drugs and drug candidates, we cannot ensure that we will be able to initiate or maintain similar efforts in all jurisdictions in which we may wish to market our drug candidates. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate.

Changes to the patent law in the U.S. and other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our drugs and drug candidates.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involve both

technological and legal complexity and is therefore costly, time-consuming and inherently uncertain. Recent patent reform legislation in the U.S. and other countries, including the Leahy-Smith America Invents Act, or Leahy-Smith Act, signed into law on September 16, 2011, could increase those uncertainties and costs. 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 and provide more efficient and cost-effective avenues for competitors to challenge the validity of patents. In addition, the Leahy-Smith Act has transformed the U.S. patent system into a "first-to-file" system. The first-to-file provisions, however, only became effective on March 16, 2013. Accordingly, it is not yet 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 make it more difficult to obtain patent protection for our inventions and 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 harm our business, results of operations and financial condition.

The U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition, there have been recent proposals for additional changes to the patent laws of the U.S. and other countries that, if adopted, could impact our ability to obtain patent protection for our proprietary technology or our ability to enforce our proprietary technology. Depending on future actions by the U.S. Congress, the U.S. courts, the USPTO and the relevant law-making bodies in other countries, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

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

In addition to the protection afforded by patents, we rely upon unpatented trade secret protection, unpatented know-how and continuing technological innovation to develop and maintain our competitive position. With respect to the building of our proprietary compound library, we consider trade secrets and know-how to be our primary intellectual property. We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements with our collaborators, scientific advisors, employees and consultants, and invention assignment agreements with our consultants and employees. We may not be able to prevent the unauthorized disclosure or use of our technical know-how or other trade secrets by the parties to these agreements, however, despite the existence generally of confidentiality agreements and other contractual restrictions. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary technologies will be effective. If any of the collaborators, scientific advisors, employees and consultants who are parties to these agreements breaches or violates the terms of any of these agreements, we may not have adequate remedies for any such breach or violation, and we could lose our trade secrets as a result. Enforcing a claim that a third party illegally obtained and is using our trade secrets, like patent litigation, is expensive and time-consuming, and the outcome is unpredictable. In addition, courts outside the U.S. are sometimes less willing to protect trade secrets.

Our trade secrets could otherwise become known or be independently discovered by our competitors. Competitors could purchase our drugs and drug candidates and attempt to replicate some or all of the competitive advantages we derive from our development efforts, willfully infringe our intellectual property rights, design around our protected technology or develop their own competitive technologies that fall outside of our intellectual property rights. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If our trade secrets are not adequately protected so as to protect our market against competitors' drugs, our competitive position could be adversely affected, as could our business.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of our competitors or are in breach of non-competition or non-solicitation agreements with our competitors.

We could in the future be subject to claims that we or our employees have inadvertently or otherwise used or disclosed alleged trade secrets or other proprietary information of former employers or competitors. Although we try to ensure that our employees and consultants do not use the intellectual property, proprietary information, know-how or trade secrets of others in their work for us, we may in the future be subject to claims that we caused an employee to

breach the terms of his or her non-competition or non-solicitation agreement, or that we or these individuals have, inadvertently or otherwise, used or disclosed the alleged trade secrets or other proprietary information of a former employer or competitor. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and could be a distraction to management. If our defenses to these claims fail, in addition to requiring us to pay monetary damages, a court could prohibit us from using technologies or features that are essential to our drug candidates if such technologies or features are found to incorporate or be derived from the trade secrets or other proprietary information of the former employers. An inability to incorporate such technologies or features would have a material adverse effect on our business and may prevent us from successfully commercializing our drugs and drug candidates, if approved. In addition, we may lose valuable intellectual property rights or personnel as a result of such claims. Moreover, any such litigation or the threat thereof may adversely affect our ability to hire employees or contract with independent sales representatives. A loss of key personnel or their work product could hamper or prevent our ability to commercialize our drugs and drug candidates, if approved, which would have an adverse effect on our business, results of operations and financial condition.

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

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

We are highly dependent on the research and development, clinical, business development, financial and legal expertise of Jeffrey W. Albers, our President and Chief Executive Officer, Anthony L. Boral, our Chief Medical Officer, Marion Dorsch, our Chief Scientific Officer, Kathryn Haviland, our Chief Operating Officer, Michael Landsittel, our Chief Financial Officer, Tracey McCain, our Chief Legal and Compliance Officer, Debra Durso-Bumpus, our Chief People Officer, Christopher Murray, our Senior Vice President of Technical Operations, and Christina Rossi, our Chief Commercial Officer, as well as the other principal members of our management, scientific and clinical team. Although we have entered into employment agreements with our executive officers, each of our executive officers may terminate their employment with us at any time. In addition, insurance coverage is increasingly expensive, including with respect to directors and officers liability insurance, or D&O insurance. We may not be able to maintain D&O insurance at a reasonable cost or in an amount adequate to satisfy any liability that may arise. An inability to secure and maintain D&O insurance may make it difficult for us to retain and attract talented and skilled directors and officers to serve our company, which could adversely affect our business. We do not maintain “key person” insurance for any of our executives or other employees.

In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

We expect to continue hiring qualified development personnel. Recruiting and retaining qualified scientific, clinical, regulatory, manufacturing and sales and marketing personnel is critical to our success. The loss of the services of our executive officers or other key employees could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing key employees and executive officers may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize drugs. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. Failure to succeed in clinical trials may make it more challenging to recruit and retain qualified scientific personnel.

We will need to develop and expand our company, and we may encounter difficulties in managing this development and expansion, which could disrupt our operations.

As of July 15, 2020, we had 419 full-time employees, and we expect to continue to increase our number of employees and expand the scope of our operations. To manage our anticipated future growth, we must continue to

implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Also, our management may need to divert a disproportionate amount of its attention away from its day-to-day activities and devote a substantial amount of time to managing these development activities. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. This may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Physical expansion of our operations in the future may lead to significant costs, including capital expenditures, and may divert financial resources from other projects, such as the development of our drug candidates. If our management is unable to effectively manage our expected development and expansion, our expenses may increase more than expected, our ability to generate or increase our revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize our drug candidates, if approved, and compete effectively will depend, in part, on our ability to effectively manage the future development and expansion of our company.

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

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. For example, the COVID-19 pandemic has caused extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn could result in a variety of risks to our business, including, weakened demand for our drug candidates and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our services.

On June 23, 2016, the electorate in the United Kingdom voted in favor of leaving the European Union, commonly referred to as Brexit. Thereafter, on March 29, 2017, the country formally notified the European Union of its intention to withdraw pursuant to Article 50 of the Lisbon Treaty. The United Kingdom formally left the European Union on January 31, 2020. A transition period began on February 1, 2020, during which European Union pharmaceutical law remains applicable to the United Kingdom. This transition period is due to end on December 31, 2020. These arrangements may be extended beyond 2020 if both the United Kingdom and the EU agree to an extension before the end of June 2020. Due to the current COVID-19 pandemic, negotiations between the United Kingdom and the European Union scheduled for March 2020 were not held and there is an increased likelihood that the transition period may need to be extended beyond December 31, 2020 (although it remains the position of the United Kingdom government that it will not be extended). Since the regulatory framework for pharmaceutical products in the United Kingdom covering quality, safety and efficacy of pharmaceutical products, clinical trials, marketing authorization, commercial sales and distribution of pharmaceutical products is derived from European Union directives and regulations, Brexit could materially impact the future regulatory regime which applies to drugs and the approval of drug candidates in the United Kingdom. It remains to be seen how, if at all, Brexit will impact regulatory requirements for product candidates and products in the United Kingdom. Given the lack of comparable precedent, it is unclear what financial, trade and legal implications the withdrawal of the United Kingdom from the European Union, especially in the case of a “hard” Brexit, would have and how such withdrawal would affect us. The long-term impact of Brexit, including on our business and our industry, will depend on the terms that are negotiated in relation to the United Kingdom’s future relationship with the European Union, and we are closely monitoring the Brexit developments in order to determine, quantify and proactively address changes as they become clear.

For example, Brexit could result in the United Kingdom or the European Union significantly altering its regulations affecting the clearance or approval of our drug candidates that are developed in the United Kingdom. Any new regulations could add time and expense to the conduct of our business, as well as the process by which our drug candidates receive regulatory approval in the United Kingdom, the European Union and elsewhere. In addition, the announcement of Brexit and the withdrawal of the United Kingdom from the European Union 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 effects of Brexit, among others, could adversely affect our business, our results of operations, liquidity and financial condition.

We or the third parties upon whom we depend may be adversely affected by earthquakes or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Earthquakes or other natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as clinical trial sites or the manufacturing facilities of our third-party contract manufacturers, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, could have a material adverse effect on our business.

Our internal computer systems, or those of our third-party collaborators, service providers, contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our drugs' and drug candidates' development programs and have a material adverse effect on our reputation, business, financial condition or results of operations.

Our internal computer systems and those of our current or future third-party collaborators, service providers, contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Attacks on information technology systems are increasing in their frequency, levels of persistence, sophistication and intensity, and they are being conducted by increasingly sophisticated and organized groups and individuals with a wide range of motives and expertise. In addition to extracting sensitive information, such attacks could include the deployment of harmful malware, ransomware, denial-of-service attacks, social engineering and other means to affect service reliability and threaten the confidentiality, integrity and availability of information. The prevalent use of mobile devices also increases the risk of data security incidents. While we have not experienced any material system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations or the operations of third-party collaborators, service providers, contractors and consultants, it could result in a material disruption of our drugs' and drug candidates' development programs and significant reputational, financial, legal, regulatory, business or operational harm. For example, the loss of clinical trial data for our drugs or drug candidates could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of or damage to our data or applications or other data or applications relating to our technology or drug candidates, or inappropriate disclosure of confidential or proprietary information, we could incur liabilities and the further development of our drug candidates could be delayed. In addition, our liability insurance may not be sufficient in type or amount to cover us against claims related to security breaches, cyberattacks and other related breaches.

Any failure or perceived failure by us or any third-party collaborators, service providers, contractors or consultants to comply with our privacy, confidentiality, data security or similar obligations to third parties, or any data security incidents or other security breaches that result in the unauthorized access, release or transfer of sensitive information, including physician data, patient data, or any personally identifiable information, may result in governmental investigations, enforcement actions, regulatory fines, litigation or public statements against us, could cause third parties to lose trust in us or could result in claims by third parties asserting that we have breached our privacy, confidentiality, data security or similar obligations, any of which could have a material adverse effect on our reputation, business, financial condition or results of operations. Moreover, data security incidents and other security breaches can be difficult to detect, and any delay in identifying them may lead to increased harm. While we have implemented data security measures intended to protect our information technology systems and infrastructure, there can be no assurance that such measures will successfully prevent service interruptions or data security incidents.

Interruptions in the availability of server systems or communications with Internet or cloud-based services, or failure to maintain the security, confidentiality, accessibility or integrity of data stored on such systems, could harm our business.

We rely upon a variety of Internet service providers, third-party hosting facilities and cloud computing platform providers to support our business. Failure to maintain the security, confidentiality, accessibility or integrity of data stored on such systems could damage our reputation in the market, cause us to lose revenue or market share, increase our service costs, cause us to incur substantial costs, subject us to liability for damages and/or fines and divert our resources

from other tasks, any one of which could materially adversely affect our business, financial condition, results of operations and prospects. Any damage to, or failure of, such systems, or communications to and between such systems, could result in interruptions in our operations. If our security measures or those of our third-party data center hosting facilities, cloud computing platform providers, or third-party service partners, are breached, and unauthorized access is obtained to our data or our information technology systems, we may incur significant legal and financial exposure and liabilities.

We do not have control over the operations of the facilities of our cloud service providers and our third party providers may be vulnerable to damage or interruption from natural disasters, cybersecurity attacks, terrorist attacks, power outages and similar events or acts of misconduct. In addition, any changes in our cloud service providers' service levels may adversely affect our ability to meet our requirements and operate our business.

Compliance with global privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and process data globally, and the failure to comply with such requirements could have a material adverse effect on our business, financial condition or results of operations.

Privacy and data security have become significant issues in the U.S., Europe and in many other jurisdictions where we conduct or may in the future conduct our operations. The regulatory framework for the collection, use, safeguarding, sharing and transfer of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. Globally, virtually every jurisdiction in which we operate has established its own data security and privacy frameworks with which we must comply. On May 25, 2018, the European General Data Protection Regulation 2016/679, which is commonly referred to as GDPR, took effect. The GDPR applies to any company established in the European Union as well as any company outside the European Union that collects or otherwise processes personal data in connection with the offering goods or services to individuals in the European Union or the monitoring of their behavior. The GDPR enhances data protection obligations for processors and controllers of personal data, including, for example, expanded disclosures about how personal information is to be used, limitations on retention of information, mandatory data breach notification requirements and onerous new obligations on services providers. The GDPR imposes additional obligations and risk upon our business and substantially increase the penalties to which we could be subject in the event of any non-compliance, including fines of up to €20 million or 4% of total worldwide annual turnover, whichever is higher. Given the breadth and depth of changes in data protection obligations, preparing for and complying with the GDPR requirements has required and will continue to require significant time, resources and a review of our technologies, systems and practices, as well as those of any third-party collaborators, service providers, contractors or consultants that process or transfer personal data collected in the European Union. If enacted, we will be subject to the EU ePrivacy Regulation, which is a proposed regulation of privacy and electronic communications. In addition, we will be subject to the California Consumer Privacy Act, which took effect on January 1, 2020 and imposes sweeping privacy and security obligations on many companies doing business in California and provides for substantial fines for non-compliance and, in some cases, a private right of action to consumers who are victims of data breaches involving their unredacted or unencrypted personal information. While there is currently an exception for protected health information that is subject to HIPAA and clinical trial regulations, as currently written, the CCPA may impact our business activities. The California Attorney General has proposed draft regulations (which have not been finalized to date) and commenced enforcement actions against violators starting July 1, 2020. The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information from our clinical trials, could lead to government enforcement actions and significant penalties against us and could have a material adverse effect on our business, financial condition or results of operations.

Our employees, principal investigators, CROs and consultants may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.

We are exposed to the risk that our employees, principal investigators, CROs and consultants may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violate the regulations of the FDA and other regulatory authorities, including those laws requiring the reporting of true, complete and accurate information to such authorities; healthcare fraud and abuse laws and regulations in the U.S. and abroad; or laws that require the reporting of financial information or data accurately. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting,

marketing and promotion, sales commission, customer incentive programs and other business arrangements. Activities subject to these laws also involve the improper use of information obtained in the course of clinical trials or creating fraudulent data in our pre-clinical studies or clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. We have adopted a code of conduct applicable to all of our employees, but it is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. In addition, we are subject to the risk that a person could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of civil, criminal and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

We may acquire or in-license businesses, technologies or drugs, or form strategic alliances, in the future, and we may not realize the benefits of such acquisitions.

We may acquire or in-license additional businesses, technologies or drugs, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing business. If we acquire businesses with promising markets or technologies, we may not be able to realize the benefit of acquiring such businesses if we are unable to successfully integrate them with our existing operations and company culture. We may encounter numerous difficulties in developing, manufacturing and marketing any new drugs resulting from a strategic alliance or acquisition that delay or prevent us from realizing their expected benefits or enhancing our business. We cannot assure you that, following any such acquisition, we will achieve the expected synergies to justify the transaction.

We may be subject to adverse legislative or regulatory tax changes that could negatively impact our financial condition.

The rules dealing with U.S. federal, state and local income taxation are constantly under review by persons involved in the legislative process and by the IRS and the U.S. Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect our stockholders or us. In recent years, many such changes have been made and changes are likely to continue to occur in the future. We cannot predict whether, when, in what form, or with what effective dates, tax laws, regulations and rulings may be enacted, promulgated or decided, which could result in an increase in our, or our stockholders', tax liability or require changes in the manner in which we operate in order to minimize increases in our tax liability.

For example, on December 22, 2017, TCJA was enacted. The TCJA significantly reforms the Internal Revenue Code of 1986, as amended. The TCJA, among other things, includes changes to U.S. federal tax rates, imposes significant additional limitations on the deductibility of interest and net operating loss carryforwards and allows for the expensing of capital expenditures. Our net deferred tax assets and liabilities were revalued as of December 31, 2017 at the newly enacted U.S. corporate rate, and the impact was recognized in our tax expense in the year of enactment but was offset by a corresponding reduction to the valuation allowance. Additionally, on March 27, 2020, President Trump signed into law the CARES Act, which included certain changes in tax law intended to stimulate the U.S. economy in light of the COVID-19 pandemic, including delaying the effective date of the net operating loss restrictions imposed by the TJCA, temporarily relaxing (but not eliminating) the TJCA's interest deductibility limitations, and making temporary beneficial changes to the payroll tax regime. We continue to examine the impact this tax reform legislation may have on our business. The impact of these and other future changes in tax laws is uncertain and could have an adverse effect on our business, cash flow, financial condition or results of operations.

Risks Related to Our Common Stock

The price of our common stock has been and may in the future be volatile and fluctuate substantially.

Our stock price has been and may in the future be subject to substantial volatility. For example, our stock traded within a range of a high price of $109.00 and a low price of $13.04 per share for the period beginning on April 30, 2015, our first day of trading on The Nasdaq Global Select Market, through July 29, 2020. As a result of this volatility, our stockholders could incur substantial losses.

The stock market in general has recently experienced relatively large price and volume fluctuations, particularly in response to the COVID-19 outbreak. In particular, the market prices of securities of Nasdaq listed and biopharmaceutical companies have experienced extreme fluctuations that often have been unrelated or disproportionate to the operating results of these companies. Continued market fluctuations could result in extreme volatility in the price of our common stock, which could include a decline in the value of our common stock. In addition, the market price for our common stock may be influenced by many factors, including:

- the success of commercialization of our drugs and drug candidates, if approved;
- the success of competitive drugs or technologies;
- results of clinical trials of our drug candidates or those of our competitors;
- regulatory or legal developments in the U.S. and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our drug candidates or clinical development programs;
- the results of our efforts to discover, develop, acquire or in-license additional drug candidates or drugs;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- natural disasters, epidemic or pandemic disease outbreaks, including the COVID-19 pandemic, trade wars, political unrest or other similar events;
- general economic, industry and market conditions; and
- the other factors described in this “Risk Factors” section.

Future sales or issuances of common stock or other equity related securities may also adversely affect the market price of our common stock. In July 2020, we entered into a sales agreement with Cowen through which we may, from time to time, issue and sell shares of our common stock having an aggregate offering price of up to $250.0 million, subject to the terms and conditions of the sales agreement. If we sell our common stock under the sales agreement, seek authorization to sell additional shares of common stock under the sales agreement, enter into new “at-the-market” stock offering programs, or through other means, it could lead to additional dilution for our stockholders and may impact our stock price adversely.

These and other market and industry factors may cause the market price and demand for our common stock to fluctuate substantially, regardless of our actual operating performance, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In the past, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. Because of the potential volatility of our stock price, we may become the target of securities litigation in the future. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. Such a lawsuit could also divert the time and attention of our management.

If equity research analysts publish negative evaluations of or downgrade our common stock, the price of our common stock could decline.

The trading market for our common stock relies in part on the research and reports that equity research analysts publish about us or our business. We do not control these analysts. If one or more of the analysts covering our business downgrade their evaluations of our common stock, the price of our common stock could decline. If one or more of these analysts cease to cover our common stock, we could lose visibility in the market for our common stock, which in turn could cause our common stock price to decline.

Our executive officers, directors, principal stockholders and their affiliates maintain the ability to exercise significant influence over our company and all matters submitted to stockholders for approval.

Our executive officers, directors and stockholders who own more than 5% of our outstanding common stock, together with their affiliates and related persons, beneficially own shares of common stock representing a significant percentage of our capital stock. As a result, if these stockholders were to choose to act together, they would be able to influence our management and affairs and the outcome of matters submitted to our stockholders for approval, including the election of directors and any sale, merger, consolidation, or sale of all or substantially all of our assets. This concentration of voting power could delay or prevent an acquisition of our company on terms that other stockholders may desire. In addition, this concentration of ownership might adversely affect the market price of our common stock by:

- delaying, deferring or preventing a change of control of us;
- impeding a merger, consolidation, takeover or other business combination involving us; or
- discouraging a potential acquiror from making a tender offer or otherwise attempting to obtain control of us.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws may delay or prevent an acquisition of us or a change in our management. These provisions include a classified board of directors, a prohibition on actions by written consent of our stockholders and the ability of our board of directors to issue preferred stock without stockholder approval. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us. Although we believe these provisions collectively provide for an opportunity to obtain greater value for stockholders by requiring potential acquirors to negotiate with our board of directors, they would apply even if an offer rejected by our board were considered beneficial by some stockholders. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management.

Our bylaws contain exclusive forum provisions, which may limit a stockholder's ability to bring a claim in a judicial forum it finds favorable and may discourage lawsuits with respect to such claims.

Our amended and restated bylaws, as amended, or bylaws, provide that unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for state law claims for (1) any derivative action, (2) any claim of breach of fiduciary duty, (3) any claim against a current or former director, officer, employee or stockholder, and (4) any action against our company governed by the internal affairs doctrine, which we refer to collectively as the Delaware forum provision. The Delaware forum provision does not apply to any claims arising under the Securities Exchange Act of 1934 or the Securities Act of 1933, as amended, or the Securities Act. Our bylaws further provide that, unless we consent in writing to an alternative forum, the United States District Court for the District of Massachusetts will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, which we refer to as the federal forum provision. We have chosen the United States District Court for the District of Massachusetts as the exclusive forum for such Securities Act causes of action because our principal executive offices are located in Massachusetts. In addition, our bylaws provide that any person or entity purchasing or otherwise acquiring any interest in shares of our common stock is deemed to have notice of and consented to the Delaware forum provision and the federal forum provision.

The Delaware forum provision and the federal forum provision may impose additional litigation costs on stockholders who assert the provision is not enforceable and may impose more general additional litigation costs in pursuing any such claims, particularly if the stockholders do not reside in or near the State of Delaware or the Commonwealth of Massachusetts. In addition, these forum selection clauses in our bylaws may limit our stockholders' ability to bring a claim in a judicial forum that they find favorable for disputes with us or our directors, officers or employees, which may discourage such lawsuits against us and our directors, officers and employees even though an action, if successful, might benefit our stockholders. The federal forum provision may also impose additional litigation costs on stockholders who assert the provision is not enforceable or invalid. Alternatively, if the federal forum provision is found inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could have an adverse effect on our business, financial condition or results of operations. The Court of Chancery of the State of Delaware and the United States District Court for the District of Massachusetts may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments may be more or less favorable to us than our stockholders.

Future sales of our common stock, including by us or our directors and executive officers or shares issued upon the exercise of currently outstanding options, could cause our stock price to decline.

A substantial portion of our outstanding common stock can be traded without restriction at any time. In addition, a portion of our outstanding common stock is currently restricted as a result of federal securities laws, but can be sold at any time subject to applicable volume limitations. As such, sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, by us or others, could reduce the market price of our common stock or impair our ability to raise adequate capital through the sale of additional equity securities. In addition, we have a significant number of shares that are subject to outstanding options. The exercise of these options and the subsequent sale of the underlying common stock could cause a further decline in our stock price. These sales also might make it difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. We cannot predict the number, timing or size of future issuances or the effect, if any, that any future issuances may have on the market price for our common stock.

We have incurred and will continue to incur increased costs as a result of operating as a public company, and our management is required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, we have incurred and expect to continue to incur significant legal, accounting and other expenses. In addition, the Sarbanes-Oxley Act of 2002 and rules subsequently implemented by the Securities and Exchange Commission, or SEC, and Nasdaq have imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives.

Moreover, these rules and regulations will increase our legal and financial compliance costs and make some activities more time-consuming and costlier.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we are required to furnish an annual report by our management on our internal control over financial reporting. To achieve compliance with Section 404 within the prescribed period, we have been and will continue to be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting.

Despite our efforts, there is a risk that in the future neither we nor our independent registered public accounting firm will be able to conclude within the prescribed timeframe that our internal control over financial reporting is effective as required by Section 404 or that we will not be able to comply with the requirements of Section 404 in a timely manner. If this were to occur, the market price of our stock could decline and we could be subject to sanctions or investigations by the SEC or other regulatory authorities, which would require additional financial and management resources. Furthermore, investor perceptions of our company may suffer if deficiencies are found, and this could cause a decline in the market price of our stock. Irrespective of compliance with Section 404, any failure of our internal control over financial reporting could have a material adverse effect on our stated operating results and harm our reputation. If we are unable to implement these requirements effectively or efficiently, it could harm our operations, financial reporting, or financial results and could result in an adverse opinion on our internal control over financial reporting from our independent registered public accounting firm.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be the sole source of gain for our stockholders.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be the sole source of gain for our stockholders for the foreseeable future.

Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.

Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an “ownership change” (generally defined as a greater than 50% change (by value) in the ownership of its equity over a three-year period), the corporation’s ability to use its pre-change net operating loss carryforwards and certain other pre-change tax attributes to offset its post-change income may be limited. We may have experienced such ownership changes in the past, and we may experience ownership changes in the future as a result of shifts in our stock ownership, some of which are outside our control. As of December 31, 2019, we had federal net operating loss carryforwards of approximately $802.1 million, and our ability to utilize those net operating loss carryforwards could be limited by an “ownership change” as described above, which could result in increased tax liability to us. In addition, pursuant to the TCJA (as modified by the CARES Act), we may not use net operating loss carry-forwards generated in taxable years beginning after December 31, 2017 to reduce our taxable income in any year beginning after December 31, 2020 by more than 80%, and we may not carry back any net operating losses generated in taxable years beginning after December 31, 2020 to prior years. These new rules apply regardless of the occurrence of an ownership change.

Item 5. Other Information

At-the-Market Offering Agreement

On July 30, 2020, we entered into a sales agreement with Cowen and Company, LLC, or Cowen, pursuant to which we may offer and sell, from time to time at our sole discretion, shares of our common stock, par value $0.001 per share, having an aggregate offering price of up to $250.0 million through Cowen as sales agent. Cowen may sell the shares under such sales agreement by any method that is deemed to be an “at the market offering” as defined in Rule 415 of the Securities Act of 1933, as amended, including sales made directly on the Nasdaq Global Select Market or any

other trading market for our common stock. Cowen will use commercially reasonable efforts to sell the shares from time to time, based upon instructions from us (including any price, time or size limits or other customary parameters or conditions we may impose). We will pay Cowen a commission of up to 3.0% of the gross sales proceeds of any common stock sold through Cowen under the sales agreement, and we have also provided Cowen with customary indemnification rights. We are not obligated to make any sales of our common stock under the sales agreement. The offering of shares of our common stock pursuant to the sales agreement will terminate upon the earlier of (i) the sale of all common stock subject to the sales agreement or (ii) the termination of the sales agreement in accordance with its terms.

The foregoing description of the sales agreement is qualified in its entirety by reference to the complete text of such agreement, a copy of which is attached hereto as Exhibit 1.1 to this Quarterly Report on Form 10-Q and incorporated herein by reference. The legal opinion of Goodwin Procter LLP relating to the shares of our common stock being offered pursuant to the sales agreement is filed as Exhibit 5.1 to this Quarterly Report on Form 10-Q.

Item 6. Exhibits

EXHIBIT INDEX

Exhibit Number	Description of Exhibit
1.1*	Sales Agreement, dated as of July 30, 2020, by and between Blueprint Medicines Corporation and Cowen and Company, LLC
5.1*	Opinion of Goodwin Procter LLP
10.1*†	Collaboration Agreement, dated as of July 13, 2020, by and among F. Hoffmann-La Roche Ltd, Genentech, Inc. and Blueprint Medicines Corporation
23.1*	Consent of Goodwin Procter LLP (contained in its opinion filed as Exhibit 5.1 and incorporated herein by reference)
31.1*	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1+	Certifications 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
101.INS	XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File – The cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document

* Filed herewith.

† Certain portions of the exhibit have been omitted pursuant to Regulation S-K Item 601(b) because it is both (i) not material to investors and (ii) likely to cause competitive harm to the Company if publicly disclosed.

+ The certifications furnished in Exhibit 32.1 hereto are deemed to be furnished with this Quarterly Report on Form 10-Q and will not be deemed to be “filed” for purposes of Section 18 of the Exchange Act. Such certifications will not

be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that the Registrant specifically incorporates it by reference.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BLUEPRINT MEDICINES CORPORATION

Date: July 30, 2020

By: /s/ Jeffrey W. Albers
Jeffrey W. Albers
President, Chief Executive Officer and Director (Principal Executive Officer)

Date: July 30, 2020

By: /s/ Michael Landsittel
Michael Landsittel
Chief Financial Officer
(Principal Financial Officer)

BLUEPRINT MEDICINES CORPORATION

$250,000,000

COMMON STOCK

SALES AGREEMENT

July 30, 2020

Cowen and Company, LLC
599 Lexington Avenue
New York, NY 10022

Ladies and Gentlemen:

Blueprint Medicines Corporation, a Delaware Corporation (the "**Company**"), confirms its agreement (this "**Agreement**") with Cowen and Company, LLC ("**Cowen**"), as follows:

1. Issuance and Sale of Shares. The Company agrees that, from time to time during the term of this Agreement, on the terms and subject to the conditions set forth herein and any Terms Agreement (defined below), it may issue and sell to or through Cowen, acting as agent and/or principal, shares (the "**Shares**") of the Company's common stock, par value $0.001 per share (the "**Common Stock**"), having an aggregate offering price of up to $250,000,000. Notwithstanding anything to the contrary contained herein, the parties hereto agree that compliance with the limitation set forth in this Section 1 on the number of shares of Common Stock issued and sold under this Agreement and any Terms Agreement shall be the sole responsibility of the Company, and Cowen shall have no obligation in connection with such compliance. The issuance and sale of Common Stock through Cowen will be effected pursuant to the Registration Statement (as defined below) filed by the Company and which became effective automatically upon filing with the Securities and Exchange Commission (the "**Commission**") under Rule 462(c) of the Securities Act (as defined below), although nothing in this Agreement shall be construed as requiring the Company to use the Registration Statement (as defined below) to issue the Common Stock.

The Company has filed, in accordance with the provisions of the Securities Act of 1933, as amended, and the rules and regulations thereunder (collectively, the "**Securities Act**"), with the Commission a registration statement on Form S-3ASR (File No. 333-236424), including a base prospectus, relating to certain securities, including the Common Stock, to be issued from time to time by the Company, and which incorporates by reference documents that the Company has filed or will file in accordance with the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (collectively, the "**Exchange Act**"). The Company has prepared a prospectus supplement specifically relating to the Shares (the "**Prospectus Supplement**") to the base prospectus included as part of such registration statement. The Company has furnished to Cowen, for use by Cowen, copies of the prospectus included as part of such registration statement, as supplemented by the Prospectus Supplement, relating to the Shares. Except where the context otherwise requires, such registration statement, and any post-effective

amendment thereto, as amended when it became effective, including all documents filed as part thereof or incorporated by reference therein, and including any information contained in a Prospectus (as defined below) subsequently filed with the Commission pursuant to Rule 424(b) under the Securities Act or deemed to be a part of such registration statement pursuant to Rule 430B of the Securities Act, or any subsequent registration statement on Form S-3 filed pursuant to Rule 415(a)(6) under the Securities Act by the Company with respect to the Shares, is herein called the "**Registration Statement.**" The base prospectus, including all documents incorporated therein by reference, included in the Registration Statement, as it may be supplemented by the Prospectus Supplement, in the form in which such prospectus and/or Prospectus Supplement have most recently been filed by the Company with the Commission pursuant to Rule 424(b) under the Securities Act, together with any "issuer free writing prospectus," as defined in Rule 433 under the Securities Act ("**Rule 433**"), relating to the Shares that (i) is consented to by Cowen (including any free writing prospectus prepared by the Company solely for use in connection with the offering contemplated by a particular Terms Agreement), hereinafter referred to as a "**Permitted Free Writing Prospectus**," (ii) is required to be filed with the Commission by the Company or (iii) is exempt from filing pursuant to Rule 433(d)(5)(i), in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company's records pursuant to Rule 433(g), is herein called the "**Prospectus**." Any reference herein to the Registration Statement, the Prospectus or any amendment or supplement thereto shall be deemed to refer to and include the documents incorporated by reference therein, and any reference herein to the terms "amend," "amendment" or "supplement" with respect to the Registration Statement or the Prospectus shall be deemed to refer to and include the filing after the execution hereof of any document with the Commission deemed to be incorporated by reference therein. For purposes of this Agreement, all references to the Registration Statement, the Prospectus or to any amendment or supplement thereto shall be deemed to include any copy filed with the Commission pursuant to the Electronic Data Gathering Analysis and Retrieval System ("**EDGAR**").

The Registration Statement is an "automatic shelf registration statement" (as defined in Rule 405 under the Securities Act) and the Shares have been and remain eligible for registration by the Company on such automatic shelf registration statement.

2. Agency and Principal Transactions. (a) Each time that the Company wishes to issue and sell the Shares hereunder through Cowen, acting as agent (each, an "**Agency Transaction**"), it will notify Cowen by email notice (or other method mutually agreed to in writing by the parties) (a "**Placement Notice**") containing the parameters in accordance with which it desires the Shares to be sold, which shall at a minimum include the number of Shares to be issued, the time period during which sales are requested to be made, any limitation on the number of Shares that may be sold in any one Trading Day (as defined in Section 3) and any minimum price below which sales may not be made, a form of which containing such minimum sales parameters necessary is attached hereto as Schedule 1. The Placement Notice shall originate from any of the individuals from the Company set forth on Schedule 2 (with a copy to each of the other individuals from the Company listed on such schedule), and shall be addressed to each of the individuals from Cowen set forth on Schedule 2, as such Schedule 2 may be amended from time to time. The Placement Notice shall be effective upon receipt by Cowen unless and until (i) in accordance with the notice requirements set forth in Section 4, Cowen declines to accept the terms contained therein for any reason, in its sole discretion, (ii) the entire amount of the Shares have been sold, (iii) in accordance with the notice requirements set forth in Section 4, the Company suspends or terminates the Placement

Notice, (iv) the Company issues a subsequent Placement Notice with parameters superseding those on the earlier dated Placement Notice, or (v) this Agreement has been terminated under the provisions of Section 11. The amount of any discount, commission or other compensation to be paid by the Company to Cowen in connection with the sale of the Shares shall be calculated in accordance with the terms set forth in Schedule 3**.** It is expressly acknowledged and agreed that neither the Company nor Cowen will have any obligation whatsoever with respect to an Agency Transaction or any Shares unless and until the Company delivers a Placement Notice to Cowen and Cowen does not decline such Placement Notice pursuant to the terms set forth above, and then only upon the terms specified therein and herein. In the event of a conflict between the terms of this Agreement and the terms of a Placement Notice, the terms of the Placement Notice will control.

(b) The Company may also offer to sell the Shares directly to Cowen, as principal, in which event such parties shall enter into a separate agreement (each, a "**Terms Agreement**") in substantially the form of Schedule 2(b) hereto (with such changes thereto as may be agreed upon by the Company and Cowen), relating to such sale in accordance with Section 3(b) hereof (each such transaction being referred to as a "**Principal Transaction**").

3. Sale of Shares by Cowen. (a) Subject to the terms and conditions herein set forth, upon the Company's delivery of a Placement Notice with respect to an Agency Transaction, and unless the sale of the Shares described therein has been declined, suspended, or otherwise terminated in accordance with the terms of this Agreement, Cowen, for the period specified in the Placement Notice, will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of the Nasdaq Stock Market, Inc. ("**Nasdaq**") to sell such Shares up to the amount specified in such Placement Notice, and otherwise in accordance with the terms of such Placement Notice. Cowen will provide written confirmation to the Company (including by email correspondence to each of the individuals of the Company set forth on Schedule 2, if receipt of such correspondence is actually acknowledged by any of the individuals to whom the notice is sent, other than via auto-reply) no later than the opening of the Trading Day (as defined below) immediately following the Trading Day on which it has made sales of Shares hereunder setting forth the number of Shares sold on such day, the volume-weighted average price of the Shares sold, and the Net Proceeds (as defined below) payable to the Company. In the event the Company engages Cowen for a sale of Shares in an Agency Transaction that would constitute a "block" within the meaning of Rule 10b-18(a)(5) under the Exchange Act (a "**Block Sale**"), the Company will provide Cowen, at Cowen's request and upon reasonable advance notice to the Company, on or prior to the Settlement Date, the opinions of counsel, accountant's letter and officers' certificates set forth in Section 8 hereof, each dated the Settlement Date, and such other documents and information as Cowen shall reasonably request. Cowen may sell Shares by any method permitted by law deemed to be an "at the market" offering as defined in Rule 415 of the Securities Act. The Company acknowledges and agrees that (i) there can be no assurance that Cowen will be successful in selling Shares, and (ii) Cowen will incur no liability or obligation to the Company or any other person or entity if it does not sell Shares for any reason other than a failure by Cowen to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell such Shares as required under this Section 3. For the purposes hereof, "**Trading Day**" means any day on which

the Company's Common Stock is purchased and sold on the principal market on which the Common Stock is listed or quoted.

(b)

(i) If the Company wishes to issue and sell the Shares to Cowen pursuant to this Agreement in a Principal Transaction, it will notify Cowen of the proposed terms of the Principal Transaction. If Cowen, acting as principal, wishes to accept such proposed terms (which it may decline to do for any reason in its sole discretion) or, following discussions with the Company, wishes to accept amended terms, the Company and Cowen shall enter into a Terms Agreement setting forth the terms of such Principal Transaction.

(ii) The terms set forth in a Terms Agreement shall not be binding on the Company or Cowen unless and until the Company and Cowen have each executed and delivered such Terms Agreement accepting all of the terms of such Terms Agreement. In the event of a conflict between the terms of this Agreement and the terms of a Terms Agreement, the terms of such Terms Agreement shall control.

(iii) Each sale of the Shares to Cowen in a Principal Transaction shall be made in accordance with the terms of this Agreement and a Terms Agreement, which shall provide for the sale of such Shares to, and the purchase thereof by, Cowen. A Terms Agreement may also specify certain provisions relating to the reoffering of such Shares by Cowen. The commitment of Cowen to purchase the Shares pursuant to any Terms Agreement shall be deemed to have been made on the basis of the representations, warranties and agreements of the Company contained, and shall be subject to the terms and conditions set forth, in this Agreement and such Terms Agreement. Any such Terms Agreement shall specify the number of the Shares to be purchased by Cowen pursuant thereto, the price to be paid to the Company for such Shares, any provisions relating to rights of, and default by, Cowen in the reoffering of the Shares, and the time, date (each such time and date being referred to herein as a "**Principal Settlement Date**") and place of delivery of and payment for such Shares.

(c) Notwithstanding any other provision of this Agreement, the Company shall not offer, sell or deliver, or request the offer or sale, of any Shares pursuant to this Agreement (whether in an Agency Transaction or a Principal Transaction) and, by notice to Cowen given by telephone (confirmed promptly by email), shall cancel any instructions for the offer or sale of any Shares, and Cowen shall not be obligated to offer or sell any Shares, (i) during any period in which the Company is, or could be deemed to be, in possession of material non-public information, or (ii) at any time from and including the date on which the Company shall issue a press release containing, or shall otherwise publicly announce, its earnings, revenues or other results of operations (an "**Earnings Announcement**") through and including the time that the Company files a Quarterly Report on Form 10-Q or an Annual Report on Form 10-K that includes consolidated financial statements as of and for the same period or periods, as the case may be, covered by such Earnings Announcement.

4. Suspension of Sales.

(a) The Company or Cowen may, upon notice to the other party in writing (including by email correspondence to each of the individuals of the other party set forth on Schedule 2, if

receipt of such correspondence is actually acknowledged by any of the individuals to whom the notice is sent, other than via auto-reply) or by telephone (confirmed immediately by email correspondence to each of the individuals of the other party set forth on Schedule 2), suspend any sale of Shares; *provided, however*, that such suspension shall not affect or impair either party's obligations with respect to any Shares sold hereunder prior to the receipt of such notice. Each of the parties agrees that no such notice under this Section 4 shall be effective against the other unless it is made to one of the individuals named on Schedule 2 hereto, as such schedule may be amended from time to time.

(b) If either Cowen or the Company has reason to believe that the exemptive provisions set forth in Rule 101(c)(1) of Regulation M under the Exchange Act are not satisfied with respect to the Common Stock, it shall promptly notify the other party, and Cowen may, at its sole discretion, suspend sales of the Shares under this Agreement.

(c) The Registration Statement became effective upon filing on February 13, 2020. Notwithstanding any other provision of this Agreement, during any period in which the Registration Statement is no longer effective under the Securities Act, the Company shall promptly notify Cowen, the Company shall not request the sale of any Shares, and Cowen shall not be obligated to sell or offer to sell any Shares.

5. Settlement.

(a) Settlement of Shares. Unless otherwise specified in the applicable Placement Notice, settlement for sales of Shares in an Agency Transaction will occur on the second (2nd) Trading Day (or such earlier day as is industry practice for regular-way trading) following the date on which such sales are made (each, an "**Agency Settlement Date**" and the first such Agency Settlement Date, the "**First Delivery Date**"; and any Agency Settlement Date and Principal Settlement Date shall be referred to as a "**Settlement Date**"). The amount of proceeds to be delivered to the Company on a Settlement Date against receipt of the Shares sold (the "**Net Proceeds**") will be equal to the aggregate sales price received by Cowen at which such Shares were sold, after deduction for (i) Cowen's commission, discount or other compensation for such sales payable by the Company pursuant to Section 2 hereof or pursuant to any applicable Terms Agreement, (ii) any other amounts due and payable by the Company to Cowen hereunder pursuant to Section 7(g) (Expenses) hereof, and (iii) any transaction fees imposed by any governmental or self-regulatory organization in respect of such sales.

(b) Delivery of Shares. On or before each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer the Shares being sold by crediting Cowen's or its designee's account (provided Cowen shall have given the Company written notice of such designee prior to the Settlement Date) at The Depository Trust Company through its Deposit and Withdrawal at Custodian System or by such other means of delivery as may be mutually agreed upon by the parties hereto which in all cases shall be freely tradeable, transferable, registered shares in good deliverable form. On each Settlement Date, Cowen will deliver the related Net Proceeds in same day funds to an account designated by the Company on, or prior to, the Settlement Date. The Company agrees that if the Company, or its transfer agent (if applicable), defaults in its obligation to deliver duly authorized Shares on a Settlement Date through no fault of Cowen, the Company agrees that in addition to and in no way limiting the rights and obligations

set forth in Section 9(a) (Indemnification and Contribution) hereto, it will (i) hold Cowen harmless against any loss, claim, damage, or reasonable and documented expense (including reasonable and documented legal fees and expenses), as incurred, arising out of or in connection with such default by the Company and (ii) pay to Cowen (without duplication) any commission, discount, or other compensation to which it would otherwise have been entitled absent such default.

6. Representations and Warranties of the Company. The Company represents and warrants to, and agrees with, Cowen that as of (i) the date of this Agreement, (ii) each date on which the Company executes and delivers a Terms Agreement, (iii) each Time of Sale (defined below), (iv) each Settlement Date, and (v) each Bring-Down Date (as defined below)(each such date included in (i) through (v) above, a "**Representation Date**"):

(a) Compliance with Registration Requirements. The Registration Statement became effective automatically upon filing with the Commission under the Securities Act. The Company has complied to the Commission's satisfaction with all requests of the Commission for additional or supplemental information. No stop order suspending the effectiveness of the Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the best knowledge of the Company, contemplated or threatened by the Commission. The Company meets the requirements for use of Form S-3 under the Securities Act. The sale of the Shares hereunder meets the requirements of General Instruction I.B.1 of Form S-3ASR.

(b) No Misstatement or Omission. The Prospectus when filed complied and, as amended or supplemented, if applicable, will comply in all material respects with the Securities Act. Each of the Registration Statement, the Prospectus and any post-effective amendments or supplements thereto, at the time it became effective or its date, as applicable, complied and as of each Representation Date, complied and will comply in all material respects with the Securities Act and did not and, as of each Representation Date, did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. The Prospectus, as amended or supplemented, as of its date, did not and, as of each Representation Date, will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the two immediately preceding sentences do not apply to statements in or omissions from the Registration Statement or any post-effective amendment thereto, or the Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with information relating to Agent's Information (defined below). There are no contracts or other documents required to be described in the Prospectus or to be filed as exhibits to the Registration Statement which have not been described or filed as required. As used herein, "**Time of Sale**" means (i) with respect to each offering of Shares pursuant to this Agreement, the time of Cowen's initial entry into contracts with purchasers for the sale of such Shares and (ii) with respect to each offering of Shares pursuant to any relevant Terms Agreement, the time of sale of such Shares to Cowen.

(c) Offering Materials Furnished to Cowen. The Company has delivered to Cowen one complete copy of the Registration Statement and a copy of each consent and certificate of experts filed as a part thereof, and conformed copies of the Registration Statement (without exhibits) and the Prospectus, as amended or supplemented, in such quantities and at such places as Cowen has reasonably requested. The Registration Statement, the Prospectus and any Permitted Free Writing

Prospectus (to the extent any such Permitted Free Writing Prospectus was required to be filed with the Commission) delivered to Cowen for use in connection with the public offering of the Shares contemplated herein or by any Terms Agreement have been and will be identical to the versions of such documents transmitted to the Commission for filing via EDGAR, except to the extent permitted by Regulation S-T.

(d) Not an Ineligible Issuer. The Company currently is not an "ineligible issuer," as defined in Rule 405 under the Securities Act. The Company agrees to notify Cowen promptly upon the Company becoming an "ineligible issuer."

(e) Distribution of Offering Material By the Company. The Company has not distributed and will not distribute, prior to the completion of Cowen's distribution of the Shares, any offering material in connection with the offering and sale of the Shares other than the Prospectus or the Registration Statement.

(f) The Sales Agreement; Terms Agreement. This Agreement has been duly authorized, executed and delivered by, and is a valid and binding agreement of, the Company, enforceable in accordance with its terms, except as rights to indemnification hereunder may be limited by applicable law and except as the enforcement hereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting the rights and remedies of creditors or by general equitable principles. Any Terms Agreement will have been duly authorized, executed and delivered by the Company and, assuming due authorization, execution and delivery by the other parties thereto, will be a legal, valid and binding agreement of the Company enforceable in accordance with its terms, except as may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally, and by general equitable principles.

(g) Authorization of the Common Stock. The Shares, when issued and delivered, will be duly authorized for issuance and sale pursuant to this Agreement and any Terms Agreement and, when issued and delivered by the Company against payment therefor pursuant to this Agreement, will be duly authorized, validly issued, fully paid and nonassessable.

(h) No Applicable Registration or Other Similar Rights. There are no persons with registration or other similar rights to have any equity or debt securities registered for sale under the Registration Statement or included in the offering contemplated by this Agreement or any Terms Agreement, except for such rights as have been duly waived, and the issuance of the Shares is not subject to any preemptive rights, rights of first refusal or similar rights pursuant to the General Corporation Law of the State of Delaware or the Company's Certificate of Incorporation or Bylaws or any agreement or other instrument to which the Company is a party, except for such rights that have been complied with or effectively waived prior to the date hereof.

(i) No Material Adverse Change. Except as otherwise disclosed in the Prospectus, subsequent to the respective dates as of which information is given in the Prospectus: (i) there has not been any material adverse change, or any development involving a prospective material adverse change, in or affecting the general affairs, management, financial position, stockholders' equity, results of operations or prospects of the Company and its subsidiaries (any such change is called a "**Material Adverse Change**"); (ii) neither the Company nor any of its subsidiaries has incurred any liability or obligation, direct or contingent, other than liabilities and obligations which

were incurred in the ordinary course of business; (iii) neither the Company nor any of its subsidiaries has declared or paid any dividends on its capital stock and there has not been any change in the capital stock (other than as a result of the exercise of stock options or the award of stock options, restricted stock units or other equity awards in the ordinary course of business pursuant to the Company's equity plans that are described or incorporated by reference in the Prospectus) or long-term debt of the Company or any of its subsidiaries.

(j) Independent Accountants. Ernst & Young LLP, who has expressed its opinion with respect to the financial statements (which term as used in this Agreement includes the related notes thereto) and supporting schedules filed with the Commission or incorporated by reference as a part of the Registration Statement and included in the Prospectus, is an independent registered public accounting firm as required by the Securities Act and the Exchange Act.

(k) Preparation of the Financial Statements. The financial statements filed with the Commission as a part of or incorporated by reference in the Registration Statement and included in the Prospectus present fairly the consolidated financial position of the Company and its subsidiaries as of and at the dates indicated and the results of their operations and cash flows for the periods specified. The supporting schedules, if any, included in or incorporated in the Registration Statement present fairly the information required to be stated therein. Such financial statements and supporting schedules, if any, have been prepared in conformity with generally accepted accounting principles as applied in the United States applied on a consistent basis throughout the periods involved, except as may be expressly stated in the related notes thereto. No other financial statements or supporting schedules are required to be included in or incorporated in the Registration Statement. The financial data set forth or incorporated in the Prospectus under the caption "Selected Financial Data" fairly present the information set forth therein on a basis consistent with that of the audited financial statements contained, incorporated or deemed to be incorporated in the Registration Statement.

(l) XBRL. The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto.

(m) Incorporation and Good Standing of the Company and its Subsidiaries. The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the jurisdiction of its incorporation and has corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Prospectus and to enter into and perform its obligations under this Agreement and any Terms Agreement and to consummate the transactions contemplated herein and therein. Each subsidiary of the Company (each a "**Subsidiary**") has been duly organized and is validly existing as a corporation or limited liability company in good standing under the laws of the jurisdiction of its organization and has the requisite power and authority to own, lease and operate its properties and to conduct its business as described in the Prospectus. Each of the Company and its Subsidiaries is duly qualified as a foreign corporation or foreign partnership to transact business and is in good standing under the laws of the jurisdiction of its incorporation or formation and each other jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except for such jurisdictions where the failure to so qualify or to be in good standing would not, individually or in the aggregate, result in a Material Adverse Change. Except as

described in the Prospectus, all of the issued and outstanding equity interests of the Subsidiaries have been duly authorized and validly issued, are fully paid and nonassessable and are owned by the Company free and clear of any security interest, mortgage, pledge, lien, encumbrance or claim. The Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in Exhibit 21.1 to the Company's Annual Report on Form 10-K for the most recently ended fiscal year and other than (i) those subsidiaries not required to be listed on Exhibit 21.1 by Item 601 of Regulation S-K under the Exchange Act and (ii) those subsidiaries formed since the last day of the most recently ended fiscal year.

(n) Capital Stock Matters. The Common Stock conforms in all material respects to the description thereof contained in the Prospectus. All of the issued and outstanding shares of Common Stock have been duly authorized and validly issued, are fully paid and nonassessable and have been issued in compliance with federal and state securities laws. None of the outstanding shares of Common Stock were issued in violation of any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase securities of the Company. There are no authorized or outstanding options, warrants, preemptive rights, rights of first refusal or other rights to purchase, or equity or debt securities convertible into or exchangeable or exercisable for, any capital stock of the Company or any of its subsidiaries other than those accurately described in all material respects in the Prospectus. The description of the Company's equity incentive plans and other equity plans or arrangements, and the equity awards or other rights granted thereunder, set forth in the Prospectus accurately and fairly presents in all material respects the information required to be shown with respect to such plans, arrangements, equity awards and rights.

(o) Non-Contravention of Existing Instruments; No Further Authorizations or Approvals Required. Neither the Company nor any of its subsidiaries is in violation of its charter or by-laws or is in default (or, with the giving of notice or lapse of time, would be in default) ("**Default**") under any indenture, mortgage, loan or credit agreement, note, contract, franchise, lease or other instrument to which the Company or any of its subsidiaries is a party or by which it or any of them may be bound, or to which any of the property or assets of the Company or any of its subsidiaries is subject (each, an "**Existing Instrument**"), except for such Defaults as would not, individually or in the aggregate, result in a Material Adverse Change. The Company's execution, delivery and performance of this Agreement and any Terms Agreement and consummation of the transactions contemplated hereby and thereby and by the Prospectus (i) have been duly authorized by all necessary corporate action and will not result in any violation of the provisions of the charter or by-laws of the Company or any Subsidiary, (ii) will not conflict with or constitute a breach of, or Default under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of its subsidiaries pursuant to, or require the consent of any other party to, any Existing Instrument, except for such conflicts, breaches, Defaults, liens, charges or encumbrances as would not, individually or in the aggregate, result in a Material Adverse Change and (iii) will not result in any violation of any law, administrative regulation or administrative or court decree applicable to the Company or any Subsidiary. No consent, approval, authorization or other order of, or registration or filing with, any court or other governmental or regulatory authority or agency, is required for the Company's execution, delivery and performance of this Agreement and consummation of the transactions contemplated hereby or by any Terms Agreement and by the Prospectus, except such as have been obtained or made by the Company and are in full force and effect under the Securities Act,

applicable state securities or blue sky laws and from the Financial Industry Regulatory Authority ("**FINRA**").

(p) No Material Actions or Proceedings. Except as disclosed in the Prospectus, there are no legal or governmental actions, suits or proceedings pending or, to the best of the Company's knowledge, threatened (i) against or affecting the Company or any of its subsidiaries, (ii) which has as the subject thereof any officer or director of, or property owned or leased by, the Company or any of its subsidiaries or (iii) relating to environmental or discrimination matters, where in any such case (A) there is a reasonable possibility that such action, suit or proceeding might be determined adversely to the Company or such Subsidiary and (B) any such action, suit or proceeding, if so determined adversely, would reasonably be expected to result in a Material Adverse Change or adversely affect the consummation of the transactions contemplated by this Agreement or any Terms Agreement. No material labor dispute with the employees of the Company or any of its subsidiaries exists or, to the Company's knowledge, is threatened or imminent.

(q) All Necessary Permits, etc. The Company possesses all material permits, licenses, approvals, clearances, exemptions, registrations, consents and other authorizations (collectively, "**Permits**") issued by the appropriate Regulatory Authorities, including without limitation, all such Permits required by the FDA or any component thereof, necessary to conduct the businesses now operated by it, except where the failure to possess such Permit would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change; the Company is in compliance with the terms and conditions of all such Permits, except where the failure to comply would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Change; no event has occurred which allows, or after notice or lapse of time would allow, revocation or termination thereof, or results in any other impairment of the rights of the holder of any Permit, except where such event would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Change; all of the Permits are valid and in full force and effect; the Company has not received notice of proceedings relating to the revocation or material modification of any such Permits; and to the knowledge of the Company, no Regulatory Authority granting any such Permit has taken any action to limit, suspend or revoke the same in any material respect.

(r) Tax Law Compliance. The Company and its consolidated subsidiaries have filed all necessary federal, state and foreign income, property and franchise tax returns and have paid all taxes required to be paid by any of them and, if due and payable, any related or similar assessment, fine or penalty levied against any of them except as may be being contested in good faith and by appropriate proceedings. The Company has made adequate charges, accruals and reserves in the applicable financial statements referred to in Section 6(k) above in respect of all federal, state and foreign income, property and franchise taxes for all periods as to which the tax liability of the Company or any of its consolidated subsidiaries has not been finally determined.

(s) Company Not an "Investment Company". The Company has been advised of the rules and requirements under the Investment Company Act of 1940, as amended (the "**Investment Company Act**"). The Company is not, and after receipt of payment for the Common Stock will not be, an "investment company" within the meaning of the Investment Company Act.

(t) Insurance. The Company and its subsidiaries have insurance covering their properties, operations, personnel and businesses, including business interruption insurance, which insurance insures against such risks and is in such amounts as are, in the Company's reasonable judgment, commercially reasonable for the conduct of its and its subsidiaries business; and neither the Company nor any of its subsidiaries has (i) received written notice from any insurer or agent of such insurer that capital improvements or other expenditures are required or necessary to be made in order to continue such insurance or (ii) any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business.

(u) No Price Stabilization or Manipulation. The Company has not taken and will not take, directly or indirectly, any action designed to or that might be reasonably expected to cause or result in stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares.

(v) Related Party Transactions. There are no relationships, direct or indirect, or related-party transactions involving the Company or any other person required to be described in the Prospectus which have not been described as required.

(w) Exchange Act Compliance. The documents incorporated or deemed to be incorporated by reference in the Prospectus, at the time they were or hereafter are filed with the Commission, complied and will comply in all material respects with the requirements of the Exchange Act, and, when read together with the other information in the Prospectus, at the Settlement Dates, will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(x) No Unlawful Contributions or Other Payments. Neither the Company, any of its subsidiaries, nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person associated with or acting on behalf of the Company or any of its subsidiaries has (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made any direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977; (iv) violated or is in violation of any provision of the Bribery Act 2010 of the United Kingdom; or (v) made any bribe, rebate, payoff, influence payment, kickback or other unlawful payment.

(y) Compliance with Money Laundering Laws. The operations of the Company and its subsidiaries are and have been conducted at all times in material compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency having jurisdiction over the Company and its subsidiaries (collectively, the "**Money Laundering Laws**") and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(z) Compliance with OFAC.

(A) Neither the Company, its subsidiaries, nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company or any of its subsidiaries is currently the subject or the target of any sanctions administered or enforced by the U.S. Government, including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury ("OFAC"), or other relevant sanctions authority (collectively, "**Sanctions**").

(B) The Company will not, directly or indirectly, use the Net Proceeds, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity (i) to fund any activities of or business with any person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or (ii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions (including Cowen)

(aa) Company's Accounting System. The Company maintains a system of internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that complies with the requirements of the Exchange Act applicable to the Company and has been designed by the Company's principal executive officer and principal financial officer, or under their supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles ("**GAAP**"). The Company's internal accounting controls have been designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. The Company's internal accounting controls are sufficient to provide reasonable assurance that (i) transactions are executed in accordance with the general or specific authorizations of the Company's management; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (iii) access to assets is permitted only in accordance with the general or specific authorization of the Company's management; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company is not aware of any material weaknesses in its internal control over financial reporting. Since the date of the latest audited financial statements included or incorporated by reference in the Prospectus, there has been no change in the Company's internal control over financial reporting that has materially and adversely affected, or is reasonably likely to materially and adversely affect, the Company's internal control over financial reporting.

(bb) Disclosure Controls. The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) that are designed to comply with the requirements of the Exchange Act; such disclosure controls and procedures have been designed to ensure that material information relating to the Company and its subsidiaries is made known to the Company's principal executive officer and principal financial officer by others within those entities; and such disclosure controls and procedures are effective.

(cc) Compliance with Environmental Laws. The Company and its subsidiaries (i) are in compliance with all, and have not violated any, laws, regulations, ordinances, rules, orders, judgments, decrees, permits or other legal requirements of any Regulatory Authority, including without limitation any international, national, state, provincial, regional, or local authority, relating to the protection of human health or safety, the environment, or natural resources, or to hazardous or toxic substances or wastes, pollutants or contaminants ("Environmental Laws") applicable to the Company or its subsidiaries, which compliance includes, without limitation, obtaining, maintaining and complying with all permits and authorizations and approvals required by Environmental Laws to conduct its business, and (ii) have not received written notice of any actual or alleged violation of Environmental Laws, or of any potential liability for or other obligation concerning the presence, disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants, except in the case of (i) and (ii) where the failure to comply or the potential liability or obligation would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change. Except as described in the Prospectus, (A) there are no proceedings that are pending against the Company under Environmental Laws in which a Regulatory Authority is also a party and (B) the Company is not aware of any non-compliance with Environmental Laws, or liabilities under Environmental Laws, which would reasonably be expected to result in a Material Adverse Change.

(dd) Intellectual Property. Except as disclosed in the Prospectus, the Company owns or has valid, binding and enforceable licenses or other rights under the patents and patent applications, copyrights, trademarks, trademark registrations, service marks, service mark registrations, trade names, service names, know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures) and other intellectual property (collectively, "**Intellectual Property**") that is necessary for, or used in the conduct of, or the proposed conduct of, the business of the Company in the manner described in the Prospectus (collectively, the "**Company Intellectual Property**"). To the Company's knowledge, none of the patents and patent applications contained in the Company Intellectual Property, are invalid or unenforceable, in whole or in part, and the Company is unaware of any facts that would form a reasonable basis for such a determination. None of the rights within the Company Intellectual Property, other than patents and patent applications, are invalid or unenforceable, in whole or in part, and the Company is unaware of any facts that would form a reasonable basis for such a determination. Except as disclosed in the Prospectus, the Company is not obligated to pay a material royalty, grant a license or provide other material consideration to any third party in connection with the Company Intellectual Property. There is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by a third party (i) challenging the Company's rights in or to any Company Intellectual Property, including with respect to ownership and inventorship; (ii) challenging the validity, enforceability or scope of any Company Intellectual Property; or (iii) asserting that the Company has infringed, misappropriated or otherwise violated, or would, upon the commercialization of any products described in the Prospectus as under development, infringe, misappropriate or otherwise violate, any Intellectual Property rights of others; and, in each of the foregoing cases, the Company (a) is unaware of any facts that would form a reasonable basis for any such action, suit, proceeding or claim and (b) has not received any written notice alleging any such claim or conflict. To the knowledge of the Company, (1) neither the commercial development nor the sale of any of the products, proposed products or processes of the Company, as described in the Prospectus, infringes, misappropriates or otherwise violates, or would, upon the commercialization of such products or proposed

products, infringe, misappropriate or otherwise violate, any Intellectual Property rights of any third party; (2) the Company believes it can acquire, on reasonable terms, any licenses under third-party Intellectual Property that may be necessary for or used in its business, as currently conducted or as proposed to be conducted, as described in the Prospectus; (3) no third party has any ownership right in or to any Company Intellectual Property that is owned by the Company, other than any co-owner of a patent or patent application within the Company Intellectual Property who is listed on the records of the U.S. Patent and Trademark Office (the "**USPTO**") as co-owner of such patent or named in such patent application; (4) no third party has any ownership right in or to any Company Intellectual Property, in any field of use, other than the respective licensor to the Company of such Company Intellectual Property; (5) no employee of the Company is in or has ever been in violation, in any material respect, of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or other restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment, or to actions undertaken by the employee while employed, with the Company; and (6) each current and former employee and consultant of the Company (A) has executed an inventions assignment and confidentiality agreement with the Company, on or about the respective date of hire, in substantially the form made available to the Underwriter and its counsel; and (B) has assigned or agreed to assign to the Company any and all Intellectual Property rights he or she may possess or may have possessed that are related to the Company's business, as currently conducted and as proposed to be conducted, as described in the Prospectus.

(ee) Patents and Patent Applications. All patents and patent applications owned by or licensed to the Company or under which the Company has rights have, to the knowledge of the Company, been duly and properly filed and maintained; to the knowledge of the Company, the parties prosecuting such applications have complied with their duty of candor and disclosure to the USPTO in connection with such applications; and the Company is not aware of any facts required to be disclosed to the USPTO that were not disclosed to the USPTO and which would preclude the grant of a patent in connection with any such application or could form the basis of a finding of invalidity with respect to any patents that have issued with respect to such applications.

(ff) Listing. The Company is subject to and in compliance in all material respects with the reporting requirements of Section 13 or Section 15(d) of the Exchange Act. The Common Stock is registered pursuant to Section 12(b) or Section 12(g) of the Exchange Act and is listed on the Nasdaq, and the Company has taken no action designed to, or reasonably likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from the Exchange, nor has the Company received any notification that the Commission or Nasdaq is contemplating terminating such registration or listing. All of the Shares that have been or may be sold under this Agreement and any Terms Agreement have been approved for listing on the Nasdaq, subject to official notice of issuance; the Company has taken all necessary actions to ensure that, upon and at all times after the Nasdaq shall have approved the Shares for listing, it will be in compliance with all applicable corporate governance requirements set forth in the Nasdaq's listing rules that are then in effect.

(gg) Brokers. Except for Cowen, there is no broker, finder or other party that is entitled to receive from the Company any brokerage or finder's fee or other fee or commission as a result of any transactions contemplated by this Agreement or by any Terms Agreement.

(hh) No Outstanding Loans or Other Indebtedness. Except as described in the Prospectus, there are no outstanding loans, advances (except normal advances for business expenses in the ordinary course of business) or guarantees or indebtedness by the Company to or for the benefit of any of the officers or directors of the Company or any of the members of any of their immediate families.

(ii) No Reliance. The Company has not relied upon Cowen or legal counsel for Cowen for any legal, tax or accounting advice in connection with the offering and sale of the Shares.

(jj) FINRA Exemption. To enable Cowen to rely on Rule 5110(b)(7)(C)(i) of FINRA, the Company represents that the Company (i) has a non-affiliate, public common equity float of at least $150 million or a non-affiliate, public common equity float of at least $100 million and annual trading volume of at least three million shares and (ii) has been subject to the Exchange Act reporting requirements for a period of at least 36 months.

(kk) Compliance with Laws. The Company has not been advised, and has no reason to believe, that it and each of its subsidiaries are not conducting business in compliance with all applicable laws, rules and regulations of the jurisdictions in which it is conducting business, except where failure to be so in compliance would not result in a Material Adverse Change.

(ll) Privacy Laws. Except as set otherwise set forth in Section 6(mm) with respect to the GDPR Privacy Law, the Company and each of its subsidiaries are, and at all prior times were, in material compliance with all applicable data privacy and security laws and regulations, including, without limitation, the Health Insurance Portability and Accountability Act ("**HIPAA**"), as amended by the Health Information Technology for Economic and Clinical Health Act (the "**HITECH Act**") (42 U.S.C. Section 17921 et seq.) (collectively, "**Privacy Laws**"). To ensure compliance with the Privacy Laws, the Company and each of its subsidiaries have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling and analysis of Personal Data (the "**Policies**"). The Company provides accurate notice of its Policies to its customers, employees, third party vendors and representatives. The Policies provide accurate and sufficient notice of the Company's then-current privacy practices relating to its subject matter and such Policies do not contain any material omissions of the Company's then-current privacy practices. "**Personal Data**" means (i) a natural persons' name, street address, telephone number, email address, photograph, social security number, bank information, or customer or account number; (ii) any information which would qualify as "personally identifying information" under the Federal Trade Commission Act, as amended; (iii) Protected Health Information as defined by HIPAA; and (iv) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person's health or sexual orientation. None of such disclosures made or contained in any of the Policies have been inaccurate, misleading, deceptive or in violation of any Privacy Laws or Policies in any material respect. The execution, delivery and performance of this Agreement, any Terms Agreement or any other agreement referred to in this Agreement will not result in a breach of any Privacy Laws or Policies. Neither the Company nor any of its subsidiaries, (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation or other

corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposed any obligation or liability under any Privacy Law.

(mm) GDPR Privacy Law. The Company and each its subsidiaries have taken reasonable steps to comply with the European Union General Data Protection Regulation ("**GDPR**") (EU 2016/679); provided, however, the Company and each of its subsidiaries had relied upon the E.U.-U.S. Privacy Shield (the "**Privacy Shield**") to legitimize its transfer of certain GDPR Personal Data (as defined below) to the United States, and following the European Court of Justice's invalidation of the Privacy Shield, neither the Company nor its subsidiaries have implemented an alternative solution to replace the Privacy Shield as a GDPR Personal Data transfer mechanism ("**GDPR Privacy Law**"). The Company and each of its subsidiaries have in place, comply in all material respects with, and take appropriate steps reasonably designed to comply in all material respects with their policies and procedures relating to GDPR Personal Data (the "**GDPR Policies**"). "**GDPR Personal Data**" means "personal data" as defined by GDPR. The execution, delivery and performance of this Agreement, any Terms Agreement or any other agreement referred to in this Agreement will not result in a breach of GDPR Privacy Law or GDPR Policies. Neither the Company nor any of its subsidiaries, (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, GDPR Privacy Law; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation or other corrective action pursuant to GDPR Privacy Law; or (iii) is a party to any order, decree, or agreement that imposed any obligation or liability under GDPR Privacy Law.

(nn) IT Systems. (i)(x) To the Company's knowledge, there has been no material security breach or other compromise of or relating to any of the Company's or its subsidiaries' information technology and computer systems, networks, hardware, software, data (including the data of their respective customers, employees, suppliers, vendors and any third party data maintained by or on behalf of them), equipment or technology (collectively, "**IT Systems and Data**") and (y) the Company and its subsidiaries have not been notified of, and have no knowledge of any event or condition that would reasonably be expected to result in, any material security breach; (ii) the Company and its subsidiaries are presently in compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, published privacy policies and contractual obligations relating to the privacy and security of IT Systems and Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification, except as would not, in the case of this clause (ii), individually or in the aggregate, result in a Material Adverse Change; and (iii) the Company and its subsidiaries have implemented backup and disaster recovery technology consistent with industry standards and practices.

(oo) Export and Import Laws. Each of the Company and the Subsidiaries, and, to the Company's knowledge, each of their affiliates and any director, officer, agent or employee of, or other person associated with or acting on behalf of, the Company has acted at all times in compliance with applicable Export and Import Laws (as defined below) and there are no claims, complaints, charges, investigations or proceedings pending or expected or, to the knowledge of the Company, threatened between the Company or any of the Subsidiaries and any Governmental Authority under any Export or Import Laws. The term "**Export and Import Laws**" means the Arms Export Control Act, the International Traffic in Arms Regulations, the Export Administration Act of 1979, as amended, the Export Administration Regulations, and all other

laws and regulations of the United States government regulating the provision of services to non-U.S. parties or the export and import of articles or information from and to the United States of America, and all similar laws and regulations of any foreign government regulating the provision of services to parties not of the foreign country or the export and import of articles and information from and to the foreign country to parties not of the foreign country.

(pp) Preclinical Studies and Clinical Trials. The preclinical studies and clinical trials conducted by, on behalf of or sponsored by the Company were and, if still pending are being, conducted in all material respects in accordance with the experimental protocols or clinical trial protocols established for each study or trial and with all applicable local, state and federal laws, rules and regulations, including, without limitation, the Federal Food, Drug, and Cosmetic Act and its applicable implementing regulations at 21 C.F.R. Parts 50, 54, 56, 58, 312, and 812; except where the failure to so conduct would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change; the descriptions of the results of such studies and trials contained in any Prospectus did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; except to the extent disclosed in the Prospectus, the Company is not aware of any studies or trials, the results of which are inconsistent with or otherwise call into question the study or trial results described or referred to in the Prospectus; and neither the U.S. Food and Drug Administration, ("**FDA**") nor any applicable foreign Regulatory Agency has commenced, or, to the knowledge of the Company, threatened to initiate, any action to place a clinical hold on, or otherwise terminate, delay or suspend, any proposed or ongoing preclinical study or clinical investigation conducted or proposed to be conducted by or on behalf of the Company.

(qq) Health Care Laws. The Company has operated and currently is in compliance in all respects with all applicable Health Care Laws (as defined in this Section 6(pp)), including, without limitation, the rules and regulations of the FDA, the U.S. Department of Health and Human Services Office of Inspector General, the Centers for Medicare & Medicaid Services, the Office for Civil Rights, the Department of Justice or any other Regulatory Authority having jurisdiction over the Company or any of its properties, and has not engaged in activities which are, as applicable, cause for false claims liability, civil penalties, or mandatory or permissive exclusion from Medicare, Medicaid, or any other state or federal health care program. For purposes of this Agreement, "Health Care Laws" shall mean the federal Anti-kickback Statute (42 U.S.C. § 1320a-7b(b)), the Physician Payments Sunshine Act (42 U.S.C. § 1320a-7h), the civil False Claims Act (31 U.S.C. §§ 3729 et seq.), the criminal False Claims Act (42 U.S.C. §§ 1320a-7b(a)), all criminal laws relating to health care fraud and abuse, including but not limited to 18 U.S.C. Sections 286 and 287, and the health care fraud criminal provisions under the Health Insurance Portability and Accountability Act of 1996 (42 U.S.C. § 1320d et seq.) ("**HIPAA**"), the exclusion laws (42 U.S.C. § 1320a-7), the civil monetary penalties law (42 U.S.C. § 1320a- 7a), HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. §§ 17921 et seq.), Medicare (Title XVIII of the Social Security Act), Medicaid (Title XIX of the Social Security Act), the Federal Food, Drug, and Cosmetic Act (21 U.S.C. §§ 301 et seq.), the regulations promulgated pursuant to such laws, and any similar federal, state and local laws and regulations, including the collection and reporting requirements, and the processing of any applicable rebate, chargeback or adjustment, under applicable rules and regulations relating to the Medicaid Drug Rebate Program (42 U.S.C. § 1396r-8) and any state supplemental rebate program, Medicare

average sales price reporting (42 U.S.C. § 1395w-3a), the Public Health Service Act (42 U.S.C. § 256b), the VA Federal Supply Schedule (38 U.S.C. § 8126) or under any state pharmaceutical assistance program or U.S. Department of Veterans Affairs agreement, and any successor government programs. The Company has not received any FDA Form 483, notice of adverse finding, warning letter, untitled letter or other correspondence or notice from the FDA or any other Regulatory Authority alleging or asserting noncompliance with any Health Care Laws applicable to the Company. Except as would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change, the Company has not, either voluntarily or involuntarily, initiated, conducted, or issued or caused to be initiated, conducted or issued, any post-market recall, market withdrawal or replacement, safety alert, post-sale warning, "dear doctor" letter, or other notice or action relating to any lack of safety, efficacy or regulatory compliance of any product or any alleged defect or violation with respect to any product and, to the Company's knowledge, no third party has initiated or conducted any such notice or action and, to the Company's knowledge, there are no facts which are reasonably likely to cause, and the Company has not received any written notice from the FDA or any other regulatory agency requesting, a post-market recall, market withdrawal or replacement of any product sold or intended to be sold by the Company, a change in the marketing classification or a change in the labeling of any such products, or a termination or suspension of the manufacturing of any such products. Additionally, the Company is not a party to nor has any ongoing reporting obligations pursuant to any corporate integrity agreements, deferred prosecution agreements, monitoring agreements, consent decrees, settlement orders, plans of correction or similar agreements with or imposed by any Regulatory Authority. Neither the Company, nor, to the knowledge of the Company, any of its respective employees, officers or directors has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or, is subject to a governmental inquiry, investigation, proceeding, or other similar action that could reasonably be expected to result in debarment, suspension, or exclusion.

(rr) ERISA Compliance. Except as would not, individually or in the aggregate, reasonably be expected to result in a material liability to the Company or any of its subsidiaries, (i) each "employee benefit plan" within the meaning of the Employee Retirement Income Security Act of 1974, as amended ("**ERISA**"), whether or not subject to ERISA, for which the Company or any member of its "Controlled Group" (defined as any organization which is a member of a controlled group of corporations within the meaning of Section 414 of the Internal Revenue Code of 1986, as amended (the "**Code**")) would have any liability (each a "**Plan**") has been maintained in compliance with its terms and with the requirements of all applicable statutes, rules and regulations including ERISA and the Code; (ii) neither the Company nor any member of its Controlled Group has incurred, or reasonably expects to incur, any liability under Title IV of ERISA in respect of a Plan (including a "multiemployer plan," within the meaning of Section 4001(c)(3) of ERISA); (iii) each Plan that is intended to be qualified under Section 401(a) of the Code is so qualified and nothing has occurred, whether by action or by failure to act, which would cause the loss of such qualification; (iv) there is no pending audit or investigation by the Internal Revenue Service, the U.S. Department of Labor, the Pension Benefit Guaranty Corporation or any other governmental agency with respect to any Plan that could reasonably be expected to result in material liability to the Company or any of its subsidiaries; and (v) the Company and its subsidiaries have not incurred any liability for any prohibited transaction, the failure of any Plan to meet the minimum funding standards required by law, including by ERISA or the Code, or any complete or partial withdrawal liability with respect to any Plan.

(ss) No Rated Securities. There are no debt securities or preferred stock of, or guaranteed by, the Company that are rated by a "nationally recognized statistical rating organization," as such term is defined in Section 3(a)(62) of the Exchange Act.

(tt) WKSI. (i) At the original effectiveness of the Registration Statement, (ii) at the time of the most recent amendment thereto for the purposes of complying with Section 10(a)(3) of the Securities Act (whether such amendment was by post-effective amendment or incorporated report filed pursuant to Section 13 or 15(d) of the Exchange Act or in the form of a prospectus), (iii) at the time the Company or any person acting on its behalf (within the meaning, for this clause only, of Rule 163(c) under the Securities Act) made any offer relating to the Shares in reliance on the exemption of Rule 163 under the Securities Act, and (iv) as of the applicable Time of Sale, the Company was and is a "well-known seasoned issuer" (as defined in Rule 405 of the Securities Act).

Any certificate signed by an officer of the Company and delivered to Cowen or to counsel for Cowen pursuant to or in connection with this Agreement or any Terms Agreement shall be deemed to be a representation and warranty by the Company to Cowen as to the matters set forth therein.

The Company acknowledges that Cowen and, for purposes of the opinions to be delivered pursuant to Section 7 hereof, counsel to the Company and counsel to Cowen, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

7. Covenants of the Company. The Company covenants and agrees with Cowen that:

(a) Registration Statement Amendments. After the date of this Agreement and during any period in which a Prospectus relating to any Shares is required to be delivered by Cowen under the Securities Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172 under the Securities Act), (i) the Company will notify Cowen promptly of the time when any subsequent amendment to the Registration Statement, other than documents incorporated by reference, has been filed with the Commission and/or has become effective or any subsequent supplement to the Prospectus has been filed and of any request by the Commission for any amendment or supplement to the Registration Statement or Prospectus (insofar as it related to the transactions contemplated hereby) or for additional information, (ii) the Company will prepare and file with the Commission, promptly upon Cowen's request, any amendments or supplements to the Registration Statement or Prospectus that, in Cowen's reasonable opinion, may be necessary or advisable in connection with the distribution of the Shares by Cowen (*provided*, *however*, that the failure of Cowen to make such request shall not relieve the Company of any obligation or liability hereunder, or affect Cowen's right to rely on the representations and warranties made by the Company in this Agreement or any Terms Agreement); (iii) the Company will not file any amendment or supplement to the Registration Statement or Prospectus, other than documents incorporated by reference, relating to the Shares or a security convertible into the Shares unless a copy thereof has been submitted to Cowen within a reasonable period of time before the filing and Cowen has not reasonably objected thereto (*provided*, *however*, that (A) the failure of Cowen to make such objection shall not relieve the Company of any obligation or liability hereunder, or affect Cowen's right to rely on the representations and warranties made by the Company in this Agreement or any Terms Agreement, (B) the Company has no obligations to provide Cowen any advance copy of such filing or to provide Cowen an opportunity to object to such filing if the filing does not name Cowen and does not relate to the transactions herein provided, and (C) the only

remedy Cowen shall have with respect to the failure by the Company to provide Cowen with such copy or the filing of such amendment or supplement despite Cowen's objection shall be to cease making sales under this Agreement or any Terms Agreement) and the Company will furnish to Cowen at the time of filing thereof a copy of any document that upon filing is deemed to be incorporated by reference into the Registration Statement or Prospectus, except for those documents available via EDGAR; (iv) the Company will cause each amendment or supplement to the Prospectus, other than documents incorporated by reference, to be filed with the Commission as required pursuant to the applicable paragraph of Rule 424(b) of the Securities Act, or in the case of any document to be incorporated therein by reference, to be filed with the Commission as required pursuant to the Exchange Act, within the time period prescribed (the determination to file or not to file any amendment or supplement with the Commission under this Section 7(a) based on the Company's reasonable opinion or reasonable objections, shall be made exclusively by the Company) and (v) prior to the termination of this Agreement, the Company will notify Cowen if at any time the Registration Statement shall no longer be effective as a result of the passage of time pursuant to Rule 415 under the Securities Act or otherwise.

(b) Notice of Commission Stop Orders. The Company will advise Cowen, promptly after it receives notice or obtains knowledge thereof, of the issuance or threatened issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement, of the suspension of the qualification of the Shares for offering or sale in any jurisdiction, or of the initiation or threatening of any proceeding for any such purpose; and it will promptly use its commercially reasonable efforts to prevent the issuance of any stop order or to obtain its withdrawal if such a stop order should be issued.

(c) Delivery of Prospectus; Subsequent Changes. During any period in which a Prospectus relating to the Shares is required to be delivered by Cowen under the Securities Act with respect to a pending sale of the Shares, (including in circumstances where such requirement may be satisfied pursuant to Rule 172 under the Securities Act), the Company will comply with all requirements imposed upon it by the Securities Act, as from time to time in force, and to file on or before their respective due dates (taking into account any extensions under the Exchange Act) all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Sections 13(a), 13(c), 14, 15(d) or any other provision of or under the Exchange Act. If during such period any event occurs as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances then existing, not misleading, or if during such period it is necessary to amend or supplement the Registration Statement or Prospectus to comply with the Securities Act, the Company will promptly notify Cowen to suspend the offering of Shares during such period and the Company will promptly amend or supplement the Registration Statement or Prospectus (at the expense of the Company) so as to correct such statement or omission or effect such compliance; *provided, however,* that the Company may delay any such amendment or supplement if, in the reasonable judgment of the Company, it is in the best interest of the Company to do so, provided that no Placement Notice is in effect during such time.

(d) Listing of Shares. During any period in which the Prospectus relating to the Shares is required to be delivered by Cowen under the Securities Act with respect to a pending sale of the Shares (including in circumstances where such requirement may be satisfied pursuant to Rule 172

under the Securities Act), the Company will use its commercially reasonable efforts to cause the Shares to be listed on Nasdaq and to qualify the Shares for sale under the securities laws of such jurisdictions as Cowen reasonably designates and to continue such qualifications in effect so long as required for the distribution of the Shares; *provided, however,* that the Company shall not be required in connection therewith to qualify as a foreign corporation or dealer in securities or file a general consent to service of process in any jurisdiction.

(e) Delivery of Registration Statement and Prospectus. The Company will furnish to Cowen and its counsel (at the expense of the Company) copies of the Registration Statement, the Prospectus (including all documents incorporated by reference therein) and all amendments and supplements to the Registration Statement or Prospectus that are filed with the Commission during any period in which a Prospectus relating to the Shares is required to be delivered under the Securities Act (including all documents filed with the Commission during such period that are deemed to be incorporated by reference therein), in each case as soon as reasonably practicable and in such quantities as Cowen may from time to time reasonably request and, at Cowen's request, will also furnish copies of the Prospectus to each exchange or market on which sales of the Shares may be made; *provided, however,* that the Company shall not be required to furnish any document (other than the Prospectus) to Cowen to the extent such document is available on EDGAR.

(f) Earnings Statement. The Company will make generally available to its security holders as soon as practicable, but in any event not later than 15 months after the end of the Company's current fiscal quarter, an earnings statement covering a 12-month period that satisfies the provisions of Section 11(a) and Rule 158 of the Securities Act. For the avoidance of doubt, the Company's compliance with the reporting requirements of the Exchange Act shall be deemed to satisfy this Section 7(f).

(g) Expenses. The Company, whether or not the transactions contemplated hereunder are consummated or this Agreement is terminated, in accordance with the provisions of Section 11 hereunder, will pay the following expenses all incident to the performance of its obligations hereunder, including, but not limited to, expenses relating to (i) the preparation, printing and filing of the Registration Statement and each amendment and supplement thereto, of each Prospectus and of each amendment and supplement thereto, (ii) the preparation, issuance and delivery of the Shares, (iii) the qualification of the Shares under securities laws in accordance with the provisions of Section 7(d) of this Agreement, including filing fees (provided, however, that any fees or disbursements of counsel for Cowen in connection therewith shall be paid by Cowen except as set forth in clause (vii) below), (iv) the printing and delivery to Cowen of copies of the Prospectus and any amendments or supplements thereto, and of this Agreement and any Terms Agreement, (v) the fees and expenses incurred in connection with the listing or qualification of the Shares for trading on Nasdaq, (vi) the filing fees and expenses, if any, of the Commission, (vii) the filing fees and associated legal expenses of Cowen's outside counsel for filings with the FINRA Corporate Financing Department, such legal expense reimbursement not to exceed $10,000 and, (viii) the reasonable fees and disbursements of Cowen's outside counsel in an amount not to exceed $50,000.

(h) Use of Proceeds. The Company will use the Net Proceeds as described in the Prospectus in the section entitled "Use of Proceeds."

(i) Notice of Other Sales. During the pendency of any Placement Notice given hereunder, and for three (3) trading days following the termination of any Placement Notice given hereunder, the Company shall provide Cowen notice as promptly as reasonably possible before it offers to sell, contracts to sell, sells, grants any option to sell or otherwise disposes of any shares of Common Stock (other than Shares offered pursuant to the provisions of this Agreement or any Terms Agreement) or securities convertible into or exchangeable for Common Stock, warrants or any rights to purchase or acquire Common Stock; *provided*, that such notice shall not be required in connection with (i) the issuance, grant or sale of Common Stock, options to purchase shares of Common Stock, restricted stock units or Common Stock issuable upon the exercise of options or the vesting and settlement of restricted stock units or other equity awards pursuant to any stock option, stock bonus, employee stock purchase plan or other stock plan or arrangement described in the Prospectus or pursuant to any qualifying inducement award under Nasdaq rules, (ii) the issuance of securities in connection with an acquisition, merger or sale or purchase of assets, (iii) the issuance or sale of Common Stock pursuant to any dividend reinvestment plan that the Company may adopt from time to time provided the implementation of such is disclosed to Cowen in advance, (iv) the issuance of any shares of Common Stock issuable upon the exchange, conversion or redemption of securities or the exercise of warrants, options or other rights in effect or outstanding or (v) the issuance or sale of shares of Common Stock, or securities convertible into or exercisable for Common Stock, offered and sold in a privately negotiated transaction to vendors, customers, investors, strategic partners or potential strategic partners, financial institutions or other lenders in connection with debt arrangements, and otherwise conducted in a manner so as not to be integrated with the offering of Common Stock hereby. For avoidance of doubt, nothing herein shall be construed to restrict the Company's ability, or require the Company to provide notice to Cowen, to file a registration statement with the Commission.

(j) Change of Circumstances. The Company will, at any time during a fiscal quarter in which the Company intends to tender a Placement Notice or sell Shares hereunder or pursuant to a Terms Agreement, advise Cowen promptly after it shall have received notice or obtained knowledge thereof, of any information or fact that would alter or affect in any material respect any opinion, certificate, letter or other document provided to Cowen pursuant to this Agreement or any Terms Agreement.

(k) Due Diligence Cooperation. During the Term of this Agreement or any Terms Agreement, the Company will cooperate with any reasonable due diligence review conducted by Cowen or its agents in connection with the transactions contemplated hereby or by any Terms Agreement, including, without limitation, providing information and making available documents and senior corporate officers, during regular business hours and at the Company's principal offices, as Cowen may reasonably request.

(l) Required Filings Relating to Sale of Shares. The Company agrees that on such dates as the Securities Act shall require, the Company will (i) file a prospectus supplement with the Commission under the applicable paragraph of Rule 424(b) under the Securities Act (each and every filing under Rule 424(b), a "**Filing Date**"), and (ii) at Cowen's request, deliver such number of copies of each such prospectus supplement to each exchange or market on which such sales were effected as may be required by the rules or regulations of such exchange or market. The Company shall disclose in its Quarterly Reports on Form 10-Q and in its Annual Report on Form 10-K, the number of the Shares sold through Cowen under this Agreement and any Terms

Agreement, and the Net Proceeds to the Company from the sale of the Shares and the compensation paid by the Company with respect to sales of the Shares pursuant to this Agreement during the relevant quarter or, in the case of an Annual Report on Form 10-K, during the fiscal year covered by such Annual Report and the fourth quarter of such fiscal year.

(m) Bring-Down Dates; Certificate. On or prior to the First Delivery Date and each time (i) the Company files the Prospectus relating to the Shares or amends or supplements the Registration Statement or the Prospectus relating to the Shares (other than a prospectus supplement filed in accordance with Section 7(l) of this Agreement) by means of a post-effective amendment, sticker, or supplement but not by means of incorporation of document(s) by reference to the Registration Statement or the Prospectus relating to the Shares; (ii) the Company files an annual report on Form 10-K under the Exchange Act; (iii) the Company files its quarterly reports on Form 10-Q under the Exchange Act; or (iv) the Company files a Current Report on Form 8-K containing amended financial information (other than an earnings release or other information "furnished" pursuant to Items 2.02 or 7.01 of Form 8-K) under the Exchange Act (each date of filing of one or more of the documents referred to in clauses (i) through (iv) shall be a "**Bring-Down Date**"); the Company shall furnish Cowen with a certificate, in the form attached hereto as Exhibit 7(m) within three (3) Trading Days of any Bring-Down Date if requested by Cowen. The requirement to provide a certificate under this Section 7(m) shall be automatically waived for any Bring-Down Date occurring at a time at which no Agency Transaction is pending, which waiver shall continue until the earlier to occur of the date the Company delivers a Placement Notice hereunder (which for such calendar quarter shall be considered a Bring-Down Date) and the next occurring Bring-Down Date; *provided*, *however*, that such waiver shall not apply for any Bring-Down Date on which the Company files its annual report on Form 10-K. Notwithstanding the foregoing, if the Company subsequently decides to sell Shares in an Agency Transaction following a Bring-Down Date when the Company relied on such waiver and did not provide Cowen with a certificate under this Section 7(m), then before the Company delivers the Placement Notice or Cowen sells any Shares pursuant to such Agency Transaction, the Company shall provide Cowen with a certificate, in the form attached hereto as Exhibit 7(m), dated the date of the Placement Notice. With respect to any Principal Transaction pursuant to a Terms Agreement, the certificate in the form attached hereto as Exhibit 7(m) shall be delivered at the Principal Settlement Date.

(n) Legal Opinion. On or prior to the First Delivery Date and within three (3) Trading Days of each Bring-Down Date with respect to which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit 7(m) for which no waiver is applicable, the Company shall cause to be furnished to Cowen a written opinion of Goodwin Procter LLP ("Company Counsel"), or other counsel reasonably satisfactory to Cowen, in form and substance satisfactory to Cowen and its counsel, dated the date that the opinion is required to be delivered, modified, as necessary, to relate to the Registration Statement and the Prospectus as then amended or supplemented; *provided*, *however*, that in lieu of such opinions for subsequent Bring-Down Dates, counsel may furnish Cowen with a letter (a "**Reliance Letter**") to the effect that Cowen may rely on a prior opinion delivered under this Section 7(n) to the same extent as if it were dated the date of such letter (except that statements in such prior opinion shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented at such Bring-Down Date). With respect to any Principal Transaction pursuant to a Terms Agreement, the Company shall cause to be furnished to Cowen on the Principal Settlement Date a written opinion of

Company Counsel, or other counsel satisfactory to Cowen, in form and substance satisfactory to Cowen and its counsel, dated the Principal Settlement Date.

(o) Intellectual Property Opinion. On or prior to the First Delivery Date and within five (5) Trading Days of each Representation Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 7(m) (other than pursuant to Section 7(m)(iii)) and for which no waiver is applicable, the Company shall cause to be furnished to Cowen written opinions of McCarter & English, LLP and Goodwin Procter LLP ("**Company IP Counsel**"), or other counsel reasonably satisfactory to Cowen, in form and substance reasonably satisfactory to Cowen and its counsel, substantially similar to the form previously provided to Cowen and its counsel, modified, as necessary, to relate to the Registration Statement and the Prospectus as then amended or supplemented and dated as of the date that such certificate is required to be delivered; provided, however, the Company shall be required to furnish to Cowen no more than one set of opinions hereunder per calendar year; provided, further, that in lieu of such opinions for subsequent Representation Dates on which Company IP Counsel are obligated to deliver opinions hereunder, counsel may furnish Cowen with a letter (an "**IP Reliance Letter**") to the effect that Cowen may rely on a prior opinion delivered under this Section 7(o) to the same extent as if it were dated the date of such letter (except that statements in such prior opinion shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented as of the date of the IP Reliance Letter).

(p) Comfort Letter. On or prior to the First Delivery Date and within three (3) Trading Days of each Bring-Down Date with respect to which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit 7(m) for which no waiver is applicable, the Company shall cause its independent accountants to furnish Cowen letters (the **"Comfort Letters"**), dated the date the Comfort Letter is delivered, in form and substance reasonably satisfactory to Cowen, (i) confirming that they are an independent registered public accounting firm within the meaning of the Securities Act and the PCAOB, (ii) stating, as of such date, the conclusions and findings of such firm with respect to the financial information and other matters ordinarily covered by accountants' "comfort letters" to Cowen in connection with registered public offerings (the first such letter, the **"Initial Comfort Letter"**) and (iii) updating the Initial Comfort Letter with any information that would have been included in the Initial Comfort Letter had it been given on such date and modified as necessary to relate to the Registration Statement and the Prospectus, as amended and supplemented to the date of such letter; provided, however, that (i) Cowen has provided the Company's independent accountants with a representation letter reasonably satisfactory to the Company's independent accountants and (ii) any such comfort letter will only be required on the Bring-Down Date to the extent that it contains financial statements filed with the Commission under the Exchange Act and incorporated or deemed to be incorporated by reference into a Prospectus. The Company shall not be required to furnish more than one comfort letter hereunder per annual report on Form 10-K and quarterly report on Form 10-Q filed by the Company in connection with an Agency Transaction. With respect to any Principal Transaction pursuant to a Terms Agreement, the Company shall cause its independent accountants to furnish Cowen, in form and substance satisfactory to Cowen, Comfort Letters at the Time of Sale, dated the date of such Time of Sale, and on the Principal Settlement Date, dated the Principal Settlement Date.

(q) Market Activities. The Company will not, directly or indirectly, (i) take any action designed to cause or result in, or that constitutes or would reasonably be expected to constitute, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares or (ii) sell, bid for, or purchase the Common Stock to be issued and sold pursuant to this Agreement or any Terms Agreement, or pay anyone any compensation for soliciting purchases of the Shares other than Cowen; provided, however, that the Company may bid for and purchase shares of its Common Stock in accordance with Rule 10b-18 under the Exchange Act.

(r) Insurance. The Company and its subsidiaries shall maintain, or cause to be maintained, insurance in such amounts and covering such risks and in such amounts as in the Company's reasonable judgement is reasonable and customary for the business for which it is engaged.

(s) Compliance with Laws. The Company and each of its subsidiaries shall maintain, or cause to be maintained, all material environmental permits, licenses and other authorizations required by federal, state and local law in order to conduct their businesses as described in the Prospectus, and the Company and each of its subsidiaries shall conduct their businesses, or cause their businesses to be conducted, in substantial compliance with such permits, licenses and authorizations and with applicable environmental laws, except where the failure to maintain or be in compliance with such permits, licenses and authorizations could not reasonably be expected to result in a Material Adverse Change.

(t) Investment Company Act. The Company will conduct its affairs in such a manner so as to reasonably ensure that neither it nor its subsidiaries will be or become, at any time prior to the termination of this Agreement, an "investment company," as such term is defined in the Investment Company Act, assuming no change in the Commission's current interpretation as to entities that are not considered an investment company.

(u) Securities Act and Exchange Act. The Company will use its best efforts to comply with all requirements imposed upon it by the Securities Act and the Exchange Act as from time to time in force, so far as necessary to permit the continuance of sales of, or dealings in, the Shares as contemplated by the provisions hereof and the Prospectus.

(v) No Offer to Sell. Other than a Permitted Free Writing Prospectus, neither Cowen nor the Company (including its agents and representatives, other than Cowen in its capacity as such) will make, use, prepare, authorize, approve or refer to any written communication (as defined in Rule 405 under the Securities Act), required to be filed with the Commission, that constitutes an offer to sell or solicitation of an offer to buy Common Stock hereunder.

(w) Sarbanes-Oxley Act. The Company and its subsidiaries will use their best efforts to comply with all effective applicable provisions of the Sarbanes-Oxley Act.

(x) Affirmation. Each Placement Notice delivered by the Company to Cowen and each execution and delivery by the Company of a Terms Agreement shall be deemed to be (i) an affirmation that the representations, warranties and agreements of the Company herein contained and contained in any certificate delivered to Cowen pursuant hereto are true and correct at the time of delivery of such Placement Notice or the date of such Terms Agreement, as the case may be,

and (ii) an undertaking that such representations, warranties and agreements will be true and correct on any applicable Time of Sale and Settlement Date, as though made at and as of each such time (it being understood that such representations, warranties and agreements shall relate to the Registration Statement and the Prospectus as amended and supplemented to the time of such Placement Notice acceptance or Terms Agreement, as the case may be).

(y) Renewal. If immediately prior to the third anniversary (the "**Renewal Deadline**") of the initial effective date of the Registration Statement, the aggregate gross sales price of Shares sold by the Company is less than the Maximum Amount and this Agreement has not expired or been terminated, the Company will, prior to the Renewal Deadline, file, if it has not already done so and is eligible to do so, file a new shelf registration statement relating to the Shares, in a form reasonably satisfactory to Cowen, and, if not automatically effective, will use its commercially reasonable efforts to cause such registration statement to be declared effective within 60 days after the Renewal Deadline. The Company will take all other action necessary or appropriate to permit the issuance and sale of the Shares to continue as contemplated in the expired registration statement relating to the Shares. References herein to the Registration Statement shall include such new shelf registration statement.

8. Conditions to Cowen's Obligations. The obligations of Cowen hereunder with respect to a Placement Notice or pursuant to any Terms Agreement will be subject to the continuing accuracy and completeness of the representations and warranties made by the Company herein, to the due performance by the Company of its obligations hereunder and thereunder, to the completion by Cowen of a due diligence review satisfactory to Cowen in its reasonable judgment, and to the continuing satisfaction (or waiver by Cowen in its sole discretion) of the following additional conditions:

(a) Registration Statement Effective. The Registration Statement shall be effective and shall be available for (i) all sales of Shares issued pursuant to all prior Placement Notices or any Terms Agreements and (ii) the sale of all Shares contemplated to be issued by pursuant to Placement Notice or any Terms Agreement.

(b) No Material Notices. None of the following events shall have occurred and be continuing: (i) receipt by the Company or any of its subsidiaries of any request for additional information from the Commission or any other federal or state governmental authority during the period of effectiveness of the Registration Statement, the response to which would require any post-effective amendments or supplements to the Registration Statement or the Prospectus; (ii) the issuance by the Commission or any other federal or state governmental authority of any stop order suspending the effectiveness of the Registration Statement or the initiation of any proceedings for that purpose; (iii) receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Shares for sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose; or (iv) the occurrence of any event that makes any material statement made in the Registration Statement or the Prospectus or any material document incorporated or deemed to be incorporated therein by reference untrue in any material respect or that requires the making of any changes in the Registration Statement, related Prospectus or such documents so that, in the case of the Registration Statement, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading and, that in the case of

the Prospectus, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(c) No Misstatement or Material Omission. Cowen shall not have advised the Company that the Registration Statement or Prospectus, or any amendment or supplement thereto, contains an untrue statement of fact that in Cowen's reasonable opinion is material, or omits to state a fact that in Cowen's opinion is material and is required to be stated therein or is necessary to make the statements therein not misleading.

(d) Material Changes. Except as contemplated in the Prospectus, or disclosed in the Company's reports filed with the Commission, there shall not have been any material adverse change, on a consolidated basis, in the authorized capital stock of the Company or any Material Adverse Change or any development that could reasonably be expected to result in a Material Adverse Change, or any downgrading in or withdrawal of the rating assigned to any of the Company's securities (other than asset backed securities) by any rating organization or a public announcement by any rating organization that it has under surveillance or review its rating of any of the Company's securities (other than asset backed securities), the effect of which, in the case of any such action by a rating organization described above, in the reasonable judgment of Cowen (without relieving the Company of any obligation or liability it may otherwise have), is so material as to make it impracticable or inadvisable to proceed with the offering of the Shares on the terms and in the manner contemplated in the Prospectus.

(e) Company Counsel Legal Opinion. Cowen shall have received the opinions of Company Counsel required to be delivered pursuant to Section 7(n) on or before the date on which such delivery of such opinion is required pursuant to Section 7(n).

(f) Cowen Counsel Legal Opinion. Cowen shall have received from Latham & Watkins LLP, counsel for Cowen, such opinion or opinions, on or before the date on which the delivery of the Company Counsel legal opinion is required pursuant to Section 7(n), with respect to such matters as Cowen may reasonably require, and the Company shall have furnished to such counsel such documents as they request for enabling them to pass upon such matters.

(g) Comfort Letter. Cowen shall have received the Comfort Letter required to be delivered pursuant to Section 7(p) on or before the date on which such delivery of such Comfort Letter is required pursuant to Section 7(p).

(h) Representation Certificate. Cowen shall have received the certificate required to be delivered pursuant to Section 7(m) on or before the date on which delivery of such certificate is required pursuant to Section 7(m).

(i) Secretary's Certificate. On or prior to the First Delivery Date and at each Principal Settlement Date, Cowen shall have received a certificate, signed on behalf of the Company by its corporate secretary, in form and substance reasonably satisfactory to Cowen and its counsel.

(j) No Suspension. Trading in the Common Stock shall not have been suspended on Nasdaq.

(k) Other Materials. On each date on which the Company is required to deliver a certificate pursuant to Section 7(m), the Company shall have furnished to Cowen such appropriate further information, certificates and documents as Cowen may have reasonably requested. All such information, certificates and other documents shall have been in compliance with the provisions hereof. The Company will furnish Cowen with such conformed copies of such information, certificates and other documents as Cowen shall have reasonably requested.

(l) Securities Act Filings Made. All filings with the Commission required by Rule 424 under the Securities Act to have been filed prior to the issuance of any Placement Notice hereunder or prior to any Principal Settlement Date shall have been made within the applicable time period prescribed for such filing by Rule 424. The Company shall file a prospectus supplement or a supplement to a prospectus supplement in connection with any Principal Transaction pursuant to a Terms Agreement within the applicable time period prescribed for such filing by Rule 424.

(m) Approval for Listing. The Shares shall either have been (i) approved for listing on Nasdaq, subject only to notice of issuance, or (ii) the Company shall have filed an application for listing of the Shares on Nasdaq at, or prior to, the issuance of any Placement Notice.

(n) No Termination Event. There shall not have occurred any event that would permit Cowen to terminate this Agreement pursuant to Section 11(a).

9. Indemnification and Contribution.

(a) Company Indemnification. The Company agrees to indemnify and hold harmless Cowen, the directors, officers, partners, employees and agents of Cowen and each person, if any, who (i) controls Cowen within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, or (ii) is controlled by or is under common control with Cowen from and against any and all losses, claims, liabilities, expenses and damages (including, but not limited to, any and all reasonable investigative, legal and other expenses incurred in connection with, and any and all amounts paid in settlement (in accordance with Section 9(c)) of, any action, suit or proceeding between any of the indemnified parties and any indemnifying parties or between any indemnified party and any third party, or otherwise, or any claim asserted), as and when incurred, to which Cowen, or any such person, may become subject under the Securities Act, the Exchange Act or other federal or state statutory law or regulation, at common law or otherwise, insofar as such losses, claims, liabilities, expenses or damages arise out of or are based, directly or indirectly, on (x) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or the Prospectus or any amendment or supplement to the Registration Statement or the Prospectus or in any free writing prospectus or in any application or other document executed by or on behalf of the Company in connection with this Agreement or any Terms Agreement or based on written information furnished by or on behalf of the Company filed in any jurisdiction in order to qualify the Common Stock under the securities laws thereof or filed with the Commission, (y) the omission or alleged omission to state in any such document a material fact required to be stated in it or necessary to make the statements in it not misleading or (z) any breach by any of the indemnifying parties of any of their respective representations, warranties and agreements contained in this Agreement or any Terms Agreement; *provided*, *however*, that this indemnity agreement shall not apply to the extent that such loss, claim, liability, expense or damage arises from the sale of the Shares pursuant to this Agreement or any Terms Agreement and is caused directly or indirectly by an untrue statement or omission or alleged untrue statement or omission

made in reliance upon and in conformity with solely Agent's Information. This indemnity agreement will be in addition to any liability that the Company might otherwise have.

(b) Cowen Indemnification. Cowen agrees to indemnify and hold harmless the Company and its directors and each officer of the Company that signed the Registration Statement, and each person, if any, who (i) controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act or (ii) is controlled by or is under common control with the Company against any and all loss, liability, claim, damage and expense described in the indemnity contained in Section 9(a), as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendments thereto) or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the Agent's Information.

(c) Procedure. Any party that proposes to assert the right to be indemnified under this Section 9 will, promptly after receipt of notice of commencement of any action against such party in respect of which a claim is to be made against an indemnifying party or parties under this Section 9, notify each such indemnifying party of the commencement of such action, enclosing a copy of all papers served, but the omission so to notify such indemnifying party will not relieve the indemnifying party from (i) any liability that it might have to any indemnified party otherwise than under this Section 9 and (ii) any liability that it may have to any indemnified party under the foregoing provision of this Section 9 unless, and only to the extent that, such omission results in the forfeiture of substantive rights or defenses by the indemnifying party. If any such action is brought against any indemnified party and it notifies the indemnifying party of its commencement, the indemnifying party will be entitled to participate in and, to the extent that it elects by delivering written notice to the indemnified party promptly after receiving notice of the commencement of the action from the indemnified party, jointly with any other indemnifying party similarly notified, to assume the defense of the action, with counsel reasonably satisfactory to the indemnified party, and after notice from the indemnifying party to the indemnified party of its election to assume the defense, the indemnifying party will not be liable to the indemnified party for any legal or other expenses except as provided below and except for the reasonable costs of investigation subsequently incurred by the indemnified party in connection with the defense. The indemnified party will have the right to employ its own counsel in any such action, but the fees, expenses and other charges of such counsel will be at the expense of such indemnified party unless (1) the employment of counsel by the indemnified party has been authorized in writing by the indemnifying party, (2) the indemnified party has reasonably concluded (based on advice of counsel) that there may be legal defenses available to it or other indemnified parties that are different from or in addition to those available to the indemnifying party, (3) a conflict or potential conflict exists (based on advice of counsel to the indemnified party) between the indemnified party and the indemnifying party (in which case the indemnifying party will not have the right to direct the defense of such action on behalf of the indemnified party) or (4) the indemnifying party has not in fact employed counsel to assume the defense of such action within a reasonable time after receiving notice of the commencement of the action, in each of which cases the reasonable fees, disbursements and other charges of counsel will be at the expense of the indemnifying party or parties. It is understood that the indemnifying party or parties shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable fees, disbursements and other charges of more than one separate firm admitted to practice in such jurisdiction at any one time for all such indemnified party or parties. All such fees, disbursements

and other charges will be reimbursed by the indemnifying party promptly as they are incurred after the indemnifying party receives a written invoice related to such fees, disbursements and other charges. An indemnifying party will not, in any event, be liable for any settlement of any action or claim effected without its written consent. No indemnifying party shall, without the prior written consent of each indemnified party, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action or proceeding relating to the matters contemplated by this Section 9 (whether or not any indemnified party is a party thereto), unless such settlement, compromise or consent includes an unconditional release of each indemnified party from all liability arising or that may arise out of such claim, action or proceeding.

(d) Contribution. In order to provide for just and equitable contribution in circumstances in which the indemnification provided for in the foregoing paragraphs of this Section 9 is applicable in accordance with its terms but for any reason is held to be unavailable from the Company or Cowen, the Company and Cowen will contribute to the total losses, claims, liabilities, expenses and damages (including any investigative, legal and other expenses reasonably incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted, but after deducting any contribution received by the Company from persons other than Cowen, such as persons who control the Company within the meaning of the Securities Act, officers of the Company who signed the Registration Statement and directors of the Company, who also may be liable for contribution) to which the Company and Cowen may be subject in such proportion as shall be appropriate to reflect the relative benefits received by the Company on the one hand and Cowen on the other. The relative benefits received by the Company on the one hand and Cowen on the other hand shall be deemed to be in the same proportion as the total Net Proceeds from the sale of the Shares (before deducting expenses) received by the Company bear to the total compensation received by Cowen from the sale of Shares on behalf of the Company. If, but only if, the allocation provided by the foregoing sentence is not permitted by applicable law, the allocation of contribution shall be made in such proportion as is appropriate to reflect not only the relative benefits referred to in the foregoing sentence but also the relative fault of the Company, on the one hand, and Cowen, on the other, with respect to the statements or omission that resulted in such loss, claim, liability, expense or damage, or action in respect thereof, as well as any other relevant equitable considerations with respect to such offering. Such relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or Cowen, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and Cowen agree that it would not be just and equitable if contributions pursuant to this Section 9(d) were to be determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, liability, expense, or damage, or action in respect thereof, referred to above in this Section 9(d) shall be deemed to include, for the purpose of this Section 9(d), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim to the extent consistent with Section 9(c) hereof. Notwithstanding the foregoing provisions of this Section 9(d), Cowen shall not be required to contribute any amount in excess of the commissions received by it under this Agreement and no person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 9(d), any person who

controls a party to this Agreement or any Terms Agreement within the meaning of the Securities Act, and any officers, directors, partners, employees or agents of Cowen, will have the same rights to contribution as that party, and each director of the Company and each officer of the Company who signed the Registration Statement will have the same rights to contribution as the Company, subject in each case to the provisions hereof. Any party entitled to contribution, promptly after receipt of notice of commencement of any action against such party in respect of which a claim for contribution may be made under this Section 9(d), will notify any such party or parties from whom contribution may be sought, but the omission to so notify will not relieve that party or parties from whom contribution may be sought from any other obligation it or they may have under this Section 9(d) except to the extent that the failure to so notify such other party materially prejudiced the substantive rights or defenses of the party from whom contribution is sought. Except for a settlement entered into pursuant to the last sentence of Section 9(c) hereof, no party will be liable for contribution with respect to any action or claim settled without its written consent if such consent is required pursuant to Section 9(c) hereof.

10. Representations and Agreements to Survive Delivery. The indemnity and contribution agreements contained in Section 9 of this Agreement and all representations and warranties of the Company herein or in certificates delivered pursuant hereto shall survive, as of their respective dates, regardless of (i) any investigation made by or on behalf of Cowen, any controlling persons, or the Company (or any of their respective officers, directors or controlling persons), (ii) delivery and acceptance of the Shares and payment therefor or (iii) any termination of this Agreement.

11. Termination.

(a) Cowen shall have the right by giving notice as hereinafter specified at any time to terminate this Agreement if (i) any Material Adverse Change, or any development that could reasonably be expected to result in a Material Adverse Change has occurred that, in the reasonable judgment of Cowen, may materially impair the ability of Cowen to sell the Shares hereunder, (ii) the Company shall have failed, refused or been unable to perform any agreement on its part to be performed hereunder; or (iii) any other condition of Cowen's obligations hereunder is not fulfilled, or (iv), any suspension or limitation of trading in the Shares or in securities generally on Nasdaq shall have occurred. Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(g) (Expenses), Section 9 (Indemnification and Contribution), Section 10 (Representations and Agreements to Survive Delivery), Section 16 (Applicable Law; Consent to Jurisdiction) and Section 17 (Waiver of Jury Trial) hereof shall remain in full force and effect notwithstanding such termination. If Cowen elects to terminate this Agreement as provided in this Section 11(a), Cowen shall provide the required notice as specified in Section 12 (Notices).

(b) In the case of any purchase by Cowen pursuant to a Terms Agreement, the obligations of Cowen pursuant to such Terms Agreement shall be subject to termination by Cowen at any time prior to or at the Principal Settlement Date if (A) since the time of execution of the Terms Agreement or the respective dates as of which information is given in the Registration Statement or the Prospectus, (i) there has been any Material Adverse Change or material change in the senior management of the Company, whether or not arising in the ordinary course of business; or (ii) there has occurred any outbreak or escalation of hostilities or other national or international calamity or crisis or change in economic, political or other conditions, the effect of

which on the United States or international financial markets is such as to make it, in Cowen's judgment, impracticable to market the Shares or enforce contracts for the sale of the Shares; or (iii) if trading in any securities of the Company has been suspended by the Commission or by the Nasdaq, or if trading generally on the Nasdaq over-the-counter market or the New York Stock Exchange has been suspended (including an automatic halt in trading pursuant to market-decline triggers, other than those in which solely program trading is temporarily halted), or limitations on prices for trading (other than limitations on hours or numbers of days of trading) have been fixed, or maximum ranges for prices for securities have been required, by such exchange or FINRA or the over-the-counter market or by order of the Commission or any other governmental authority; or (iv) if there has been any downgrade in the rating of any of the Company's debt securities or preferred stock by any "nationally recognized statistical rating organization" (as defined under Section 3(a)(62) of the Exchange Act); or (v) any federal, state, local or foreign statute, regulation, rule or order of any court or other governmental authority has been enacted, published, decreed or otherwise promulgated which, in the opinion of Cowen, would reasonably be expected to result in a Material Adverse Change; or (vi) any action has been taken by any federal, state, local or foreign government or agency in respect of its monetary or fiscal affairs which, in the opinion of Cowen, would reasonably be expected to have a material adverse effect on the securities markets in the United States. If Cowen elects to terminate its obligations pursuant to this Section 11(b), the Company shall be notified promptly in writing.

(c) The Company shall have the right, by giving ten (10) days' notice as hereinafter specified to terminate this Agreement in its sole discretion at any time after the date of this Agreement. Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(g), Section 9, Section 10, Section 16 and Section 17 hereof shall remain in full force and effect notwithstanding such termination.

(d) Cowen shall have the right, by giving ten (10) days' notice as hereinafter specified to terminate this Agreement in its sole discretion at any time after the date of this Agreement. Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(g), Section 9, Section 10, Section 16 and Section 17 hereof shall remain in full force and effect notwithstanding such termination.

(e) Unless earlier terminated pursuant to this Section 11, this Agreement shall automatically terminate upon the issuance and sale of all of the Shares through Cowen on the terms and subject to the conditions set forth herein; *provided* that the provisions of Section 7(g), Section 9, Section 10, Section 16 and Section 17 hereof shall remain in full force and effect notwithstanding such termination.

(f) This Agreement shall remain in full force and effect unless terminated pursuant to Sections 11(a), (b), (c), (d), or (e) above or otherwise by mutual agreement of the parties; *provided, however,* that any such termination by mutual agreement shall in all cases be deemed to provide that Section 7(g), Section 9, Section 10, Section 16 and Section 17 shall remain in full force and effect.

(g) Any termination of this Agreement shall be effective on the date specified in such notice of termination; *provided, however,* that such termination shall not be effective until the close of business on the date of receipt of such notice by Cowen or the Company, as the case may be. If

such termination shall occur prior to the Settlement Date for any sale of Shares, such Shares shall settle in accordance with the provisions of this Agreement.

(h) Subject to the additional limitation set forth in Section 7 of this Agreement, in the event of termination of this Agreement prior to the sale of any Shares, Cowen shall be entitled only to the reimbursement of its out of pocket expenses actually incurred.

12. Notices. All notices or other communications required or permitted to be given by any party to any other party pursuant to the terms of this Agreement or any Terms Agreement shall be in writing, unless otherwise specified in this Agreement, and if sent to Cowen, shall be delivered to Cowen at Cowen and Company, LLC, 599 Lexington Avenue, New York, NY 10022, Attention: General Counsel, email: Bradley.friedman@cowen.com; or if sent to the Company, shall be delivered to Blueprint Medicines Corporation, 45 Sidney Street, Cambridge, Massachusetts 02139, Attention: Michael Landsittel, Chief Financial Officer, email: MLandsittel@blueprintmedicines.com with copies (which shall not constitute notice) to Blueprint Medicines Corporation, 45 Sidney Street, Cambridge, Massachusetts 02139, Attention: Legal Department, email: legal@blueprintmedicines.com and Goodwin Procter LLP, 100 Northern Avenue, Boston, MA 02210, Attention: Danielle Lauzon, email: dlauzon@goodwinlaw.com. Each party to this Agreement may change such address for notices by sending to the parties to this Agreement written notice of a new address for such purpose. Each such notice or other communication shall be deemed given (i) when delivered personally on or before 4:30 p.m., New York City time, on a Business Day (as defined below), or, if such day is not a Business Day on the next succeeding Business Day, (ii) on the next Business Day after timely delivery to a nationally-recognized overnight courier. (iii) on the Business Day actually received if deposited in the U.S. mail (certified or registered mail, return receipt requested, postage prepaid) and (iv) when delivered by email communication ("**Electronic Notice**"), at the time the party sending Electronic Notice receives verification of receipt by the receiving party, other than via auto reply. For purposes of this Agreement, "**Business Day**" shall mean any day on which the Nasdaq and commercial banks in the City of New York are open for business.

13. Successors and Assigns. This Agreement and any Terms Agreement shall inure to the benefit of and be binding upon the Company and Cowen and their respective successors and the affiliates, controlling persons, officers and directors referred to in Section 9 hereof. References to any of the parties contained in this Agreement or any Terms Agreement shall be deemed to include the successors and permitted assigns of such party. Nothing in this Agreement or any Terms Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement or any such Terms Agreement, except as expressly provided in this Agreement or such Terms Agreement. Neither party may assign its rights or obligations under this Agreement or any Terms Agreement without the prior written consent of the other party; *provided*, *however*, that Cowen may assign its rights and obligations hereunder or under any Terms Agreement to an affiliate of Cowen without obtaining the Company's consent, so long as such affiliate is a registered broker-dealer.

14. Adjustments for Share Splits. The parties acknowledge and agree that all share-related numbers contained in this Agreement or any Terms Agreement shall be adjusted to take into account any share split, share dividend or similar event effected with respect to the Common Stock.

15. Entire Agreement; Amendment; Severability. This Agreement (including all schedules and exhibits attached hereto and Placement Notices issued pursuant hereto), together with any Terms Agreement, constitutes the entire agreement and supersedes all other prior and contemporaneous agreements and undertakings, both written and oral, among the parties hereto with regard to the subject matter hereof. Neither this Agreement, nor any Terms Agreement, nor any term hereof may be amended except pursuant to a written instrument executed by the Company and Cowen. In the event that any one or more of the provisions contained herein, or the application thereof in any circumstance, is held invalid, illegal or unenforceable as written by a court of competent jurisdiction, then such provision shall be given full force and effect to the fullest possible extent that it is valid, legal and enforceable, and the remainder of the terms and provisions herein shall be construed as if such invalid, illegal or unenforceable term or provision was not contained herein, but only to the extent that giving effect to such provision and the remainder of the terms and provisions hereof shall be in accordance with the intent of the parties as reflected in this Agreement and any Terms Agreement.

16. Applicable Law; Consent to Jurisdiction. This Agreement and any Terms Agreement shall be governed by, and construed in accordance with, the internal laws of the State of New York without regard to the principles of conflicts of laws. Each party hereby irrevocably submits to the non-exclusive jurisdiction of the state and federal courts sitting in the City of New York, borough of Manhattan, for the adjudication of any dispute hereunder or in connection with any transaction contemplated hereby or by any Terms Agreement, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof (certified or registered mail, return receipt requested) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

17. Waiver of Jury Trial. The Company and Cowen each hereby irrevocably waives any right it may have to a trial by jury in respect of any claim based upon or arising out of this Agreement, any Terms Agreement or any transaction contemplated hereby or thereby.

18. Absence of Fiduciary Relationship. The Company acknowledges and agrees that:

(a) Cowen has been retained solely to act as an arm's length contractual counterparty to the Company in connection with the sale of the Shares contemplated hereby and any Terms Agreement and that no fiduciary, advisory or agency relationship between the Company and Cowen has been created in respect of any of the transactions contemplated by this Agreement or any Terms Agreement, irrespective of whether Cowen has advised or is advising the Company on other matters;

(b) the Company is capable of evaluating and understanding and understands and accepts the terms, risks and conditions of the transactions contemplated by this Agreement or any Terms Agreement;

(c) the Company has been advised that Cowen and its affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that Cowen has no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; and

(d) the Company waives, to the fullest extent permitted by law, any claims it may have against Cowen, for breach of fiduciary duty or alleged breach of fiduciary duty in connection with the sale of Shares under this Agreement and any Terms Agreement and agrees that Cowen shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary claim or to any person asserting a fiduciary duty claim on behalf of or in right of the Company, including stockholders, partners, employees or creditors of the Company.

19. Counterparts. This Agreement and any Terms Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Delivery of an executed Agreement or any Terms Agreement by one party to the other may be made by electronic transmission.

[Remainder of Page Intentionally Blank]

If the foregoing correctly sets forth the understanding between the Company and Cowen, please so indicate in the space provided below for that purpose, whereupon this letter shall constitute a binding agreement between the Company and Cowen.

Very truly yours,

COWEN AND COMPANY, LLC

By: /s/ Michael Murphy
Name: Michael Murphy
Title: Managing Director

ACCEPTED as of July 30, 2020:

BLUEPRINT MEDICINES CORPORATION

By: /s/ Jeffrey W. Albers
Name: Jeffrey W. Albers
Title: President and Chief Executive Officer

SCHEDULE 1

FORM OF PLACEMENT NOTICE

From: [ ]
Cc: [ ]
To: [ ]
Subject: Cowen At the Market Offering—Placement Notice

Gentlemen:

Pursuant to the terms and subject to the conditions contained in the Sales Agreement between Blueprint Medicines Corporation (the "Company"), and Cowen and Company, LLC ("Cowen") dated [●], 2020 (the "Agreement"), I hereby request on behalf of the Company that Cowen sell up to [[ ] shares]/[$[ ] of shares] of the Company's common stock, par value $0.001 per share, at a minimum market price of $_____ per share. Sales should begin on the date of this Notice and shall continue until [DATE] [all shares are sold].

SCHEDULE 2

Notice Parties

Company

Jeff Albers	President and Chief Executive Officer
Michael Landsittel	Chief Financial Officer
Tracey L. McCain	Executive Vice President, Chief Legal and Compliance Officer

Cowen

Michael J. Murphy	Managing Director
William Follis	Managing Director

SCHEDULE 2(b)

20.

BLUEPRINT MEDICINES CORPORATION
[_____] SHARES

TERMS AGREEMENT

____, 20__

Cowen and Company, LLC
599 Lexington Avenue
New York, NY 10022

Ladies & Gentlemen:

Blueprint Medicines Corporation, a Delaware corporation (the "**Company**"), proposes, subject to the terms and conditions stated herein and in the Sales Agreement, dated [●], 2020 (the "**Sales Agreement**"), between the Company and Cowen and Company, LLC ("**Cowen**"), to issue and sell to Cowen the securities specified in the Schedule hereto (the "**Purchased Securities**"). Unless otherwise defined below, terms defined in the Sales Agreement shall have the same meanings when used herein.

Each of the provisions of the Sales Agreement not specifically related to the solicitation by Cowen, as agent of the Company, of offers to purchase securities is incorporated herein by reference in its entirety, and shall be deemed to be part of this Terms Agreement to the same extent as if such provisions had been set forth in full herein. Each of the representations, warranties and agreements set forth therein shall be deemed to have been made as of the date of this Terms Agreement and the Settlement Date set forth in the Schedule hereto.

An amendment to the Registration Statement or a supplement to the Prospectus, as the case may be, relating to the Purchased Securities, in the form heretofore delivered to Cowen, is now proposed to be filed with the Commission.

Subject to the terms and conditions set forth herein and in the Sales Agreement which are incorporated herein by reference, the Company agrees to issue and sell to Cowen, and Cowen agrees to purchase from the Company, the Purchased Securities at the time and place and at the purchase price set forth in the Schedule hereto.

Notwithstanding any provision of the Sales Agreement or this Terms Agreement to the contrary, the Company consents to Cowen trading in the Common Stock for Cowen's own account and for the account of its clients at the same time as sales of the Purchased Securities occur pursuant to this Terms Agreement.

If the foregoing is in accordance with your understanding, please sign and return to us a counterpart hereof, whereupon this Terms Agreement, including those provisions of the Sales Agreement incorporated herein by reference, shall constitute a binding agreement between Cowen and the Company.

BLUEPRINT MEDICINES CORPORATION

By: _____
Name:
Title:

Accepted and agreed as of
the date first above written:

COWEN AND COMPANY, LLC

By: _____
Name:
Title:

Schedule to Terms Agreement

Title of Purchased Securities:

Common Stock, par value $0.001 per share

Number of Shares of Purchased Securities:

[●] Shares

Purchase Price Payable by Cowen:

$**[●]** per Share

Method of and Specified Funds for Payment of Purchase Price:

[By wire transfer to a bank account specified by the Company in same day funds.**]**

Method of Delivery:

[To Cowen's account, or the account of Cowen's designee, at The Depository Trust Company via DWAC in return for payment of the purchase price.**]**

Settlement Date:

[●], 20**[●]**

Closing Location:

[●]

Documents to be Delivered:

The following documents referred to in the Sales Agreement shall be delivered on the Settlement Date as a condition to the closing for the Purchased Securities (which documents shall be dated on or as of the Settlement Date and shall be appropriately updated to cover any Permitted Free Writing Prospectuses and any amendments or supplements to the Registration Statement, the Prospectus, any Permitted Free Writing Prospectuses and any documents incorporated by reference therein):

(1) the opinion and negative assurance letter referred to in Section 8(e);
(2) the opinion and negative assurance letter referred to in Section 8(f)
(3) the "comfort letter" referred to in Section 8(g);
(4) the representation certificate referred to in Section 8(h);
(5) the secretary's certificate referred to in Section 8(i); and
(6) such other documents as Cowen shall reasonably request.

Time of sale: **[●] [**a.m./p.m.**]** (New York City time) on **[●]**, **[●]**

Time of sale information:

- The number of shares of Purchased Securities set forth above.

SCHEDULE 3

Compensation

Cowen shall be paid compensation up to 3.0 % of the gross proceeds from the sales of Shares in an Agency Transaction pursuant to the terms of this Agreement.

Exhibit 7(m)

OFFICER CERTIFICATE

The undersigned, the duly qualified and elected _____, of **Blueprint Medicines Corporation** ("**Company**"), a Delaware corporation, does hereby certify on behalf of the Company (and not in the undersigned's individual capacity), pursuant to Section 7(m) of the Sales Agreement dated [●], 2020 (the "**Sales Agreement**") between the Company and Cowen and Company, LLC, that to the best of the knowledge of the undersigned.

(i) The representations and warranties of the Company in Section 6 of the Sales Agreement (A) to the extent such representations and warranties are subject to qualifications and exceptions contained therein relating to materiality or Material Adverse Change, are true and correct on and as of the date hereof with the same force and effect as if expressly made on and as of the date hereof, except for those representations and warranties that speak solely as of a specific date and which were true and correct as of such date, and (B) to the extent such representations and warranties are not subject to any qualifications or exceptions, are true and correct in all material respects as of the date hereof as if made on and as of the date hereof with the same force and effect as if expressly made on and as of the date hereof except for those representations and warranties that speak solely as of a specific date and which were true and correct as of such date; and

(ii) The Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied pursuant to the Sales Agreement at or prior to the date hereof.

By:_____
Name:
Title:

Date:_____

Exhibit 5.1

July 30, 2020

Blueprint Medicines Corporation
45 Sidney Street
Cambridge, MA 02139

Re: Securities Registered under Registration Statement on Form S-3ASR

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-3ASR (File No. 333-236424) (as amended or supplemented, the "**Registration Statement**") filed on February 13, 2020 with the Securities and Exchange Commission (the "**Commission**") pursuant to the Securities Act of 1933, as amended (the "**Securities Act**"), relating to the registration of the offering by Blueprint Medicines Corporation, a Delaware corporation (the "**Company**") of any combination of securities of the types specified therein. The Registration Statement was declared effective by the Commission on February 13, 2020. Reference is made to our opinion letter dated February 13, 2020 and included as Exhibit 5.1 to the Registration Statement. We are delivering this supplemental opinion letter in connection with the prospectus supplement (the "**Prospectus Supplement**") filed on July 30, 2020 by the Company with the Commission pursuant to Rule 424 under the Securities Act. The Prospectus Supplement relates to the offering by the Company of up to $250,000,000 in shares (the "**Shares**") of the Company's common stock, par value $0.001 per share ("**Common Stock**") covered by the Registration Statement. The Shares are being offered and sold by the sales agent named in, and pursuant to, the sales agreement among the Company and such sales agent.

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinion set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

For purposes of the opinion set forth below, we have assumed that the Shares are issued for a price per share equal to or greater than the minimum price authorized by the Company's board of directors (or a duly authorized committee of the Company's board of directors) (the "**Minimum Price**") and that no event occurs that causes the number of authorized shares of Common Stock available for issuance by the Company to be less than the number of then unissued Shares that may be issued for the Minimum Price.

For purposes of the opinion set forth below, we refer to the following as "Future Approval and Issuance": (a) the approval by the Company's board of directors (or a duly authorized committee of the board of directors) of the issuance of the Shares (the "**Approval**") and (b) the issuance of the Shares in accordance with the Approval and the receipt by the Company of the consideration

(which shall not be less than the par value of such Shares) to be paid in accordance with the Approval.

The opinion set forth below is limited to the Delaware General Corporation Law.
Based on the foregoing, we are of the opinion that the Shares have been duly authorized and, upon Future Approval and Issuance, will be validly issued, fully paid and nonassessable.

This opinion is being furnished to you for submission to the Commission as an exhibit to the Company's Quarterly Report on Form 10-Q relating to the Shares (the "**Quarterly Report**"), which is incorporated by reference in the Registration Statement. We hereby consent to the filing of this opinion letter as an exhibit to the Quarterly Report and its incorporation by reference and the reference to our firm in that report. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ Goodwin Procter LLP

GOODWIN PROCTER LLP

Exhibit 10.1

[***] CERTAIN INFORMATION IN THIS DOCUMENT HAS BEEN OMITTED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

COLLABORATION AGREEMENT

BY AND AMONG

BLUEPRINT MEDICINES CORPORATION,

F. HOFFMANN-LA ROCHE LTD

AND

GENENTECH, INC.

DATED AS OF JULY 13, 2020

TABLE OF CONTENTS

		Page
ARTICLE 1	DEFINITIONS	1
ARTICLE 2	GOVERNANCE	18
2.1	Collaboration Overview	18
2.2	Joint Steering Committee	18
2.3	Joint Development Committee	20
2.4	Joint Medical Affairs Committee.	22
2.5	Joint Commercialization Committee	24
2.6	Resolution of Committee Disputes	25
2.7	Appointment of Alliance Managers	26
2.8	General Committee Authority	26
ARTICLE 3	DEVELOPMENT	27
3.1	Development Diligence; Standards of Conduct	27
3.2	Development Plans; Development Activities	27
3.3	Consensus	28
3.4	Ongoing Clinical Trials	28
3.5	Supplemental Studies	28
3.6	Joint Development Costs; Joint Early Program Development Costs	29
3.7	[***] Early Program Development Plans	29
3.8	Reporting	29
3.9	Clinical Trial Reporting	29
3.10	Development Records	30
3.11	Data Exchange and Use	30
3.12	Subcontracts	30
3.13	Second Generation RET Compounds	30
3.14	Development of Diagnostic Tests and Biomarkers	31
3.15	Notice of Metabolites	32
ARTICLE 4	REGULATORY MATTERS	32
4.1	Regulatory Responsibilities	32
4.2	Recalls, Market Withdrawals or Corrective Actions	34
4.3	Reporting Adverse Events	34
ARTICLE 5	OPERATIONS	35
5.1	Operations Generally	35
5.2	Commercialization Diligence; Standards of Conduct	35
5.3	Therapeutic Area Team	35
5.4	Commercialization of Licensed Products in the Shared Territory	36
5.5	Commercialization of Licensed Products in the Roche Territory	37
5.6	Medical Affairs Activities.	38
5.7	Operations Costs	38
5.8	Commercialization Reports	39
5.9	Sales and Distribution	39
5.10	Coordination of Operational Activities	39
5.11	Cross-Territorial Restrictions	39
5.12	Subcontracts	40
5.13	Commercialization of Diagnostic Tests and Biomarkers	40

ARTICLE 6 MANUFACTURE AND SUPPLY 41
6.1 Manufacturing Responsibilities 41
6.2 Technology Transfer 41
6.3 Additional Studies 41
6.4 Specifications 42
6.5 Supply Agreements 42
6.6 Allocation of Manufacturing Costs 42
6.7 Subcontracts; Affiliates 42
6.8 Product Tracking 42
ARTICLE 7 LICENSES AND EXCLUSIVITY 43
7.1 Licenses to Roche 43
7.2 BPM Retained Rights; License to BPM 43
7.3 Sublicensing 44
7.4 Distributorships and Co-Promotion Rights 45
7.5 Negative Covenant 45
7.6 No Implied Licenses 45
7.7 Third Party Payments 45
7.8 Exclusivity 46
ARTICLE 8 FINANCIALS 47
8.1 Upfront Payment 47
8.2 Equity Investment 47
8.3 Joint Development Costs; Joint Early Program Development Costs 47
8.4 Profit Sharing in the Shared Territory Following Commercialization 48
8.5 Development and Regulatory Milestone Payments 49
8.6 Sales Milestone Payments 50
8.7 Licensed Product Royalties 50
8.8 Royalty Payments and Reports 53
8.9 Following Royalty Term and Gross Profit Sharing Term 53
8.10 Other Amounts Payable 53
8.11 Taxes 53
8.12 Blocked Currency 54
8.13 Foreign Exchange 54
8.14 Late Payments 55
8.15 Financial Records; Audits 55
8.16 Manner and Place of Payment 55
ARTICLE 9 INTELLECTUAL PROPERTY 56
9.1 Ownership of Inventions 56
9.2 CREATE Act 57
9.3 Prosecution of Patents 57
9.4 Infringement by Third Parties 59
9.5 Defense of Patents 61
9.6 Defense of Infringement Actions 61
9.7 Patent Marking 61
9.8 Personnel Obligations 61
9.9 Product Trademarks 61
9.10 Confirmatory Patent Licenses 63
ARTICLE 10 REPRESENTATIONS AND WARRANTIES 63

10.1 Mutual Representations and Warranties 63
10.2 Representations and Warranties by BPM 65
10.3 Other Covenants 65
10.4 Disclaimer 66
10.5 No Other Representations or Warranties 66
ARTICLE 11 INDEMNIFICATION 66
11.1 Indemnification by BPM 66
11.2 Indemnification by Roche 67
11.3 Indemnification Procedures 67
11.4 Certain Third Party Claims Related to Licensed Products in the Shared Territory 67
11.5 Limitation of Liability 68
11.6 Insurance 68
ARTICLE 12 CONFIDENTIALITY 68
12.1 Non-Use and Non-Disclosure 68
12.2 Permitted Disclosure 68
12.3 Initial Press Releases; Further Publicity 69
12.4 Publications 70
12.5 Commercial Considerations 70
12.6 Use of Names 71
12.7 Tax Treatment 72
12.8 Attorney-Client Privilege 72
ARTICLE 13 TERM AND TERMINATION 72
13.1 Term 72
13.2 Termination Rights of each Party 72
13.3 Termination by Either Party for Breach or Insolvency 73
13.4 Effects of Termination of the Agreement 74
13.5 Other Remedies 77
13.6 Rights in Bankruptcy 77
13.7 Survival 78
ARTICLE 14 DISPUTE RESOLUTION 78
14.1 Disputes 78
14.2 Arbitration 78
14.3 Governing Law 80
14.4 Award 80
14.5 Injunctive Relief; Remedy for Breach of Exclusivity 80
14.6 Confidentiality 81
14.7 Survivability 81
14.8 Jurisdiction 81
14.9 Patent and Trademark Disputes 81
ARTICLE 15 MISCELLANEOUS 81
15.1 Entire Agreement; Amendment 81
15.2 Force Majeure 81
15.3 Notices 82
15.4 No Strict Construction; Headings 83
15.5 Assignment 83
15.6 Non-Solicitation 84
15.7 Further Actions 84

15.8 Compliance with Applicable Law 84
15.9 Interpretation 84
15.10 Severability 84
15.11 No Waiver 85
15.12 Relationship of Parties 85
15.13 Counterparts 85

Exhibit A –BPM Patents
Exhibit B – Lead Backups
Exhibit C – Lead Compound Metabolites
Exhibit D – Manufacturing Cost
Exhibit E – Marks
Exhibit F – Transition Activities
Exhibit G – Initial Lead Product Development Plan
Exhibit H – Initial Joint Commercialization Plan
Exhibit I – Partnership Tax Matters
Appendix 1.34 – [***]
Appendix 1.40 – [***]
Appendix 8.4(b) – Example of Quarterly Profit/Loss Calculation
Appendix 12.3(a)(1) and 12.3(a)(2) – Initial Press Release

COLLABORATION AGREEMENT

THIS COLLABORATION AGREEMENT (this "**Agreement**") is entered into as of July 13, 2020 (the "**Effective Date**") by and among **BLUEPRINT MEDICINES CORPORATION**, having its principal place of business at 45 Sidney Street, Cambridge, MA 02139, United States ("**BPM**"), **F. Hoffmann-La Roche Ltd**, having a principal office at Grenzacherstrasse 124, 4070 Basel, Switzerland ("**Roche Basel**"), and **Genentech, Inc.**, have a principal office at 1 DNA Way, South San Francisco, California 94080, U.S.A. ("**Genentech**"; Roche Basel and Genentech together referred to as "**Roche**"). BPM and Roche are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties.**" Capitalized terms used but not defined in the Background below shall have the meanings ascribed to such terms in Article 1 or elsewhere in this Agreement.

BACKGROUND

WHEREAS, BPM is a biotechnology company that is developing highly potent and selective RET inhibitors, including the RET inhibitor known as pralsetinib (formerly known as BLU-667), for the treatment of certain cancers.

WHEREAS, Roche is a pharmaceutical company with expertise in the research, development, manufacture and commercialization of pharmaceutical products.

WHEREAS, Roche and BPM desire to establish a collaboration for the further development and commercialization of the Compounds and Licensed Products in the Territory.

WHEREAS, under such collaboration, Roche shall have the exclusive commercialization rights outside the U.S. (excluding the Existing Partner Territory), and BPM and Roche shall have co-commercialization rights in the U.S. as part of a profit share arrangement.

WHEREAS, this Agreement may be treated as (i) the formation of a separate deemed partnership solely for U.S. federal (and, to the extent applicable, state) income tax purposes (but not for non-U.S. Tax or any other purposes) with respect to the co-development and co-commercialization of Licensed Products in the U.S.

NOW THEREFORE, in consideration of the foregoing premises and the mutual promises, covenants and conditions contained in this Agreement, the Parties agree as follows:

ARTICLE 1 DEFINITIONS

As used in this Agreement, the following terms shall have the meanings set forth in this Article 1, whether used in the singular or plural form.day

1.1 "**AAA**" has the meaning set forth in Section 14.2.

1.2 "**AcceleRET Lung Clinical Trial**" means the Clinical Trial with the Protocol No. BLU-667-3303.

1.3 "**Active Ingredient**" means those clinically active materials that provide pharmacological activity in a pharmaceutical or biologic product (excluding [***]).

1.4 "**Affiliate**" means, any individual, corporation, association or other business entity that directly or indirectly controls, is controlled by, or is under common control with an individual, corporation,

association or other business entity in question. As used in this definition of "Affiliate," the term "control" shall mean the direct or indirect ownership of more than fifty percent (>50%) of the stock having the right to vote for directors thereof or the ability to otherwise control the management of the corporation, association or other business entity whether through the ownership of voting securities, by contract, resolution, regulation or otherwise. Anything to the contrary in this paragraph notwithstanding, [***] shall not be deemed as Affiliates of Roche unless Roche provides written notice to BPM of its desire to include [***] as Affiliate(s) of Roche.

1.5 "**Agreement**" has the meaning set forth in the preamble hereto.

1.6 "**Alliance Manager**" has the meaning set forth in Section 2.7.

1.7 [***].

1.8 "**Ancillary Agreement**" means any Pharmacovigilance Agreement, the Stock Purchase Agreement, any Supply Agreement or any Transition Agreement.

1.9 "**Anti-Corruption Laws**" has the meaning set forth in Section 10.1(e)(i).

1.10 "**Applicable Law**" means the applicable laws, rules and regulations, including any rules, regulations, guidelines or other requirements of Governmental Authorities, including Regulatory Authorities, which may be in effect from time to time, including Anti-Corruption Laws.

1.11 "**Arbitral Tribunal**" has the meaning set forth in Section 14.2(a)(ii).

1.12 "**Assigned Product-Specific Know-How**" means any Collaboration Know-How that (a) (i) [***] relates to a Compound, a Licensed Product or a BPM Combination Product (including any composition of matter, method of use, or method of Manufacturing, in each case, that [***]) or Diagnostic Test [***] for use with a Licensed Product or a BPM Combination Product, and (ii) is conceived, discovered, developed or otherwise made in the course of performing any activities or exercising any rights under this Agreement, or (b) (i) [***] relates to any compound, including any Second Generation RET Compound and Second Generation Clinical Candidate, that does not become a Second Generation Compound [***], including their composition of matter, method of use, or method of Manufacture, and (ii) is conceived, discovered, developed or otherwise made in the course of performing any activities in connection with a Second Generation Research Plan, and in each case of (a) or (b), whether solely by or on behalf of Roche (or its Affiliates, licensees, Sublicensees, or subcontractors or its or their respective directors, officers, employees or agents) or jointly by or on behalf of the Parties (or their respective Affiliates, licensees, Sublicensees, or subcontractors or its or their respective directors, officers, employees or agents).

1.13 "**Assigned Product-Specific Patents**" means all Collaboration Patents that claim or disclose Assigned Product-Specific Know-How.

1.14 "**Assigned Product-Specific Technology**" means the Assigned Product-Specific Know-How and the Assigned Product-Specific Patents.

1.15 "**Bankruptcy Code**" has the meaning set forth in Section 13.3(d).

1.16 "**Bankrupt Party**" has the meaning set forth in Section 13.6.

1.17 "**Biomarker**" has the meaning set forth in Section 3.14.

1.18 "**BPM**" has the meaning set forth in the preamble to this Agreement.

1.19 "**BPM Claims**" has the meaning set forth in Section 11.2.

1.20 "**BPM Collaboration Know-How**" means Collaboration Know-How [***].

1.21 "**BPM Collaboration Patents**" means all Collaboration Patents [***].

1.22 "**BPM Combination Product**" means any Combination Product that includes a Licensed Product together with any Third Party's Other Component.

1.23 "**BPM Damages**" has the meaning set forth in Section 11.2.

1.24 "**BPM Deferral Election**" has the meaning set forth in Section 3.7.

1.25 "**BPM Indemnitees**" has the meaning set forth in Section 11.2.

1.26 "**BPM Know-How**" means all Know-How that is Controlled by BPM or its Affiliate(s) (a) as of the Effective Date or (b) during the Term to the extent used by BPM or its Affiliates or Sublicensees in Exploiting any Compounds and Licensed Products, in each case of (a) and (b), that are [***] for the Exploitation of Compounds or Licensed Products in the Field. For clarity, BPM Know-How shall include Assigned Product-Specific Know-How and BPM Collaboration Know-How, but shall exclude rights under any BPM Patents.

1.27 "**BPM Net Sales**" means, prior to the Transition Date with respect to a Licensed Product in a particular period, the amount calculated by subtracting from the Sales or other dispositions of value of such Licensed Product in the Shared Territory for such period:

(a) import taxes, export taxes, excises, sales taxes, value added taxes, consumption taxes, duties or other taxes incurred with respect to such sales (excluding income or franchise taxes of any kind); uncollectible amounts accrued during such period based on a proportional allocation of the total bad debts accrued during such period and not already taken as a gross-to-net deduction in accordance with the then currently used GAAP in the calculation of sales of such Licensed Product for such period;

(b) amounts accrued during such period for returns, chargebacks, credits, allowances, patient assistance allowances or trade, quantity and cash discounts and not already taken as a gross-to-net deduction in accordance with the then currently used GAAP in the calculation of sales of such Licensed Product for such period;

(c) amounts accrued during such period for governmental or commercial rebates, specialty pharmacies and distributors fees, administrative fees to managed care, group purchasing and other similar institutions, and not already taken as a gross-to-net deduction in accordance with the then currently used GAAP in the calculation of Sales of such Licensed Product for such period; and

(d) government mandated fees and taxes and other government charges accrued during such period not already taken as a gross-to-net deduction in accordance with the then currently used GAAP in the calculation of sales of such Licensed Product for such period, including, for example, any fees, taxes or other charges that become due in connection with any healthcare reform, change in government pricing or discounting schemes, or other action of a Governmental Authorities or Regulatory Authority.

For the avoidance of doubt, if a single item falls into more than one of the categories set forth in clauses (a)-(d) above, then such item may not be deducted more than once. In the case of any sale or other disposition of Licensed Products for consideration other than cash (whether such non-cash consideration is payment in kind, exchange or other form), BPM Net Sales shall include an amount calculated based on the on average price charged for the applicable Licensed Product in the applicable country during the preceding period.

If a Licensed Product is sold as part of a BPM Combination Product, [***].

To the extent that BPM or its Affiliates or Sublicensees receives consideration other than or in addition to cash upon the sale of a Licensed Product, or the performance of any services (including preliminary treatments or follow-up treatments) related to such Licensed Product, BPM Net Sales shall include the fair market value of such additional consideration.

For purposes of BPM Net Sales, "**Sales**" mean, for a Licensed Product in a particular period, the amount stated in the BPM "Product Sales" line of its externally published audited consolidated financial statements with respect to such Licensed Product for such period (excluding sales to any Sublicensees that are not Affiliates of BPM). This amount reflects the gross invoice price at which such Licensed Product was sold or otherwise disposed of (other than for use as clinical supplies or free samples) by BPM and its Affiliates to such Third Parties (excluding sales to any Sublicensees that are not Affiliates of BPM) in such period reduced by gross-to-net deductions, if not previously deducted from such invoiced amount, taken in accordance with the then currently used GAAP. For the avoidance of doubt, Sales shall not include sales or other dispositions of Licensed Products between BPM and its Affiliates or its Sublicensees, or among such Affiliates and Sublicensees, except for any sales or other dispositions to Affiliates or Sublicensees that are the intended end user.

1.28 "**BPM Patents**" means all Patents that are Controlled by BPM or its Affiliate(s) (a) as of the Effective Date or (b) during the Term to the extent used by BPM or its Affiliates or Sublicensees in Exploiting any Compounds and Licensed Products (including any Patents used by or on behalf of BPM, its Affiliates or Sublicensees in the course of performing its or their activities, or in exercising its or their rights, under this Agreement), in each case of (a) and (b), that are [***] for the Exploitation of Compounds or Licensed Products in the Field. For clarity, BPM Patents shall include Assigned Product-Specific Patents and BPM Collaboration Patents. Exhibit A includes the BPM Patents that are owned or exclusively licensed by BPM in the Territory and that exist as of the Effective Date.

1.29 "**BPM Technology**" means the BPM Patents, BPM Know-How and BPM's interest in Joint Collaboration Technology.

1.30 "**BPM/Roche Combination Product**" means any Combination Product that includes a Licensed Product together with any Roche Marketed Product.

1.31 "**Business Day**" means a day other than (a) a Saturday or a Sunday, (b) a bank or other public holiday in in Basel, Switzerland, or (c) a bank or other public holiday in Boston, Massachusetts.

1.32 "**Calendar Quarter**" means each period of three (3) consecutive calendar months, ending March 31, June 30, September 30, and December 31.

1.33 "**Calendar Year**" means the period of time beginning on January 1 and ending December 31, except for the first year which shall begin on the Effective Date and end on December 31.

1.34 [***].

1.35 "**Change of Control**" has the meaning set forth in Section 7.8(d).

1.36 [***].

1.37 "**Claim**" has the meaning set forth in Section 11.3.

1.38 "**Clinical Supply Agreement**" has the meaning set forth in Section 6.5.

1.39 "**Clinical Trial**" means any human clinical trial of a Licensed Product.

1.40 [***].

1.41 "**CMC Activities**" means those Manufacturing activities and regulatory activities designed to support preparation of the Chemistry, Manufacturing and Controls sections of any Regulatory Materials or Regulatory Approval.

1.42 "**CMOs**" has the meaning set forth in Section 6.1(a).

1.43 "**Collaboration**" has the meaning set forth in Section 2.1.

1.44 "**Collaboration Know-How**" means all Know-How conceived, discovered, developed or otherwise made in the course of performing any activities or exercising any rights under this Agreement, whether solely by or on behalf of one Party (or its Affiliates, licensees, Sublicensees, or subcontractors or its or their respective directors, officers, employees or agents) or jointly by or on behalf of the Parties (or their respective Affiliates, licensees, Sublicensees, or subcontractors or its or their respective directors, officers, employees or agents), including Assigned Product-Specific Know-How.

1.45 "**Collaboration Patents**" means any Patent that claims or discloses Collaboration Know-How.

1.46 "**Combination Product**" means (a) a single pharmaceutical formulation [***] or (b) a combination therapy comprised of [***].

1.47 "**Commercial Supply Agreement**" has the meaning set forth in Section 6.5.

1.48 [***].

1.49 "**Commercialization**" means the (a) marketing, promotion, detailing, sale and booking of sales [***] or distribution of a Licensed Product in the Territory, or (b) performance of any activities affecting the Joint Commercialization Plan or Roche Operational Plan, as applicable. Commercialization shall include, with respect to a Licensed Product, [***]. "**Commercialize**" has a correlative meaning to Commercialization.

1.50 "**Commercially Reasonable Efforts**" means, with respect to the performance of an obligation under this Agreement, such level of efforts and resources [***].

1.51 "**Committee**" means the Joint Steering Committee, Joint Development Committee, Joint Commercialization Committee, Joint Medical Affairs Committee, Manufacturing Committee, or any other committees or subcommittee established pursuant to Article 2, as applicable.

1.52 "**Competitive Product**" means [***].

1.53 "**Compound(s)**" means any Lead Compound, Lead Backup or Second Generation Compound.

1.54 "**Compulsory Profit Share Percentage**" has the meaning set forth in Section 8.7(f).

1.55 "**Compulsory Sublicense**" has the meaning set forth in Section 1.56.

1.56 "**Compulsory Sublicense Compensation**" means for a given country or region, the compensation paid to the Roche or its Affiliates or Sublicensees by a Third Party (a "**Compulsory Sublicensee**") under a license or sublicense of any applicable Patent granted to such Compulsory Sublicensee (the "**Compulsory Sublicense**") through the order, decree or grant of a Governmental Authority having competent jurisdiction in such country or region, authorizing such Third Party to manufacture, use, sell, offer for sale, import or export a Licensed Product in such country or region.

1.57 "**Compulsory Sublicensee**" has the meaning set forth in Section 1.56.

1.58 "**Confidential Information**" means any and all information, data or know-how (including Know-How), whether technical or non-technical, oral or written, that is disclosed by one Party or its Affiliates ("**Disclosing Party**") to the other Party or its Affiliates ("**Receiving Party**"). Confidential Information shall not include any information, data or know-how to the extent the Receiving Party can demonstrate through competent evidence that such information:

(a) was generally available to the public at the time of disclosure, or becomes available to the public after disclosure by the Disclosing Party other than through fault (whether by action or inaction) of the Receiving Party or its Affiliates;

(b) was already known to the Receiving Party or its Affiliates prior to its receipt from the Disclosing Party;

(c) is obtained by the Receiving Party at any time lawfully from a Third Party under circumstances permitting its use or disclosure;

(d) developed independently by or on behalf of the Receiving Party or its Affiliates without use of, reference to or reliance upon any Confidential Information of the Disclosing Party; or

(e) is approved in writing by the Disclosing Party for release by the Receiving Party.

The terms of this Agreement shall be considered Confidential Information of the Parties.

1.59 "**Control**" means (as an adjective or as a verb including conjugations and variations such as "**Controls**" "**Controlled**" or "**Controlling**") (a) with respect to Patents or Know-How, the possession by a Party of the ability to grant a license or sublicense of such Patents or Know-How, and (b) with respect to proprietary materials, including Regulatory Materials, Regulatory Approvals or Compounds, the possession by a Party of the ability to supply such item to the other Party as provided herein, in each case of (a) and (b) without violating the terms of any agreement or arrangement between such Party and any other party or without being obligated to pay any royalties or other consideration [***].

1.60 "**Cost of Goods Sold**" means, with respect to a given Calendar Quarter, the aggregate Manufacturing Costs (calculated in accordance with GAAP) for all Licensed Products sold in the Shared Territory during such Calendar Quarter.

1.61 "**Cover**" means (as an adjective or as a verb including conjugations and variations such as "**Covered,**" "**Coverage**" or "**Covering**") that the Exploitation of a given compound, formulation, process or product would infringe a Valid Claim in the absence of a license under or ownership in the patent rights to which such Valid Claim pertains. The determination of whether a compound, formulation, process or product is Covered by a particular Valid Claim shall be made on a country-by-country basis.

1.62 "**Decision Period**" has the meaning set forth in Section 9.4(a).

1.63 [***].

1.64 "**Development**" means all activities that relate to (a) obtaining, maintaining or expanding Regulatory Approval of a Compound or Licensed Product in the Territory for one or more indications or (b) developing the process for the Manufacture of clinical and commercial quantities of a Compound and Licensed Product. This includes (i) the conduct of Nonclinical Studies and Clinical Trials (excluding any Phase 4 Clinical Trials not included in a Development Plan) and (ii) the preparation, submission, review and development of data or information in support of a submission to a Regulatory Authority in the Territory to obtain, maintain or expand Regulatory Approval of a Compound or Licensed Product, as applicable, including the services of outside advisors in connection therewith, including outside counsel and regulatory consultants, but excludes (A) Commercialization, (B) the Manufacture and accumulation of commercial inventory of a Compound or Licensed Product, and (C) Medical Affairs. "**Develop**" has a correlative meaning.

1.65 "**Development Cost Budget**" means (a) the Joint Development Cost Budget or (b) Early Program Development Cost Budget, as applicable

1.66 "**Development Plan**" means (a) the Lead Product Development Plan or (b) any Early Program Development Plan, as applicable.

1.67 [***].

1.68 [***].

1.69 [***].

1.70 [***].

1.71 "**Direct Costs**" has the meaning set forth in Exhibit D.

1.72 [***].

1.73 "**Distributor**" has the meaning set forth in Section 7.4(a).

1.74 "**Early Program Development Cost Budget**" has the meaning set forth in Section 3.2(a).

1.75 "**Early Program Development Plan**" has the meaning set forth in Section 3.2(a).

1.76 "**Effective Date**" has the meaning set forth in the preamble to this Agreement.

1.77 "**EMA**" means the European Medicines Agency or its successor.

1.78 "**Employing Party**" has the meaning set forth in Section 15.6.

1.79 "**EU**" means all of the European Union member states as of the applicable time during the Term.

1.80 "**Existing Partner Agreement**" means any agreement, whether existing as of the Effective Date or entered into during the Term, between BPM or its Affiliates and a Third Party with respect to Licensed Products in the Existing Partner Territory, including as the same may be amended from time to time.

1.81 "**Existing Partner Territory**" means China, Hong Kong, Macau and Taiwan.

1.82 "**Expert**" means a person with no less than [***] years of pharmaceutical industry experience and expertise having [***] but excluding any current or former employee or consultant of either Party or its Affiliates (or of [***] in the case of Roche). Such person shall be fluent in the English language.

1.83 "**Expert Committee**" has the meaning set forth in Section 8.7(e)(ii).

1.84 "**Exploit**" means, to research, have researched, develop, have developed, register, have registered, use, have used, make, have made, import, have imported, export, have exported, market, have marketed, distribute, have distributed, sell, have sold and offer for sale and have offered for sale, including all research, Development, Manufacturing and Commercialization. "**Exploitation**" and "**Exploiting**" have a correlative meaning.

1.85 "**FDA**" means the United States Food and Drug Administration or its successor.

1.86 "**FDCA**" means the United States Federal Food, Drug and Cosmetic Act, as amended.

1.87 "**Field**" means all uses in humans and animals.

1.88 "**Finance Officers**" has the meaning set forth in Section 8.4(b).

1.89 "**First Commercial Sale**" means, with respect to a Licensed Product and a country, the first sale to a Third Party of such Licensed Product in such country after all Regulatory Approvals have been obtained in such country.

1.90 "**Force Majeure Event**" has the meaning set forth in Section 15.2.

1.91 "**FTE**" means the equivalent of a full-time individual's work time for a twelve (12) month period, where "**full-time**" is determined by [***] hours per year. In the event that any individual who works full-time during a given fiscal year works partially on Compounds or Licensed Products or in furtherance of the Collaboration and partially on other work outside the Collaboration in the fiscal year, then the full-time equivalent to be attributed to such individual's work hereunder for such fiscal year shall be equal to the percentage of such individual's total work time in such fiscal year that such individual spent working on Compounds or Licensed Products or in furtherance of the Collaboration. FTE efforts shall not include the work of alliance management, executive management and general corporate or administrative personnel.

1.92 "**FTE Costs**" means, with respect to a Party for any period, the applicable FTE Rate multiplied by the applicable number of FTEs of such Party performing activities during such period in accordance with the applicable Development Plan (including applicable Development Cost Budget), Joint Commercialization Plan (including Joint Commercialization Budget) and Joint Medical Affairs Plan (including the budget related thereto).

1.93 "**FTE Rate**" means [***] per one (1) full FTE per full twelve (12) month Calendar Year; provided, that, starting January 1, 2021, such rate shall adjust on January 1 of each Calendar Year by an amount equal to [***]. Notwithstanding the foregoing, for any Calendar Year during the Term that is less than a full year, the above referenced rate shall be proportionately reduced to reflect such portion of such full Calendar Year.

1.94 "**GAAP**" means U.S. generally accepted accounting principles, consistently applied.

1.95 "**Genentech**" has the meaning set forth in the Preamble.

1.96 "**Generic Product**" means, with respect to a particular Licensed Product and on a country-by-country basis, a generic pharmaceutical product that is marketed for sale by a Third Party (not licensed, supplied or otherwise permitted by Roche or BPM in accordance with this Agreement) and that: (a) (i) contains the same or substantially the same active ingredient as the Compound in such Licensed Product; and (ii) is approved for use in such country by a Regulatory Authority through an Abbreviated New Drug Application as defined in the FDCA, and the regulations promulgated thereunder, pursuant to Article 10.1 of Directive 2001/83/EC of the European Parliament and Council of 6 November 2001, or any enabling legislation thereof, or pursuant to any similar abbreviated route of approval in such country; or (b)(i) contains the same or substantially the same active ingredient as the Compound in such Licensed Product; and (ii) is approved for use in such country by a Regulatory Authority through a regulatory pathway referencing clinical data first submitted by or on behalf of Roche or BPM for obtaining Regulatory Approval for such Licensed Product.

1.97 "**Global Brand Elements**" has the meaning set forth in Section 9.9(a).

1.98 [***].

1.99 "**Governmental Authority**" means any multi-national, federal, state, local, municipal or other government authority of any nature (including any governmental division, subdivision, department, agency, bureau, branch, office, commission, council, court or other tribunal).

1.100 "**Gross Profit**" means, with respect to Licensed Products in the Shared Territory for a given Calendar Quarter [***].

1.101 "**Gross Profit Sharing Term**" means the period commencing on the Effective Date and continuing until [***].

1.102 [***].

1.103 "**IFRS**" means International Financial Reporting Standards.

1.104 "**IND**" means (a) an Investigational New Drug Application as defined in the FDCA and applicable regulations promulgated thereunder by the FDA, or (b) the equivalent application to the equivalent Regulatory Authority in any other regulatory jurisdiction, the filing of which is necessary to initiate or conduct clinical testing of a pharmaceutical product in humans in such jurisdiction.

1.105 "**Indemnified Party**" has the meaning set forth in Section 11.3.

1.106 "**Indemnified Person**" means, in the case of Roche, any Roche Indemnitee, and in the case of BPM, any BPM Indemnitee.

1.107 "**Indemnifying Party**" has the meaning set forth in Section 11.3.

1.108 "**Indication**" means a disease or condition (a) for which the Licensed Product is indicated for treatment and (b) that is described in the Licensed Product's label as required by the Regulatory Approval granted by the applicable Regulatory Authority.

1.109 "**Indirect Costs**" has the meaning set forth in Exhibit D.

1.110 [***].

1.111 "**Joint Collaboration Know-How**" means any Know-How conceived, discovered, developed or otherwise made in the course of performing any activities or exercising any rights under this Agreement, jointly by or on behalf of BPM (or its Affiliates, licensees, Sublicensees, or subcontractors or its or their respective directors, officers, employees or agents) on the one hand, and by or on behalf of Roche (or its Affiliates, licensees, Sublicensees, or subcontractors or its or their respective directors, officers, employees or agents) on the other hand [***].

1.112 "**Joint Collaboration Patents**" means any Patents that claim or disclose Joint Collaboration Know-How.

1.113 "**Joint Collaboration Technology**" means the Joint Collaboration Know-How and Joint Collaboration Patents.

1.114 "**Joint Commercialization Committee**" or "**JCC**" has the meaning set forth in Section 2.5.

1.115 "**Joint Development Committee**" or "**JDC**" means the committee formed by the Parties as described in Section 2.3.

1.116 "**Joint Development Cost Budget**" has the meaning set forth in Section 3.2(a).

1.117 "**Joint Development Costs**" means [***].

1.118 "**Joint Development Costs Cap**" has the meaning set forth in Section 8.3(a).

1.119 "**Joint Early Program Development Costs**" means [***].

1.120 "**Joint Commercialization Budget**" has the meaning set forth in Section 5.4(a)(i).

1.121 "**Joint Medical Affairs Committee**" has the meaning set forth in Section 2.4(a).

1.122 "**Joint Medical Affairs Plan**" has the meaning set forth in Section 5.6(c).

1.123 "**Joint Operational Costs**" means [***].

1.124 "**Joint Commercialization Plan**" has the meaning set forth in Section 5.4(a)(i).

1.125 "**Joint Steering Committee**" or "**JSC**" means the committee formed by the Parties as described in Section 2.2(a).

1.126 "**Know-How**" means [***].

1.127 "**Lead Backup**" means (a) a backup compound to the Lead Compound that is Controlled by BPM as of the Effective Date as set forth on Exhibit B, and (b) [***].

1.128 "**Lead Compound**" means (a) BPM's proprietary RET inhibitor known as pralsetinib (formerly known as BLU-667), (b) [***], (c) [***] and (d) [***].

1.129 [***].

1.130 "**Lead Product**" means any Licensed Product that contains a Lead Compound.

1.131 "**Lead Product Development Plan**" has the meaning set forth in Section 3.2(a).

1.132 "**Licensed Product**(**s**)" means any product containing a Compound as an Active Ingredient, in any form, presentation, dosage or formulation form (including fixed dose combination). For clarity, a Licensed Product does not include any BPM/Roche Combination Product or any BPM Combination Product. For clarity, Licensed Products include a Lead Product.

1.133 "**Loss of Market Exclusivity**" has the meaning set forth in Section 8.7(d)(ii).

1.134 "**Major Countries**" means the U.S., [***].

1.135 "**Manufacture**" means, with respect to a Licensed Product, those manufacturing-related activities that support the Development (including the seeking and obtaining of Regulatory Approvals) and Commercialization of such Licensed Product, including manufacturing process development and scale-up, validation, qualification and audit of clinical and commercial manufacturing facilities, bulk production and fill/finish work, related quality assurance technical support activities and CMC Activities, and including, in the case of a clinical or commercial supply of such Licensed Product, the synthesis, manufacturing, processing, formulating, packaging, labeling, holding, quality control testing and release of such Licensed Product. "**Manufacturing**" has a correlative meaning.

1.136 "**Manufacturing Committee**" has the meaning set forth in Section 6.2(b).

1.137 "**Manufacturing Cost**" has the meaning set forth on Exhibit D.

1.138 [***].

1.139 "**Marketing Authorization Application**" or "**MAA**" means an application for Regulatory Approval in a country, territory or possession other than the Shared Territory.

1.140 "**Marks**" has the meaning set forth in Section 9.9(a), a complete listing of Marks as of the Effective Date is attached as Exhibit E.

1.141 "**Medical Affairs Activities**" means activities designed to ensure or improve appropriate medical use of, conduct medical education of, or further relevant research regarding, a Licensed Product in the Territory.

1.142 "**Metabolites**" means any Lead Compound Metabolites [***].

1.143 "**MHLW**" means the Japanese Ministry of Health, Labour and Welfare or its successor.

1.144 "**MSLs**" has the meaning set forth in Section 2.4(c)(iii).

1.145 "**MTC**" means medullary thyroid cancer.

1.146 "**NDA**" means a New Drug Application, as defined in the FDCA and applicable regulations promulgated thereunder by the FDA.

1.147 "**New Metabolite**" has the meaning set forth in Section 3.15.

1.148 "**Nonclinical Studies**" means all non-human animal studies, including preclinical studies and toxicology studies, of Licensed Products.

1.149 "**NSCLC**" means non-small cell lung cancer.

1.150 "**Option Period**" means the period beginning on [***] and ending upon [***].

1.151 [***].

1.152 "**Option Right**" has the meaning set forth in Section 3.13(b).

1.153 "**Other Component**" has the meaning set forth in Section 1.46.

1.154 "**Other Program**" has the meaning set forth in Section 7.8(c).

1.155 "**Out of Pocket Costs**" shall mean [***].

1.156 "**Party**" or "**Parties**" has the meaning set forth in the preamble to this Agreement.

1.157 "**Patent**" means (a) a U.S. or foreign patent or a patent application, (b) any additions, priority applications, divisionals, continuations, and continuations-in-part of any of the foregoing and (c) all patents issuing on any of the foregoing patent applications, together with all invention certificates, substitutions, reissues, reexaminations, registrations, supplementary protection certificates, confirmations, renewals and extensions of any of clauses (a), (b) or (c), and U.S. or foreign counterparts of any of the foregoing.

1.158 "**Patent Challenge**" has the meaning set forth in Section 13.2(b).

1.159 "**Patent Coordination Team**" means a team consisting of one (1) or more patent professional from each Party who together function to oversee and coordinate the filing, prosecution, maintenance, and enforcement of Patents licensed under or otherwise relevant to activities under this Agreement throughout the Territory and the Existing Partner Territory (to the extent possible).

1.160 "**Patent Costs**" means [***].

1.161 [***].

1.162 "**Person**" means an individual, sole proprietorship, partnership, limited partnership, limited liability partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated association, joint venture or other similar entity or organization, including a government or political subdivision, department or agency of a government.

1.163 "**Pharmacovigilance Agreement**" has the meaning set forth in Section 4.3.

1.164 "**Phase 1 Clinical Trial**" means a Clinical Trial of a Licensed Product with the endpoint of determining initial tolerance, safety, pharmacokinetic or pharmacodynamic information in single dose, single ascending dose, multiple dose or multiple ascending dose regimens, which is prospectively designed to generate sufficient data (if successful) to commence a Phase 2 Clinical Trial (or later Clinical Trial) of such Licensed Product, as further defined in 21 C.F.R. 312.21(a), as amended from time to time, or the corresponding foreign regulations.

1.165 "**Phase 2 Clinical Trial**" means a Clinical Trial of a Licensed Product for which the primary endpoints include a determination of dose ranges or a preliminary determination of efficacy in patients being studied, which is prospectively designed to generate sufficient data (if successful) to commence a Phase 3 Clinical Trial of such Licensed Product, as described in 21 C.F.R. 312.21(b) (as amended or any replacement thereof), or a similar clinical study prescribed by the Regulatory Authorities in a foreign country.

1.166 "**Phase 3 Clinical Trial**" means a Clinical Trial of a Licensed Product on a sufficient number of subjects that is designed to establish that a pharmaceutical product is safe and efficacious for its intended use, and to determine warnings, precautions, and adverse reactions that are associated with such pharmaceutical product in the dosage range to be prescribed, which Clinical Trial is intended to support or confirm Regulatory Approval of such product, as described in 21 C.F.R. 312.21(c) (as amended or any replacement thereof), or a similar clinical study prescribed by the Regulatory Authorities in a foreign country.

1.167 "**Phase 4 Clinical Trial**" a Clinical Trial of a Licensed Product Initiated after Regulatory Approval of such Licensed Product has been obtained from an appropriate Regulatory Authority due to a request of such Regulatory Authority.

1.168 "**PhRMA Code**" means the PhRMA Code on Interactions with health care professionals.

1.169 "**Pivotal Study**" means (a) a Phase 3 Clinical Trial or (b) any other Clinical Trial that is designed to or does generate Regulatory Data regarding safety and efficacy of a product as required by a Regulatory Authority for the filing of an application for Regulatory Approval for such product.

1.170 "**Pricing and Reimbursement Approval**" means an approval, agreement, determination, or other decision by the applicable Governmental Authority that establishes prices charged to end-users for pharmaceutical or biologic products at which a particular pharmaceutical or biologic product shall be reimbursed by the Regulatory Authorities or other applicable Governmental Authorities in the Territory.

1.171 [***].

1.172 "**Product Infringement**" has the meaning set forth in Section 9.4(a).

1.173 "**Product Marks**" has the meaning set forth in Section 9.9(b).

1.174 "**Public Official**" means (a) any officer, employee or representative of any Governmental Authority; (b) any officer, employee or representative of any commercial enterprise that is owned or controlled by a Governmental Authority, including any state-owned or controlled veterinary, laboratory or medical facility; (c) any officer, employee or representative of any public international organization, such as the International Monetary Fund, the United Nations or the World Bank; and (d) any person acting in an official capacity for any Governmental Authority, enterprise, or organization identified above.

1.175 "**Publishing Notice**" has the meaning set forth in Section 12.4(b).

1.176 "**Publishing Party**" has the meaning set forth in 12.4(b).

1.177 "**Recruiting Party**" has the meaning set forth in Section 15.6.

1.178 "**Regulatory Approval**" means all approvals necessary for the manufacture, marketing, importation and sale of a Licensed Product for one or more indications in the Field and in a country or regulatory jurisdiction, which may include satisfaction of all applicable regulatory and notification requirements, but which shall exclude any Pricing and Reimbursement Approvals. Regulatory Approvals include approvals by Regulatory Authorities of INDs, MAAs or NDAs.

1.179 "**Regulatory Authority**" means, in a particular country or regulatory jurisdiction, any applicable Governmental Authority involved in granting Regulatory Approval or, to the extent required in such country or regulatory jurisdiction, Pricing and Reimbursement Approval of a Licensed Product in such country or regulatory jurisdiction, including (a) the FDA, (b) the EMA, (c) the European Commission, and (d) MHLW, in each case, or its successor.

1.180 "**Regulatory Commitments**" means activities to be performed by or on behalf of a Party or its Affiliates as a condition or in connection with receipt of Regulatory Approval of a Licensed Product in the Territory, including any Phase 4 Clinical Trials or other post-marketing commitments as mandated or agreed to be conducted with a Regulatory Authority for such Licensed Product.

1.181 "**Regulatory Exclusivity**" means any exclusive marketing rights or data exclusivity rights conferred by any Regulatory Authority with respect to a Licensed Product other than Patent rights, including, without limitation, rights conferred in the U.S. under the Hatch-Waxman Act or the FDA Modernization Act of 1997 (including pediatric exclusivity), or rights similar thereto outside the U.S.

1.182 "**Regulatory Interactions**" has the meaning set forth in Section 4.1(b)(iii).

1.183 "**Regulatory Materials**" means regulatory applications, submissions, notifications, registrations, or other filings made to or with a Regulatory Authority that are [***] in order to Develop, Manufacture, market, sell or otherwise Commercialize a Licensed Product in a particular country or regulatory jurisdiction. Regulatory Materials include INDs, MAAs and NDAs (as applications, but not the approvals with respect thereto).

1.184 [***].

1.185 "**RET**" means receptor tyrosine kinase commonly known as REarranged during Transfection, including the wild-type and any mutants or isoforms of the foregoing.

1.186 "**Reversion Product**" means, (a) with respect to any Terminated Region(s), any Licensed Product that is or has been the subject of clinical Development or Commercialization hereunder or (b) with respect to any termination of this Agreement on a Licensed Product-by-Licensed Product basis, the relevant Licensed Product.

1.187 "**Roche**" has the meaning set forth in the preamble to this Agreement.

1.188 "**Roche Basel**" has the meaning set forth in the Preamble.

1.189 "**Roche Claims**" has the meaning set forth in Section 11.1.

1.190 "**Roche Clinical Compounds**" shall mean [***].

1.191 "**Roche Collaboration Know-How**" means [***].

1.192 "**Roche Collaboration Patents**" means [***].

1.193 "**Roche Damages**" has the meaning set forth in Section 11.1.

1.194 "**Roche Indemnitees**" has the meaning set forth in Section 11.1.

1.195 "**Roche Know-How**" means [***].

1.196 "**Roche Marketed Product**" means marketed products controlled by Roche or its Affiliates (but not BPM Combination Products, BPM/Roche Combination Product or Licensed Products) and provided for (i) combination preclinical Development activities with Compounds or Products, or (ii) combination Clinical Trials with Licensed Products.

1.197 "**Roche Net Sales**" means, with respect to a Licensed Product in a particular period, the amount calculated by subtracting from the Sales of such Licensed Product for such period: (a) [***]; (b) uncollectible amounts accrued during such period based on a proportional allocation of the total bad debts accrued during such period and not already taken as a gross-to-net deduction in accordance with the then currently used IFRS in the calculation of Sales of such Licensed Product for such period; (c) credit card charges (including processing fees) accrued during such period on such Sales and not already taken as a gross-to-net deduction in accordance with the then currently used IFRS in the calculation of Sales of such Licensed Product for such period; and (d) government mandated fees and taxes and other government charges accrued during such period not already taken as a gross-to-net deduction in accordance with the then currently used IFRS in the calculation of Sales of such Licensed Product for such period, including, for example, any fees, taxes or other charges that become due in connection with any healthcare reform, change in government pricing or discounting schemes, or other action of a Governmental Authority or Regulatory Authority. For clarity, no deductions taken in calculating Sales may be taken a second time in calculating Roche Net Sales.

With respect to a Combination Product, Roche Net Sales of such Combination Product eligible for royalties [***].

To the extent that Roche or its Affiliates or Sublicensees receives consideration other than or in addition to cash upon the sale of a Licensed Product, or the performance of any services (including preliminary treatments or follow-up treatments) related to such Licensed Product, Roche Net Sales shall include the fair market value of such additional consideration.

For purposes of Roche Net Sales, "Sales" mean, for a Licensed Product in a particular period, the sum of (a) and (b):

(a) the amount stated in the Roche Holding AG "Sales" line of its externally published audited consolidated financial statements with respect to such Licensed Product for such period (excluding sales to any Sublicensees that are not Affiliates of Roche). This amount reflects the gross invoice price at which such Licensed Product was sold or otherwise disposed of (other than for use as clinical supplies or free samples) by Roche and its Affiliates to such Third Parties (excluding sales to any Sublicensees that are not Affiliates of Roche) in such period reduced by gross-to-net deductions, if not previously deducted from such invoiced amount, taken in accordance with the then currently used IFRS; and

(b) for Sublicensees that are not Roche Affiliates (and excluding Compulsory Sublicensees), the sales amounts reported to Roche and its Affiliates in accordance with the Sublicensee

contractual terms and their then-currently used accounting standards. For the purpose of clarity, any such Sublicensee sales as reported to Roche in accordance with Compulsory Sublicense agreements shall be excluded from the sales amount.

By way of example, the gross-to-net deductions taken in accordance with IFRS as of the Effective Date include the following:

(i) credits, reserves or allowances granted for (a) damaged, outdated, returned, rejected, withdrawn or recalled Licensed Product, (b) wastage replacement and short-shipments; (c) billing errors and (d) indigent patient and similar programs (e.g., price capitation);

(ii) governmental price reductions and government mandated rebates;

(iii) chargebacks, including those granted to wholesalers, buying groups and retailers;

(iv) customer rebates, including cash sales incentives for prompt payment, cash and volume discounts; and

(v) taxes and any other governmental charges or levies imposed upon or measured by the import, export, use, manufacture or sale of a Licensed Product (excluding income or franchise taxes).

For purposes of clarity, sales by Roche and its Affiliates to any Sublicensee shall be excluded from "**Sales**" for purposes of Roche Net Sales.

1.198 "**Roche Operational Plan**" has the meaning set forth in Section 5.5.

1.199 "**Roche Patents**" means all Patents that are Controlled by Roche or its Affiliates [***], (a) as of the Effective Date or (b) during the Term to the extent used by Roche or its Affiliates or Sublicensees in Exploiting any Compounds and Licensed Products (including any Patents used by or on behalf of Roche, its Affiliates or Sublicensees in the course of performing its or their activities, or in exercising its or their rights, under this Agreement), in each case of (a) and (b), that are [***] for the Exploitation of Compounds or Licensed Products in the Field. For clarity, Roche Patents shall include Roche Collaboration Patents.

1.200 "**Roche Technology**" means the Roche Patents and the Roche Know-How and Roche's interest in Joint Collaboration Technology.

1.201 "**Roche Territory**" means all countries of the world other than the Shared Territory or the Existing Partner Territory.

1.202 "**Royalty Term**" has the meaning set forth in Section 8.7(c).

1.203 "**Sales**" has the meaning set forth in Section 1.27 with respect to BPM Net Sales and Section 1.197 with respect to Roche Net Sales.

1.204 "**SEC**" means the U.S. Securities and Exchange Commission.

1.205 "**Second Generation Clinical Candidate**" has the meaning set forth in Section 3.13(a).

1.206 "**Second Generation Compound**" means (a) any Second Generation Clinical Candidate to which Roche has exercised its Option Right pursuant to Section 3.13, (b) [***], (c) [***], and (d) [***].

1.207 [***].

1.208 "**Second Generation Product**" means any Licensed Product that contains a Second Generation Compound.

1.209 "**Second Generation Research Plan**" has the meaning set forth in Section 3.13(a).

1.210 "**Second Generation RET Compound**" means any compound Developed under the Second Generation Research Plan [***].

1.211 "**Securitization Transaction**" has the meaning set forth in Section 15.5(b).

1.212 "**Shared Program Activities**" means any activities with respect to a Licensed Product conducted by either Party or any of its Affiliates, Sublicensees or subcontractors during the Term consisting of (a) the development (including Development) for the purpose of, or in support of, (i) obtaining or maintaining Regulatory Approval in the Shared Territory or (ii) Commercialization of any Licensed Product in the Shared Territory, in each case ((i) and (ii)) pursuant to the applicable Development Plan or Joint Commercialization Plan, (b) Commercialization and Medical Affairs Activities with respect to any Licensed Product in the Shared Territory, or (c) the Manufacture of any Licensed Product (including any intermediate thereof or any API or other material contained therein) for use in any activities under clause (a) or (b).

1.213 "**Shared Program Damages**" means [***].

1.214 "**Shared Territory**" means the U.S.

1.215 "**Specifications**" has the meaning set forth in Section 6.2(b).

1.216 "**Stock Purchase Agreement**" means that certain Stock Purchase Agreement dated as of the Effective Date between Roche Holdings, Inc. and BPM.

1.217 "**Sublicense Agreement**" has the meaning set forth in Section 7.3(b).

1.218 "**Sublicensee**" means any Third Party granted a sublicense by a Party under the rights licensed to such Party pursuant to Article 7 hereof, other than a Compulsory Sublicensee.

1.219 "**Suit Notice**" has the meaning set forth in Section 9.4(a).

1.220 "**Supplemental Study**" has the meaning set forth in Section 3.5(a).

1.221 "**Supply Agreements**" has the meaning set forth in Section 6.5.

1.222 "**Technology Transfer**" has the meaning set forth in Section 6.2(a).

1.223 "**Term**" has the meaning set forth in Section 13.1.

1.224 "**Terminated Region**" has the meaning set forth in Section 13.4.

1.225 "**Termination Notice Period**" has the meaning set forth in Section 13.4(c)(i).

1.226 "**Territory**" means the Roche Territory and the Shared Territory.

1.227 "**Therapeutic Area Team**" or "**TAT**" has the meaning set forth in Section 5.3(a).

1.228 "**Third Party**" means any entity other than BPM or Roche or an Affiliate of either of them.

1.229 "**Third Party Acquisition**" has the meaning set forth in Section 7.8(c).

1.230 "**Third Party Payment**" has the meaning set forth in Section 7.7(a).

1.231 "**Trademark Costs**" means [***].

1.232 "**Transition Plan**" has the meaning set forth in Section 5.1(c).

1.233 "**Transition Agreement**" has the meaning set forth in Section 13.4(d).

1.234 [***].

1.235 "**U.S.**" means the United States of America (including all possessions and territories thereof).

1.236 "**Valid Claim**" means, with respect to a particular country, a claim in any (a) unexpired and issued patent (or any patent term extensions or supplementary protection certificates thereof) that has not been irretrievably lapsed or been abandoned, disclaimed, permanently revoked, dedicated to the public or held invalid, unenforceable or not patentable by a final non-appealable decision of a court of competent jurisdiction or government agency, or (b) pending patent application being prosecuted in good faith and has been pending for no more than [***] from the earliest priority date; provided that, if a claim ceases to be a Valid Claim by reason of foregoing subclause (b), then such claim will again be deemed a Valid Claim in the event such claim subsequently issues prior to the end of the Royalty Term in such country.

1.237 "**WAC Price**" has the meaning set forth in Section 5.9(a).

1.238 "**Withholding Action**" has the meaning set forth in Section 8.11(c).

ARTICLE 2 GOVERNANCE

2.1 Collaboration Overview. The Parties desire and intend to work together leveraging each Party's expertise to collaborate with respect to the Development, Manufacture, Commercialization and Medical Affairs Activities of Compounds and Licensed Products in the Field in the Territory, as and to the extent set forth in this Agreement (the "**Collaboration**"). The Parties will establish a governance structure to oversee and govern the Collaboration.

2.2 Joint Steering Committee.

(a) Purpose; Formation. Within [***] after the Effective Date, the Parties shall establish a joint steering committee (the "**JSC**") to monitor and provide strategic oversight of the activities under this Agreement and oversee the Collaboration, all in accordance with this Section 2.2.

(b) Composition. Each Party shall initially appoint [***] representatives to the JSC, all of whom shall have sufficient seniority within the applicable Party to make decisions arising within the scope of the JSC's responsibilities. The JSC may change its size from time to time by mutual consent of its members, provided that the JSC shall consist at all times of an equal number of representatives of each

of BPM and Roche. Each Party may replace its JSC representatives at any time upon written notice to the other Party. Only one of a Party's representatives on any particular Committee (other than the JSC) may also serve as a representative of such Party on the JSC. In addition, JSC members may be represented at any meeting by another person designated by the absent member who has the required expertise (which such designee shall have voting authority at the JSC for the applicable meeting). The JSC may invite non-members to participate in the discussions and meetings of the JSC, provided that such participants shall have no voting authority at the JSC. The JSC shall have co-chairpersons from each of BPM and Roche. The role of the co-chairpersons shall be to preside at meetings of the JSC. The Alliance Managers shall work with the co-chairpersons to prepare and circulate agendas, to convene and to ensure the preparation of minutes. The chairperson shall have no additional powers or rights beyond those held by the other JSC representatives.

(c) Specific Responsibilities of the JSC. In addition to its overall responsibility for monitoring and providing strategic oversight and overseeing the Collaboration, the JSC shall in particular:

(i) review and discuss the Development, Manufacture, Commercialization and Medical Affairs Activities of Compounds and Licensed Products in the Territory and any other ongoing activities under this Agreement;

(ii) facilitate the flow of information between the Parties with respect to the Development, Manufacture, Commercialization and Medical Affairs Activities of Compounds and Licensed Products;

(iii) oversee the activities of the JDC, JCC, JMAC and any other Committee and provide guidance thereto;

(iv) attempt to resolve issues presented to it by, and disputes within, the JDC, JCC, JMAC and any other Committee;

(v) in accordance with Section 2.2(f) establish such additional Committees as it deems necessary to achieve the objectives and intent of this Agreement; and

(vi) perform such other functions as appropriate, and direct each other Committee to perform such other functions as appropriate, to further the purposes of this Agreement, in each case as agreed in writing by the Parties.

(d) Meetings. The JSC shall meet at least [***] during the Term unless the Parties mutually agree in writing to a different frequency. No later than [***] prior to any meeting of the JSC, the co-chairpersons of the JSC shall prepare and circulate an agenda for such meeting; provided, however, that either Party may propose additional topics to be included on such agenda prior to such meeting. Either Party may also call a special meeting of the JSC (by videoconference, teleconference or in person) by providing at least [***] prior written notice to the other Party if such Party reasonably believes that a significant matter must be addressed prior to the next scheduled meeting, in which event such Party shall work with the chairperson of the JSC and the Alliance Managers of both Parties to provide the members of the JSC no later than [***] prior to the special meeting with an agenda for the meeting and materials reasonably adequate to enable an informed decision on the matters to be considered. The JSC may meet in person, by videoconference or by teleconference. Notwithstanding the foregoing, at least [***] shall be in person unless the Parties mutually agree in writing to waive such requirement. In-person JSC meetings shall be held at locations alternately selected by BPM and by Roche. Each Party shall bear the expense of its respective JSC members' participation in JSC meetings. The Alliance Managers shall be responsible for preparing reasonably detailed written minutes of all JSC meetings that reflect material decisions made

and action items identified at such meetings. The Alliance Managers shall send draft meeting minutes to each member of the JSC for review and approval within [***] after each JSC meeting. Approved minutes shall be distributed to the JSC members by the Alliance Managers.

(e) Decision-Making. In addition to resolving issues specifically delegated to it, the JSC shall have the authority to resolve disputes within the jurisdiction of the JDC, JCC, JMAC, and any other Committees, but otherwise shall have no authority except where expressly specified elsewhere in this Agreement or mutually agreed by the Parties in writing. The representatives from each Party shall have, collectively, one (1) vote on behalf of that Party, and all decision-making shall be by consensus, or by unanimous written consent. Disputes at the JSC shall be handled in accordance with Section 2.6.

(f) Other Committees or Subcommittees. The JSC may form any other committees or subcommittees as may be necessary or desirable to facilitate the activities under this Agreement. Any additional Committees shall be required to consist at all times of an equal number of representatives of BPM and Roche. Except as otherwise provided herein, any dispute arising from such Committees shall be escalated to the JSC for resolution.

(g) Discontinuation of Committees. The JSC may at any time and upon mutual agreement disband any Committee (other than the JSC itself or the JDC, JCC, or JMAC), and the Parties may at any time and upon mutual written agreement disband the JSC, JDC, JCC, or JMAC.

2.3 Joint Development Committee.

(a) Formation; Composition. Within [***] after the Effective Date, the Parties shall establish a committee to coordinate the Development activities of the Parties related to the Development of the Lead Compound in accordance with the Development Plan and, subject to Section 3.13, the Development of a Second Generation RET Compound or a Lead Backup in accordance with a Second Generation Research Plan (the "**JDC**"). Each Party shall initially appoint [***] representatives to the JDC, with each representative having knowledge and expertise in the development of compounds and products similar to the Compounds and Licensed Products and having sufficient seniority within the applicable Party to make decisions arising within the scope of the JDC's responsibilities. The JDC may change its size from time to time, provided that the JDC shall consist at all times of an equal number of representatives of each of BPM and Roche. Each Party may replace its JDC representatives at any time upon written notice to the other Party. In addition, JDC members may be represented at any meeting by another person designated by the absent member who has the required expertise (which such designee shall have voting authority at the JDC for the applicable meeting). The JDC may invite non-members to participate in the discussions and meetings of the JDC, provided that such participants shall have no voting authority at the JDC. The JDC shall have a chairperson who shall be selected alternately, on an annual basis, by BPM or Roche. The initial chairperson shall be [***]. The role of the chairperson shall be to convene and preside at meetings of the JDC and to ensure the preparation of minutes, but the chairperson shall have no additional powers or rights beyond those held by the other JDC representatives.

(b) Specific Responsibilities of the JDC. The JDC shall have the following responsibilities:

(i) oversee implementation of the Transition Plans with respect to Development activities, including costs associated with such activities;

(ii) discuss, review and approve the Lead Product Development Plan (including Joint Development Cost Budget), and all annual and interim amendments to the Lead Product Development Plan (including Joint Development Cost Budget);

(iii) oversee the conduct of the Lead Product Development Plan, including lifecycle planning;

(iv) create, implement and review the overall strategy for Development and the design of all Clinical Trials, Nonclinical Studies and pre-clinical studies conducted under the Lead Product Development Plan;

(v) decide whether and when to initiate or discontinue any Clinical Trial and any Nonclinical Study under the Lead Product Development Plan, and initiate or discontinue any Clinical Trial and any Nonclinical Study, provided that nothing is intended to limit a Party's ability to comply with Applicable Law or manage subject safety;

(vi) allocate budgeted resources and determine priorities for each Clinical Trial and Nonclinical Study under the Lead Product Development Plan, and oversee the conduct of all Clinical Trials and Nonclinical Studies under the Lead Product Development Plan;

(vii) discuss and coordinate roles and responsibilities between the Parties for Development activities in the Territory;

(viii) facilitate the flow of information between the Parties with respect to the Development of the Lead Product, including any Manufacturing updates;

(ix) review the overall strategy regarding Regulatory Approval of the Lead Product in the Territory;

(x) discuss, review and oversee the conduct of any Phase 4 Clinical Trials in the Territory that may be included in a Development Plan;

(xi) discuss, review and approve any Supplemental Studies;

(xii) discuss, review and decide whether to initiate Development of a Diagnostic Test or Biomarker to support Regulatory Approval or Commercialization of a Licensed Product pursuant to Section 3.14;

(xiii) discuss, review and approve the initiation of any activities under a Second Generation Research Plan in accordance with Section 3.13 (and any amendments thereto), oversee the activities under such Second Generation Research Plan [***];

(xiv) [***];

(xv) discuss, review and approve any Early Program Development Plan (including and following Roche's exercise of its Option Right pursuant to Section 3.13, the Early Program Development Cost Budget for such Early Program Development Plan) consistent with the foregoing clauses (ii) through (xi);and

(xvi) perform such other functions as directed by the JSC in accordance with Section 2.2(c)(vi).

References to Clinical Trials in clauses (iv) through (vi) shall be deemed to include only those Phase 4 Clinical Trials that the JSC has directed to be undertaken by the JDC instead of the JMAC.

(c) Meetings. The JDC shall meet [***], unless the Parties mutually agree in writing to a different frequency. No later than [***] prior to any meeting of the JDC, the chairperson of the JDC shall prepare and circulate an agenda for such meeting; provided, however, that either Party shall be free to propose additional topics to be included on such agenda, prior to such meeting. Either Party may also call a special meeting of the JDC (by videoconference, teleconference or in person) by providing at [***] prior written notice to the other Party if such Party reasonably believes that a significant matter must be addressed prior to the next scheduled meeting, in which event such Party shall work with the chairperson of the JDC to provide the members of the JDC no later than [***] prior to the special meeting with an agenda for the meeting and materials reasonably adequate to enable an informed decision. The JDC may meet in person, or at the request of either Party, by videoconference, or by teleconference. In-person JDC meetings shall be held at locations alternately selected by BPM and by Roche or at any other location mutually agreed by the members of the JDC. Each Party shall report to the JDC on all material issues relating to the Development of Licensed Products for and in the Territory promptly after such issues arise. Each Party shall bear the expense of its respective JDC members' participation in JDC meetings. The chairperson shall be responsible for preparing reasonably detailed written minutes of JDC meetings that reflect all decisions made and action items identified at such meetings. The JDC chairperson shall send meeting minutes to each member of the JDC for review and approval within [***] after each JDC meeting. Approved minutes shall be distributed to the JDC by the JDC chairperson.

(d) Decision-Making. Subject to Section 2.6, the JDC shall act by consensus (or by unanimous written consent). The representatives from each Party shall have, collectively, one (1) vote on behalf of that Party. If the JDC cannot reach consensus on an issue that comes before the JDC within [***] of the meeting such issue was raised and over which the JDC has oversight, then the Parties shall refer such matter to the JSC for resolution in accordance with Sections 2.2(e) and 2.6.

2.4 Joint Medical Affairs Committee.

(a) General. [***], the Parties shall establish a joint medical affairs committee to oversee and manage the Medical Affairs Activities with respect to Licensed Products in the Territory and to coordinate the regulatory activities of the Parties with respect to such activities (the "**JMAC**").

(b) Formation; Composition. Each Party shall initially appoint [***] representatives to the JMAC, with each representative having knowledge and expertise working with products similar to the Licensed Products and having sufficient seniority within the applicable Party to make decisions arising within the scope of the JMAC's responsibilities. The JMAC may change its size from time to time by mutual consent of its members, provided that the JMAC shall consist at all times of an equal number of representatives of each of BPM and Roche. Each Party may replace its JMAC representatives at any time upon written notice to the other Party. In addition, JMAC members may be represented at any meeting by another person designated by the absent member who has the required expertise (which such designee shall have voting authority at the JMAC for the applicable meeting). The JMAC may invite non-members to participate in the discussions and meetings of the JMAC, provided that such participants shall have no voting authority at the JMAC. The JMAC shall have a chairperson who shall be selected alternately, on an annual basis, by BPM or Roche. The initial chairperson [***]. The role of the chairperson shall be to convene and preside at meetings of the JMAC and to ensure the preparation of minutes, but the chairperson shall have no additional powers or rights beyond those held by the other JMAC representatives.

(c) Specific Responsibilities of the JMAC. The JMAC shall have the following responsibilities:

(i) oversee implementation of the Transition Plans with respect to Medical Affairs Activities, including costs associated with such activities;

(ii) discuss, review and approve the Joint Medical Affairs Plan (including the budget related thereto) and all annual and interim amendments to such Joint Medical Affairs Plan (including the budget related thereto);

(iii) oversee implementation of, and coordinate the Parties' activities under, the Joint Medical Affairs Plan, including medical science liaison ("**MSLs**") strategy, sizing and alignment of MSLs (including strategy for management of key opinion leaders);

(iv) evaluate the progress of Medical Affairs Activities under the Joint Medical Affairs Plan relative to plan;

(v) discuss and coordinate roles and responsibilities between the Parties for Medical Affairs Activities in the Shared Territory;

(vi) review and approve investigator initiated studies;

(vii) discuss and coordinate Phase 4 Clinical Trial activities that are being led by the JMAC;

(viii) review, discuss and coordinate the Parties' scientific presentation and publication strategy relating to the Licensed Products in the Shared Territory and any such publications that would reasonably impact the Shared Territory (including any global publications, conferences or congresses), including review and discussion of proposed publications and attempt to resolve disputes with respect thereto;

(ix) establish policies and procedures for the review and approval of any medical affairs materials for any Licensed Product in the Territory; and

(x) perform such other functions as appropriate to further the purposes of this Agreement, as directed by the JSC in accordance with Section 2.2(c)(vi).

(d) Meetings. The JMAC shall meet [***], unless the Parties mutually agree in writing to a different frequency. No later than [***] prior to any meeting of the JMAC, the chairperson of the JMAC shall prepare and circulate an agenda for such meeting; provided, however, that either Party shall be free to propose additional topics to be included on such agenda, prior to such meeting. Either Party may also call a special meeting of the JMAC (by videoconference, teleconference or in person) by providing at least [***] prior written notice to the other Party if such Party reasonably believes that a significant matter must be addressed prior to the next scheduled meeting, in which event such Party shall work with the chairperson of the JMAC to provide the members of the JMAC no later than [***] prior to the special meeting with an agenda for the meeting and materials reasonably adequate to enable an informed decision. The JMAC may meet in person, or at the request of either Party, by videoconference, or by teleconference. In-person JMAC meetings will be held at locations in the U.S. alternately selected by BMP and by Roche or at any other location mutually agreed by the members of the JMAC. Each Party shall report to the JMAC on all material issues relating to Medical Affairs Activities with respect to Licensed Products promptly after such issues arise. Each Party will bear the expense of its respective JMAC members' participation in JMAC meetings. The chairperson will be responsible for preparing reasonably detailed written minutes of JMAC meetings that reflect all decisions made and action items identified at such meetings. The JMAC chairperson shall send meeting minutes to each member of the JMAC for review and approval within [***] after each JMAC meeting. Approved minutes shall be distributed to the JMAC by the JMAC chairperson.

(e) Decision-Making. Subject to the remainder of this Section 2.4(e), the JMAC shall act by consensus (or by unanimous written consent). The representatives from each Party will have,

collectively, one (1) vote on behalf of that Party. If the JMAC cannot reach consensus on an issue that comes before the JMAC within [***] of the meeting such issue was raised and over which the JMAC has oversight, then the Parties shall refer such matter to the JDC or JCC, as applicable, for resolution.

2.5 Joint Commercialization Committee.

(a) General. [***] the Parties shall establish a joint commercialization committee to oversee and manage the Commercialization with respect to such Lead Product (and any Licensed Product containing a Lead Backup and any Second Generation Clinical Candidate that becomes a Licensed Product following Roche's exercise of its Option Right pursuant to Section 3.13 [***]) (the "**JCC**").

(b) Formation; Composition. Each Party shall initially appoint [***] representatives to the JCC, with each representative having knowledge and expertise working with products similar to the Licensed Products and having sufficient seniority within the applicable Party to make decisions arising within the scope of the JCC's responsibilities. The JCC may change its size from time to time by mutual consent of its members, provided that the JCC shall consist at all times of an equal number of representatives of each of BPM and Roche. Each Party may replace its JCC representatives at any time upon written notice to the other Party. In addition, JCC members may be represented at any meeting by another person designated by the absent member who has the required expertise (which such designee shall have voting authority at the JCC for the applicable meeting). The JCC may invite non-members to participate in the discussions and meetings of the JCC, provided that such participants shall have no voting authority at the JCC. The JCC shall have a chairperson who shall be selected alternately, on an annual basis, by BPM or Roche. The initial chairperson [***]. The role of the chairperson shall be to convene and preside at meetings of the JCC and to ensure the preparation of minutes, but the chairperson shall have no additional powers or rights beyond those held by the other JCC representatives.

(c) Specific Responsibilities of the JCC. The JCC shall have the following responsibilities:

(i) oversee implementation of the Transition Plans with respect to Commercialization activities, including costs associated with such activities;

(i) discuss, review and approve the Roche Operational Plan [***];

(ii) discuss, review and approve the Joint Commercialization Plan (including Joint Commercialization Budget) and all annual and interim amendments to such Joint Commercialization Plan (including Joint Commercialization Budget);

(iii) monitor and discuss Commercialization of Licensed Products in the Roche Territory;

(iv) discuss, review and approve changes to the Parties' Commercialization responsibilities, [***];

(v) establish policies and procedures for review and approval of any promotional materials for any Licensed Product in the Shared Territory, including with respect to the resolution of any disagreement between the Parties at the joint promotional review committee in accordance with Section 5.4(b);

(vi) oversee the activities of the TAT, review and discuss reports from the TAT and provide guidance thereto;

(vii) direct the TAT to perform such other functions as appropriate; and

(viii) perform such other functions as directed by the JSC in accordance with Section 2.2(c)(vi).

(d) Meetings. The JCC shall meet [***], unless the Parties mutually agree in writing to a different frequency. No later than [***] prior to any meeting of the JCC, the chairperson of the JCC shall prepare and circulate an agenda for such meeting; provided, however, that either Party shall be free to propose additional topics to be included on such agenda, prior to such meeting. Either Party may also call a special meeting of the JCC (by videoconference, teleconference or in person) by providing at least [***] prior written notice to the other Party if such Party reasonably believes that a significant matter must be addressed prior to the next scheduled meeting, in which event such Party shall work with the chairperson of the JCC to provide the members of the JCC no later than [***] prior to the special meeting with an agenda for the meeting and materials reasonably adequate to enable an informed decision. The JCC may meet in person, by videoconference, or by teleconference. In-person JCC meetings shall be held at locations alternately selected by BPM and by Roche or at any other location mutually agreed by the members of the JCC. Meetings of the JCC shall be effective only [***] of each Party are present or participating in such meeting. Each Party shall bear the expense of its respective JCC members' participation in JCC meetings. The chairperson shall be responsible for preparing reasonably detailed written minutes of JCC meetings that reflect all decisions made and action items identified at such meetings. The JCC chairperson shall send meeting minutes to each member of the JCC for review and approval within [***] each JCC meeting. Approved minutes shall be distributed to the JCC by the JCC chairperson.

(e) Decision-Making. In addition to resolving issues specifically delegated to it, the JCC shall have the authority to resolve disputes within the jurisdiction of the JCC, but otherwise shall have no authority except where expressly specified elsewhere in this Agreement or mutually agreed by the Parties in writing. Subject to the remainder of this Section 2.5(e), the JCC shall act by consensus (or by unanimous written consent). The representatives from each Party shall have, collectively, one (1) vote on behalf of that Party. If the JCC cannot reach consensus on an issue that comes before the JCC within [***] of the meeting such issue was raised and over which the JCC has oversight, then the Parties shall refer such matter to the JSC for resolution in accordance with Sections 2.2(e) and 2.6 [***].

2.6 Resolution of Committee Disputes.

(a) Within Committees Other than the JSC. All decisions within the Committees established under Article 2 shall be made by consensus (or by unanimous written consent); provided that all decisions within the JSC shall be governed by Section 2.6(b). If a dispute arises which cannot be resolved within such Committees, then if such dispute relates to a matter within the jurisdiction of the applicable Committee [***] the representatives of either Party may cause such matter to be referred to the JSC for resolution as provided in this Section 2.6.

(b) Within the JSC. All decisions within the JSC (whether originating there, or referred to it by a Committee) shall be made by consensus (or by unanimous written consent). If a matter is referred by a Committee to the JSC, the JSC shall use good faith efforts, in compliance with Section 2.6(c), to resolve promptly such matter. If the JSC is unable to reach consensus on any issue for which it is responsible within [***] of such matter being referred to it, other than those addressed in Sections 2.6(b)(i)-(iii) below, then the JSC may elect to submit such issue for resolution in accordance with Section 14.2. Notwithstanding the foregoing, if the JSC is unable to reach consensus within such [***] period with respect to the following matters then the following shall apply:

(i) [***] shall have final decision-making authority with respect to [***]; provided, however, such final decision-making shall, in each case, be made only by mutual agreement of the Parties for the following matters:

(A) modifications to an approved Lead Product Development Plan or approved Joint Commercialization Plan that would reasonably be expected to result in an increase or decrease of more than [***] in the then-current Joint Development Cost Budget or then-current Joint Commercialization Budget, as applicable;

(B) [***], modifications to an approved Lead Product Development Plan or approved Joint Commercialization Plan for a subsequent Calendar Year [***] that would reasonably be expected to result in an increase or decrease of more than [***] in the then-current Joint Development Cost Budget or then-current Joint Commercialization Budget, as applicable;

(C) [***]; and

(D) [***];

(ii) [***] shall have final decision-making authority with respect to [***]; and

(iii) (A) notwithstanding the foregoing clauses (i) and (ii),with respect to [***], and (B) with respect to any Second Generation Compound, [***] shall have final decision-making authority with respect to Development of such Second Generation Compound [***].

(c) Good Faith. In conducting themselves on Committees, and in exercising their rights under this Section 2.6, all representatives of both Parties shall consider diligently, reasonably and in good faith all input received from the other Party, and shall use reasonable efforts to reach consensus on all matters before them. In exercising any decision-making authority granted to it under this Article 2, each Party shall act based on its good faith judgment taking into consideration the best interests of the Licensed Products and the Collaboration.

(d) Limitations on Decision-Making. Notwithstanding anything to the contrary set forth in this Agreement, neither Party [***] nor any Committee may make a decision that could reasonably be expected to (i) require the other Party to take any action that such other Party reasonably believes would (A) require such other Party to violate any Applicable Law, the requirements of any Regulatory Authority, or any agreement with any Third Party entered into by such other Party or (B) require such other Party to infringe or misappropriate any intellectual property rights of any Third Party or (ii) conflict with, amend, interpret, modify, or waive compliance under this Agreement.

2.7 Appointment of Alliance Managers. Each Party shall appoint an appropriately qualified individual to serve as its alliance manager under this Agreement (each, an "**Alliance Manager**"). Such persons shall endeavor to assure clear and responsive communication between the Parties and the effective exchange of information, and may serve as a single point of contact for any matters arising under this Agreement. In addition, the Alliance Managers shall facilitate resolution of potential and pending issues and potential disputes to enable the applicable Committee to seek to reach consensus and avert escalation of such issues or potential disputes. The Alliance Managers may attend meetings of all Committees under this Agreement but shall not be members of such Committees. Except as set forth in this Section 2.7, the Alliance Managers shall not have any authority under this Agreement.

2.8 General Committee Authority. Each Committee and Alliance Managers shall have solely the powers expressly assigned to it in this Article 2 and elsewhere in this Agreement. No Committee or

Alliance Manager shall have any power to amend, modify, or waive compliance with this Agreement. It is expressly understood and agreed that the control of decision-making authority by BPM or Roche, as applicable, pursuant to Section 2.6, so as to resolve a disagreement or deadlock on a Committee for any matter shall not authorize either Party to perform any function or exercise any decision-making right not delegated to a Committee or such Party, and that neither BPM nor Roche shall have any right to unilaterally modify or amend, or waive its own compliance with, the terms of this Agreement.

ARTICLE 3 DEVELOPMENT

3.1 Development Diligence; Standards of Conduct.

(a) Each of Roche and BPM shall use Commercially Reasonable Efforts to (i) Develop Licensed Products in the Shared Territory, and to carry out the tasks specified under the applicable Development Plan with respect to the Shared Territory, in a timely and effective manner, and (ii) to seek, and obtain Regulatory Approval for the Licensed Products in the Shared Territory. Each Party shall keep the other Party reasonably informed of any Clinical Trials conducted in the Shared Territory for Licensed Products.

(b) Roche shall use Commercially Reasonable Efforts to (i) Develop Licensed Products in the Roche Territory, and to carry out the tasks specified under the applicable Development Plan with respect to the Roche Territory, in a timely and effective manner, (ii) to seek, and obtain Regulatory Approval for the Licensed Products in the Roche Territory, and (iii) to generate any data that is necessary to obtain Pricing and Reimbursement Approval for the Licensed Products in the Roche Territory. Roche shall keep BPM reasonably informed of any Clinical Trials conducted in the Roche Territory for Licensed Products.

(c) Each of Roche and BPM shall conduct its activities under the applicable Development Plan in a good scientific manner and in compliance in all material respects with Applicable Law and in accordance with the applicable Development Plan (including the applicable Development Cost Budget).

3.2 Development Plans; Development Activities.

(a) General. All Development of the Licensed Products pursuant to this Agreement shall be conducted pursuant to a development plan for the Territory (such plan, with respect to the Lead Product, the "**Lead Product Development Plan**" and with respect to any Second Generation Product or any Licensed Product containing a Lead Backup, an "**Early Program Development Plan**") that describes [***]: (i) the proposed overall program of Development for such Licensed Product, including Clinical Trials and Nonclinical Studies, development of any Diagnostic Test or Biomarker for use with such Licensed Product, and regulatory plans and other elements of obtaining Regulatory Approval(s) throughout the Territory; (ii) the anticipated start dates and data availability dates of such Clinical Trials and Nonclinical Studies, and anticipated timelines for filing of applications for Regulatory Approvals in the Territory; (iii) the respective roles and responsibilities of each Party in connection with such activities; and (iv) a detailed budget for all such activities in the Territory (with respect to the Lead Product, the "**Joint Development Cost Budget**" and with respect to any Second Generation Product or any Licensed Product containing a Lead Backup, an "**Early Program Development Cost Budget**"). Except as set forth in this Section 3.2, the applicable Development Cost Budget shall include the anticipated Joint Development Costs and Joint Early Program Development Costs, as applicable, pursuant to such Development Plan for the remainder of [***] expected to be incurred by each Party and in total. In addition, the applicable Development Cost Budget shall include detailed line item entries for each Development activity setting forth the costs directly related to such Development Plan activity (broken out by Out of Pocket Costs and

FTE Costs) and specifying which Party or Third Party is responsible for performing the applicable Development activity. Notwithstanding the foregoing, the Parties have agreed upon an initial Lead Product Development Plan (including the initial high-level Joint Development Cost Budget) for the Lead Product for [***], which initial Lead Product Development Plan is attached hereto as Exhibit G. In the event of any inconsistency between a Development Plan and this Agreement, the terms of this Agreement shall prevail.

(b) Amendments to the Development Plans. On an annual basis no later than [***] of each Calendar Year, or more often as the Parties deem appropriate, the JDC (or with respect to any Early Program Development Plan, the appropriate subcommittee) shall prepare amendments to the then-current Development Plan such that the applicable Development Cost Budget shall always reflect the planned activities under such Development Plan for the next [***], and which amendments shall be finalized, approved, and included into such Development Plan, no later than [***] of each Calendar Year for the next Calendar Year. Each such amended Development Plan shall specify the items described in Section 3.2. Such amended Development Cost Budget shall include an updated [***] budget for the probable Development activities to be performed during the remainder of the then-current Calendar Year (broken down by Calendar Quarter) and the next Calendar Year (broken down by Calendar Quarter), and a forecast of the budgets for each subsequent Calendar Year thereafter through completion of all Development activities set forth in any such Development Plan. Such updated and amended Development Plan, shall reflect any changes, re-prioritization of studies within, reallocation of resources with respect to, or additions to, respectively, the then-current applicable Development Plan. Once approved by the JDC, the amended Lead Product Development Plan (including the corresponding amended Joint Development Cost Budget) or the amended Early Program Development Plan (including the corresponding amended Early Program Development Cost Budget) shall become effective for the applicable period on the date approved by the JDC (or such other date as the JDC shall specify). Any JDC-approved amended Lead Product Development Plan (including the corresponding amended Joint Development Cost Budget) or JDC-approved amended Early Program Development Plan (including the corresponding amended Early Program Development Cost Budget) shall supersede, respectively, the previous Lead Product Development Plan (including the corresponding Joint Development Cost Budget) or Early Program Development Plan (including the corresponding Early Program Development Cost Budget), in each case, for the applicable period.

3.3 Consensus. For development of the Lead Product, the Parties shall strive to reach consensus on the Lead Product Development Plan through the JDC with the intent to establish a clinical plan in the Territory that benefits both Parties in their respective regions for Commercialization. If the JDC is unable to agree on elements of the Lead Product Development Plan (as to Indications or design of additional Clinical Trials), then the matter shall be referred to the JSC for resolution with respect to the Lead Product Development Plan provided that, if the Parties mutually agree to co-formulate a Combination Product involving Roche Clinical Compounds or Roche Marketed Products, then the Parties shall mutually agree to the applicable portion of the Development Plan.

3.4 Ongoing Clinical Trials. Except as otherwise agreed to in the applicable Transition Plan, BPM shall use Commercially Reasonable Efforts to manage and lead the conduct of any Clinical Trials ongoing as of the Effective Date, even if the trial is being run in the Roche Territory.

3.5 Supplemental Studies.

(a) Each of BPM and Roche shall have responsibility for the conduct of all Clinical Trials (other than Supplemental Studies) for Licensed Products in the Field in the Territory pursuant to the applicable Development Plan. Following the first Regulatory Approval for a Licensed Product, to the extent that a Party (i) desires to conduct any Clinical Trials designed to achieve a Regulatory Approval for such Licensed Product [***], (ii) desires to conduct any Nonclinical Studies or Clinical Trials for such Licensed Product that [***], or (iii) desires to conduct a Phase 4 Clinical Trial that [***], in each case ((i)-(iii)) for

such Licensed Product that the other Party does not desire to co-fund (each a "**Supplemental Study**"), the Party desiring to conduct any such Supplemental Study(ies) may do so [***], subject to the following limitations in this Section 3.5.

(b) If the Party conducting a Supplemental Study uses any preclinical or clinical data, including Know-How resulting from such Supplemental Study, [***], then the other Party shall [***].

3.6 Joint Development Costs; Joint Early Program Development Costs. With respect to a Licensed Product, if a Party's actually incurred Joint Development Costs or Joint Early Program Development Costs, as applicable, for a Calendar Year exceeds [***] of its portion of the Joint Development Cost Budget or Early Program Development Cost Budget, as applicable, for such Calendar Year, such excess portion of Joint Development Costs or Joint Early Program Development Costs, as applicable, shall be entirely borne by the Party that exceeded its portion of such Joint Development Cost Budget or Joint Early Program Development Costs, provided that (a) BPM approved the amount included in the Joint Development Cost Budget or Early Program Development Cost Budget, as applicable, specifically attributable to the activities conducted by BPM under such Joint Development Cost Budget or Early Program Development Cost Budget, and (b) the JDC (or with respect to any Early Program Development Plan, the appropriate subcommittee) shall have the right during a Calendar Year to update the Joint Development Cost Budget or Early Program Development Cost Budget, as applicable, in the event of (i) [***], (ii) [***], or (iii) [***] (each of (i), (ii) and (iii), [***]). Any additional Joint Development Costs or Joint Early Program Development Costs, as applicable, incurred in a Calendar Year resulting from [***] shall be subject to sharing of Joint Development Costs and Joint Early Program Development Costs pursuant to Section 8.3(a).

3.7 [***] Early Program Development Plans. If the annual update to any Early Program Development Plan results in [***] for the next Calendar Year or [***] for the subsequent Calendar Year from the then-current Early Program Development Cost [***], after taking into consideration any [***], then [***].

3.8 Reporting. Each Party shall periodically provide to the JDC, on a [***] basis, or more frequently as reasonably requested by the JDC, an update regarding development activities conducted by or on behalf of such Party with respect to the Lead Product, as well as any Supplemental Studies, conducted by or on behalf of such Party with respect to the Lead Product. The Parties shall periodically report to the JDC, but in no event less than on a [***] basis, regarding their respective activities conducted under any Development Plan. In addition, each Party shall promptly share with the other Party all material developments and information that it comes to possess relating to the development of any Licensed Products and all other data and information that either Party may reasonably request to support the filing of Regulatory Materials in a mutually agreed format, including (a) safety concerns for Licensed Products, and (b) study reports and data generated from Clinical Trials of such Licensed Products.

3.9 Clinical Trial Reporting. Each Party agrees that (a) each Clinical Trial conducted pursuant to the applicable Development Plan that is required to be posted pursuant to Applicable Law or applicable industry codes, including the PhRMA Code, on clinicaltrials.gov or any other similar registry shall be so posted, and (b) all results of such Clinical Trials that are necessary for obtaining a Regulatory Approval for a Licensed Product in the Territory shall be posted on clinicalstudyresults.org and on any other registry with requirements consistent with the registration and publication guidelines of the International Committee of Medical Journal Editors, to the extent required. All data and information posted on clinicaltrial.gov, clinicalstudyresults.org or any other registry pursuant to this Section 3.9 shall be subject to prior review and authorization pursuant to Section 12.4 as if such posting were a publication.

3.10 Development Records. Each Party shall maintain complete and accurate records (in the form of technical notebooks or electronic files where appropriate) of all work conducted by it under the applicable Development Plan and all Know-How resulting from such work. Such records shall fully and properly reflect all work done and results achieved in the performance of the applicable Development Plan in sufficient detail and in good scientific manner appropriate for patent and regulatory purposes. Each Party shall have the right to receive copies of such records maintained by the other Party, including in electronic format if maintained in such format, at reasonable times to the extent reasonably necessary to perform obligations or exercise rights under this Agreement.

3.11 Data Exchange and Use. In addition to its adverse event and safety data reporting obligations set forth in Section 4.3, each Party shall promptly provide the other Party with copies of all data and results and all supporting documentation (e.g., protocols, Investigator's Brochures, case report forms, analysis plans) Controlled by such Party that are generated by or on behalf of such Party or its Affiliates, Sublicensees, or subcontractors, if applicable, in the Development of each Licensed Product. Roche shall have the right to use and reference such data and results provided by BPM for the purpose of obtaining, supporting, and maintaining Regulatory Materials and Regulatory Approvals, and any Pricing and Reimbursement Approval, as applicable, of the Licensed Products in the Roche Territory, without additional consideration. BPM and its designees shall have the right to use and reference such data and results provided by Roche for the purpose of obtaining, supporting, or maintaining Regulatory Materials and Regulatory Approvals, as applicable, of any Licensed Product or BPM Combination Product outside of the Territory, without additional consideration.

3.12 Subcontracts. Each Party may perform any of its Development obligations under this Agreement through one or more subcontractors or consultants, provided that (a) such Party remains responsible for the work allocated to, and payment to, such subcontractors and consultants to the same extent it would if it had done such work itself; (b) the subcontractor or consultant undertakes in writing commercially reasonable obligations of confidentiality and non-use regarding Confidential Information, that are substantially the same as those undertaken by the Parties with respect to Confidential Information pursuant to Article 12 hereof; and (c) the subcontractor or consultant undertakes in writing to assign or exclusively license back (with the right to sublicense) all intellectual property with respect to Compounds or Licensed Products developed in the course of performing any such work to such Party. Each Party may also subcontract Development work on terms other than those set forth in this Section 3.12 with the prior approval of the JDC.

3.13 Second Generation RET Compounds.

(a) During the Term, either Party may propose to the JDC initiation of a program to discover and perform development work with the goal of identifying a Second Generation RET Compound. If the JDC agrees on the initiation of such Second Generation RET Compound program, BPM shall prepare and present to the JDC a plan that describes (i) the proposed overall program of discovery and Development for a Second Generation RET Compound [***]; (ii) [***], (iii) the anticipated start dates of such discovery and Development activities; and (iv) the respective roles and responsibilities of each Party in connection with such activities (such plan, as approved or modified by the JDC, the "**Second Generation Research Plan**"). If the JDC agrees to initiate activities under a Second Generation Research Plan, then BPM shall lead and be responsible [***] for discovery and Development activities [***] by a Second Generation RET Compound, (such compound, together with any backup compounds discovered or developed in connection with the conduct of such Second Generation Research Plan [***] collectively, a "**Second Generation Clinical Candidate**"). If the JDC agrees to initiate activities under the Second Generation Research Plan, then each of Roche and BPM shall use Commercially Reasonable Efforts to carry out the tasks specified under the Second Generation Research Plan in a timely and effective manner. In connection with the

approval of such Second Generation Research Plan by the JDC, the JSC shall form a Committee to oversee the activities under such Second Generation Research Plan.

(b) BPM hereby grants to Roche during the Option Period an exclusive Option Right to obtain the licenses set forth in Section 7.1 with respect to such Second Generation Clinical Candidate and Licensed Products containing such Second Generation Clinical Candidate (an "**Option Right**"). Roche shall have the right to exercise its Option Right for a Second Generation Clinical Candidate, if at all, by properly delivering an Option Exercise Notice for such Second Generation Clinical Candidate at any time during the Option Period. Prior to Roche's exercise of its Option Right for a Second Generation Clinical Candidate, Roche shall have the right to conduct due diligence with respect to such Second Generation Clinical Candidate and BPM shall provide timely to Roche all reasonably requested information to enable Roche to conduct such due diligence. Once the Option Right for a Second Generation Clinical Candidate is exercised, such Second Generation Clinical Candidate shall become a "Second Generation Compound," the products containing such Second Generation Clinical Candidate shall become "Licensed Products" and all terms under this Agreement with respect to Compounds and Licensed Products shall apply, including the financial terms in Article 9. Within [***] of Roche exercising the Option Right for such Second Generation Clinical Candidate, the Parties shall prepare and present to the JDC for approval an initial Early Program Development Plan, which describes the overall program for Development of such Second Generation Clinical Candidate [***].

(c) For any Second Generation Clinical Candidate to which Roche does not timely exercise its Option Right, then, effective as of the expiration of the Option Period, (i) all discovery and Development activities with respect to such Second Generation Clinical Candidate shall terminate, (ii) BPM shall retain all rights, title and interest in and to such Second Generation Clinical Candidate and shall have the sole right to continue any Development of such Second Generation Clinical Candidate, in its sole discretion, (iii) all rights and obligations (including the licenses to Roche) under this Agreement with respect to such Second Generation Clinical Candidate and Licensed Products containing such Second Generation Clinical Candidate shall terminate, and (iv) the exclusivity provisions under Section 7.8(a) shall no longer apply. For clarity, if Roche does not timely exercise its Option Right, and BPM desires to continue to research, develop or commercialize such Second Generation Clinical Candidate or a product containing such Second Generation Clinical Candidate in combination with a Roche Clinical Compound or Roche Marketed Products, then Roche shall consider, at its sole discretion, supplying such Roche Clinical Compound or Roche Marketed Products to BPM or its designee pursuant to a supply agreement on terms and conditions to be agreed upon by the Parties in good faith.

3.14 Development of Diagnostic Tests and Biomarkers. In connection with the Development or Commercialization of any Licensed Product, the Parties may contemplate the Development of one or more diagnostic tests or complementary diagnostic tests (each, a "**Diagnostic Test**") or biomarkers or bioreagents (each, a "**Biomarker**"), in each case, to be used in connection with such Licensed Product in the Territory. Development of any Diagnostic Test or Biomarker to be used to support the Regulatory Approval for a Licensed Product in the Territory shall be pursuant to an approved Development Plan.

(a) If the JDC determines that either Party shall Develop a Diagnostic Test or Biomarker to be used to support the Regulatory Approval for a Licensed Product in the Territory, then the costs and expenses incurred by or on behalf of such Party in connection with the Development (including seeking Regulatory Approval therefor) of any such Diagnostic Tests or Biomarkers in the Territory shall be included as Joint Development Costs or Joint Early Program Development Costs, as applicable, and shared by the Parties in accordance with Section 8.3.

(b) [***].

3.15 Notice of Metabolites. At any time during the Term, each Party shall provide the other Party with written notice of any Metabolite(s) not identified in Exhibit C, which notice shall include the chemical structure of such metabolite (each such metabolite, a "**New Metabolite**"). Effective upon receipt of such written notice, (a) such New Metabolite shall become a Compound and (b) BPM hereby grants to Roche the licenses specified under Section 7.1 with respect to such New Metabolite as a Compound; provided that in each case (clauses (a) and (b)) if BPM does not, as of the date of such written notice, Control the BPM Technology that Covers (with respect to BPM Patents) or relates to (with respect to BPM Know-How) the New Metabolite, then (i) such New Metabolite shall not become a Compound and (ii) BPM shall not grant to Roche any license under Section 7.1 with respect to such New Metabolite. Roche covenants that it shall not Develop, Manufacture or Commercialize any Metabolite unless and until such Metabolite becomes a Compound; provided, however, that nothing in this Section 3.15 shall be interpreted to prevent Roche from continuing to Develop, Manufacture and Commercialize then-existing Compounds as contemplated by this Agreement.

ARTICLE 4 REGULATORY MATTERS

4.1 Regulatory Responsibilities.

(a) General. The Parties shall collaborate through the JDC on a regulatory strategy, filings of Regulatory Materials and interactions with Regulatory Authorities for the Shared Territory. The Parties intend that the Lead Product Development Plan and Early Program Development Plan shall each set forth the regulatory strategy for seeking Regulatory Approvals in the Shared Territory of all Licensed Products being Developed.

(b) Responsibilities.

(i) Subject to oversight by the JDC, [***] for all Regulatory Interactions in the Shared Territory with respect to all Compounds and Licensed Products.

(ii) Roche shall have sole responsibility for all Regulatory Interactions with respect to Compounds and Licensed Products in the Roche Territory.

(iii) "**Regulatory Interactions**" means (A) monitoring and coordinating all regulatory actions, communications and filings with, and submissions to, all Regulatory Authorities with respect to a Compound or Licensed Product, (B) interfacing, corresponding and meeting with the Regulatory Authorities with respect to a Compound or Licensed Product, and (C) sole responsibility for pre- and post-authorization pharmacovigilance activities (including, but not limited to, preparation of PSUR, DSUR, IB, signal detection, etc.). Each Party shall use Commercially Reasonable Efforts to conduct Regulatory Interactions in the Shared Territory hereunder in accordance with the Development Plan and Joint Commercialization Plan, as applicable. Roche shall use Commercially Reasonable Efforts to conduct Regulatory Interactions for which Roche is responsible in the Roche Territory hereunder in accordance with the Development Plan and Roche Operational Plan, as applicable.

(c) Regulatory Filings and Approvals.

(i) Shared Territory. Subject to oversight by the JDC, Roche shall have the right to file in its own name, and to own, all Regulatory Materials and Regulatory Approvals for such Licensed Product in the Shared Territory. Effective [***], BPM hereby assigns and transfers to Roche [***] of BPM. Each Party will submit all filings, letters and other documentation necessary to effect such assignments and transfers to the Regulatory Authority in the Shared

Territory. Until [***], BPM shall [***]. Following [***], Roche shall [***]. The responsible Party shall reasonably promptly notify the other Party of all Regulatory Materials (other than routine correspondence) that such Party submits for such Licensed Products in the Shared Territory and shall reasonably promptly provide the other Party with a copy (which may be wholly or partly in electronic form) of such Regulatory Materials in advance of their intended date of submission to a Regulatory Authority in the Shared Territory for the other Party's review and comment and shall consider in good faith any comments thereto provided by the other Party. The responsible Party shall keep the other Party informed on an ongoing basis regarding its Regulatory Interactions and Regulatory Approvals received and shall consult with the other Party and respond to reasonable requests by the other Party for additional information. The responsible Party shall provide the other Party with reasonable advance notice of any scheduled meeting (whether such meeting is in-person, by teleconference, or otherwise) with respect to such matter with any Regulatory Authority in the Shared Territory, and the other Party shall have the right to participate in any such meeting, to the extent permitted by Applicable Law, with the representatives of the responsible Party having the right to take the lead as the primary spokespeople at such meetings with Regulatory Authorities in the Shared Territory; provided that, to the extent that any Regulatory Interactions are ongoing as of the Effective Date, such participation in meetings with Regulatory Authorities in the Shared Territory may be limited by BPM to avoid disruption or delays. The responsible Party also shall reasonably promptly furnish the other Party with copies of all material correspondence to or from, and minutes of all such meetings with, any Regulatory Authority.

(ii) Roche Territory. Roche (and its Affiliates and Sublicensees) shall have the right to file in its own name, and to own, all Regulatory Materials and Regulatory Approvals for Licensed Products in the Roche Territory. Roche shall provide BPM with reasonable advance notice of any scheduled meeting (whether such meeting is in-person, by teleconference, or otherwise) with respect to such matter with any Regulatory Authority in the Major Countries [***] and BPM shall have the right to participate in any such meeting, to the extent permitted by Applicable Law, with the representatives of Roche taking the lead as the primary spokespeople at such meetings with Regulatory Authorities. Roche shall provide to BPM annual updates of its Regulatory Interactions, including updates with respect to filings of Regulatory Materials made, meetings held with Regulatory Authorities, and Regulatory Approvals received in the Roche Territory and shall respond to reasonable requests by BPM for additional information. Effective [***], BPM hereby assigns and transfers to Roche all Regulatory Materials and Regulatory Approvals for Licensed Products in the Roche Territory to Roche, in each case, that is in the possession or Control of BPM. Each Party will submit all filings, letters and other documentation necessary to effect such assignments and transfers to the Regulatory Authority in the Roche Territory. Until [***], BPM shall be responsible for and handle all matters related to the Licensed Products involving a Regulatory Authority in the EU, to the extent not yet assigned and transferred to Roche, and shall keep Roche informed of all regulatory matters relating to any Licensed Product in the EU. The Parties shall follow EMA guidance for the transfer of the MAA in the EU. Analogous procedures will be followed for other countries in the Roche Territory where BPM has already submitted an MAA.

(d) Rights of Reference.

(i) Each Party hereby grants to the other Party, its Affiliates and Sublicensees a right to cross-reference, file or incorporate by reference any Regulatory Materials and any Regulatory Approval for Licensed Products and all data and other Know-How included or referenced therein or filed in support of any such Regulatory Materials or Regulatory Approvals, subject to the scope of the licenses granted under Sections 7.1 and 7.2, including any patient registries (and any data and other Know-How therein) for any Licensed Product, which Regulatory

Materials, Regulatory Approval, data and other information is Controlled by such Party or any of its Affiliates, for the purpose of the other Party, its Affiliates or any Sublicensee developing and obtaining or maintaining Regulatory Approvals for Licensed Products in the Territory as permitted under this Agreement and to otherwise enable such Party to fulfill its obligations or exercise its rights hereunder with respect to Licensed Products in the Territory. BPM shall provide to Roche access to any BPM Know-How to facilitate Roche's use of the Regulatory Materials and Regulatory Approvals as provided in this Section 4.1(d)(i).

(ii) In addition, Roche hereby grants to BPM, its Affiliates, licensees and Sublicensees a right of reference to any Regulatory Materials and Regulatory Approval for Licensed Products in the Roche Territory and all data and other Know-How included or referenced therein in support of any such Regulatory Materials or Regulatory Approvals, including any patient registries (and any data and other Know-How therein) for any Licensed Product, which Regulatory Materials, Regulatory Approval, data and other information is Controlled by Roche or any of its Affiliates, for the purpose of BPM, its Affiliates, licensee or any Sublicensee developing, obtaining or maintaining Regulatory Approvals for Licensed Products in the Existing Partner Territory. Roche shall provide to BPM access to any reasonably required Roche Know-How to facilitate BPM's use of the Regulatory Materials and Regulatory Approvals as provided in this Section 4.1(d)(ii).

(iii) Each Party shall duly execute and deliver, or cause to be duly executed and delivered, such instruments and shall do and cause to be done such reasonable acts and things, as may be necessary under, or as the other Party may reasonably request, to effectuate the rights of reference contemplated in this Section 4.1(d).

4.2 Recalls, Market Withdrawals or Corrective Actions. In the event that any Regulatory Authority issues or requests a recall or takes a similar action in connection with a Licensed Product in the Field in the Territory, or in the event either Party determines that an event, incident or circumstance has occurred that may result in the need for a recall or market withdrawal of a Licensed Product in the Field in the Territory, the Party notified of such recall or similar action, or the Party that desires such recall or similar action, shall as promptly as possible, notify the other Party by telephone or e-mail. Roche, in consultation with BPM, shall decide whether to conduct a recall of a Licensed Product in the Roche Territory and the manner in which any such recall shall be conducted (except in the case of a government mandated recall, when Roche may act without such advance notice but shall notify BPM as soon as possible thereafter). BPM and Roche shall mutually decide whether to conduct a recall of a Licensed Product in the Shared Territory and the manner in which such recall shall be conducted. Except as may otherwise be agreed to by the Parties, Roche shall bear the expense of any such recall in the Roche Territory and the Parties shall equally bear the expense of any such recall in the Shared Territory. Each Party shall make available all of its pertinent records that may be reasonably requested by the other Party in order for a Party to effect a recall of a Licensed Product in the Territory. The Parties' rights and obligations under this Section 4.2 shall be subject to the terms of any Pharmacovigilance Agreement or Supply Agreement entered into between the Parties. In the event of a conflict between the provisions of any Pharmacovigilance Agreement or Supply Agreement, as applicable, and this Section 4.2, the provisions of such Pharmacovigilance Agreement or Supply Agreement, as applicable, shall govern.

4.3 Reporting Adverse Events. As soon as practicable after the Effective Date, the Parties shall mutually agree and execute a separate agreement ("**Pharmacovigilance Agreement**") specifying the procedures and timeframes for compliance with Applicable Law pertaining to safety reporting of each Licensed Product and their related activities. The Pharmacovigilance Agreement will set forth set forth each Party's responsibilities and obligations pertaining to safety collection, assessment and reporting of the Compounds and Licensed Products based on relevant guidelines and Applicable Law. The allocation of

responsibilities in the applicable phases of the collaboration, including transfer of global safety database of the Compounds and Licensed Products shall be governed by the Pharmacovigilance Agreement.

ARTICLE 5 OPERATIONS

5.1 Operations Generally. BPM and Roche desire and intend to work together to leverage each Party's expertise and to collaborate with respect to the Commercialization activities and Medical Affairs Activities of the Lead Product in the Shared Territory.

(a) BPM shall book all sales of the Lead Product in the Shared Territory until [***]. Following [***], Roche shall book all sales of Licensed Products (including, for clarity, the Lead Product) in the Shared Territory.

(b) Roche shall have sole financial responsibility and decision-making authority for the Commercialization and Medical Affairs Activities related thereto of Licensed Products in the Roche Territory and shall book all sales of Licensed Products in the Roche Territory.

(c) The Parties shall enter into a transition plan at a mutually agreed time following the Effective Date including the activities set forth in Exhibit F to effect such transition that ensures reasonable continuity in the Development, Manufacture, Commercialization and Medical Affairs Activities related thereto and does not negatively impact the timing or execution of any launch activities with respect to the Lead Product in each of the Shared Territory and Roche Territory (each a "**Transition Plan**"). Each Party will use Commercially Reasonable Efforts to perform the obligations assigned to it under the Transition Plans in accordance with any timelines set forth therein [***]. The costs in performing such obligations [***]; provided that [***].

5.2 Commercialization Diligence; Standards of Conduct.

(a) Roche Territory. Roche shall use Commercially Reasonable Efforts to Commercialize [***] Compounds and Licensed Products in the Roche Territory, and to carry out the tasks specified under the Roche Operational Plan in a timely manner, and shall conduct its activities in compliance in all material respects with Applicable Law and applicable codes of conduct in each country within the Roche Territory.

(b) Shared Territory. Each of Roche and BPM shall use Commercially Reasonable Efforts to Commercialize [***] Compounds and Licensed Products in the Shared Territory, and to carry out the tasks specified under the Joint Commercialization Plan, in a timely and effective manner, and Roche and BPM shall each conduct its activities under the Joint Commercialization Plan, as applicable, in compliance in all material respects with Applicable Law and applicable codes of conduct, including the PhRMA Code. Roche's Commercialization efforts may be conducted by persons who are also commercializing products that are not Licensed Products and prioritization of such efforts among products shall be reasonably determined by Roche and consistently applied with its other products of a similar market potential. Subject to JSC approval of the Joint Commercialization Plan, the JCC shall be responsible for establishing the sales force allocation between the Parties for the Shared Territory, with the goal of having each Party participate on a meaningful basis in such activities to optimize the value of the Licensed Products.

5.3 Therapeutic Area Team.

(a) General. [***] following the Effective Date, BPM representatives, including a co-chair, a marketing and medical affairs representatives, shall be invited to participate in Roche's therapeutic

area team that oversees and manages the day-to-day operations in the Shared Territory with respect to [***] in the Shared Territory, or any successor team thereof (the "**TAT**"). BPM may replace its TAT representatives at any time upon written notice to Roche. In addition, the BPM TAT representatives may be represented at any meeting by another person designated by BPM who has the required expertise and authority to act on BPM's behalf. BPM may invite non-members to participate in the discussions and meetings of the TAT based on subject matter expertise. The TAT shall act by consensus [***].

(b) Specific Responsibilities of the TAT. The TAT shall have the following responsibilities for and limited to the Shared Territory:

(i) discuss, prepare and submit to the JCC for approval the Joint Commercialization Plan (including Joint Commercialization Budget) and all annual and interim amendments to such Joint Commercialization Plan (including Joint Commercialization Budget);

(ii) oversee implementation of the Joint Commercialization Plan, including the Commercialization activities;

(iii) review, discuss and coordinate the Commercialization strategy, which would include the review of strategic marketing priorities and plans, branding and product positioning and key marketing messages, associated key tactics;

(iv) [***];

(v) discuss and review the sales forecasts for the Lead Product;

(vi) in collaboration with the JMAC review, discuss and coordinate Medical Affairs Activities in the Shared Territory, including review and discussion of proposed data communication strategy, scientific presentations and publications;

(vii) attempt to resolve operational issues; and

(viii) perform such other functions as directed by the JCC in accordance with Section 2.5(c)(vii).

(c) Meetings. The TAT shall meet on a regular basis to coordinate the day-to-day activities of the TAT. The TAT may meet in person, by videoconference, or by teleconference. Each Party shall bear the expense of its respective TAT members' participation in TAT meetings. The Roche team leader shall be responsible for convening and presiding at meetings of the TAT and preparing and promptly distributing reasonably detailed written minutes of TAT meetings that reflect all alignments agreed upon and action items identified at such meetings.

5.4 Commercialization of Licensed Products in the Shared Territory.

(a) Joint Commercialization Plan.

(i) The Parties shall agree on a comprehensive joint product plan for Licensed Products in the Shared Territory (the "**Joint Commercialization Plan**"), which shall include [***] (the, "**Joint Commercialization Budget**"). Notwithstanding the foregoing, the initial Joint Commercialization Plan (including the initial high-level Joint Commercialization Budget [***]), which includes a forecasted profit and loss plan [***] based on initial product plan activities for the Lead Product during such period, is attached hereto as Exhibit H.

(ii) On an annual basis no later than [***] of each Calendar Year, or more often as the Parties deem appropriate, the JCC shall prepare amendments to the then-current Joint Commercialization Plan such that the forecasted profit and loss plan shall always reflect the forecasted profit and loss for the Licensed Products in the Shared Territory for [***], which amendments shall be finalized and approved by the JCC and included into the applicable Joint Commercialization Plan no later than [***] of each Calendar Year. The Joint Commercialization Plan shall allocate the responsibilities of the Parties for all Commercialization activities in the Shared Territory in an equitable manner that optimizes the value of the Licensed Products in the Shared Territory. The Joint Commercialization Plan, including the corresponding Joint Commercialization Budget, with respect to the Licensed Products in the Shared Territory and subsequent revisions thereto shall contain such information as the JCC and JSC believes necessary for the successful Commercialization of the Licensed Products in the Shared Territory, both pre- and post-launch. On a Calendar Year basis, or more often as the Parties deem appropriate, the JCC shall prepare and approve amendments to the then-current Joint Commercialization Plan, including the corresponding Joint Commercialization Budget. In the event of any inconsistency between a Joint Commercialization Plan and this Agreement, the terms of this Agreement shall prevail. Each Party shall conduct its activities under the Joint Commercialization Plan in compliance in all material respects with Applicable Law. For the avoidance of doubt, any costs incurred by a Party for any Commercialization activity that are not set forth in the then-current Joint Commercialization Budget or are incurred for any Commercialization activity not included in the then-current Joint Commercialization Plan are not Joint Operational Costs and shall not be subject to reconciliation pursuant to this Section 5.4 and shall be borne entirely by the Party that incurs them.

(b) Advertising and Promotional Materials. Subject to Applicable Law, and applicable industry codes of conduct, including the PhRMA Code, all promotional materials for any Licensed Product in the Shared Territory shall include, with equal prominence, the names and logos of both Parties. All such promotional materials shall be reviewed and approved in accordance with the policies and procedures established by the JCC in accordance with Section 2.5(c)(v). The JCC shall establish a joint promotional review committee, comprised of personnel with equal representation from both BPM and Roche in the marketing, regulatory, medical affairs and legal areas, responsible for review and approval of all promotional materials for any Licensed Product in the Shared Territory. The initial chairperson for the joint promotional review committee [***]. The JCC shall mutually determine the processes and procedures for the joint promotional review committee, including the resolution of any disagreement between the Parties at the joint promotional review committee; provided that, no Party shall be required to use promotional materials, which in such Party's reasonable judgment are not compliant with Applicable Law, the PhRMA Code or such Party's internal compliance policies.

(c) [***] Authority over Field Representatives. [***] Nothing in this Agreement shall be construed to conclude that any of BPM's field representatives or any other agents or employees of BPM are agents or employees of Roche or subject to Roche's direction and control. BPM shall have sole authority over the terms and conditions of employment of BPM's field representatives, including their selection, management, compensation (including incentive plans) and discharge. Nothing in this Agreement shall be construed to conclude that any of Roche's field representatives or any other agents or employees of Roche are agents or employees of BPM or subject to BPM's direction and control. Roche shall have sole authority over the terms and conditions of employment of Roche's field representatives, including their selection, management compensation (including incentive plans) and discharge.

5.5 Commercialization of Licensed Products in the Roche Territory. Roche shall prepare and submit to the JCC a plan for Commercialization of the Licensed Product in the Roche Territory (the "**Roche Operational Plan**"), on a Calendar Year basis. The Roche Operational Plan shall include [***]. The initial Roche Operational Plan shall be delivered to the JCC not later than [***]. On at least a Calendar Year

basis, Roche shall update and amend, as appropriate, the then-current Roche Operational Plan. Roche shall submit all material updates and amendments to the Roche Operational Plan to the JCC for review and comments.

5.6 Medical Affairs Activities.

(a) Roche Territory. Roche shall have the sole right and responsibility for Medical Affairs Activities in support of Licensed Products in the Roche Territory. Roche shall use Commercially Reasonable Efforts to perform Medical Affairs Activities in support of Licensed Products in the Roche Territory and will provide annual plans, amendments and status reports to the JMAC for review and discussion.

(b) Shared Territory. Subject to the oversight of the JMAC, BPM and Roche shall each be responsible for undertaking Medical Affairs Activities in the Shared Territory. Each of BPM and Roche shall use Commercially Reasonable Efforts to perform Medical Affairs Activities in support of Licensed Products in the Shared Territory, and to carry out the tasks assigned to it under the Joint Medical Affairs Plan in a timely and effective manner and in compliance in all material respects with Applicable Law and applicable industry codes, including PhRMA Code. The JMAC shall be responsible for establishing the number of medical affairs personnel and allocation between the Parties of medical affairs coverage for the Shared Territory, with the goal of having each Party participate on a meaningful basis in such activities to optimize the value of the Licensed Products.

(c) Joint Medical Affairs Plan. All Medical Affairs Activities and objectives in support of Licensed Products in the Territory shall be described in a comprehensive plan (such plan, a "**Joint Medical Affairs Plan**") that describes for [***], the pre-launch activities, launch activities, and subsequent Medical Affairs Activities for such Licensed Product in the Territory, including [***]. The budget set forth in the Joint Medical Affairs Plan shall be allocated between (i) the Joint Operational Costs for the portion of the Medical Affairs Activities in support of Commercialization of Licensed Products in the Shared Territory, (ii) the Joint Development Costs or Joint Early Program Development Costs, as applicable, for the portion of Medical Affairs Activities in support of Development of Licensed Products in the Territory, subject to any overages permitted pursuant to Section 3.6, as applicable, and (iii) the budget within the Roche Operational Plan for the portion of Medical Affairs Activities in support of Commercialization in the Roche Territory, subject to any overages permitted pursuant to Section 5.7(b). The JMAC shall discuss and coordinate with the JCC and JDC the allocation of the budget set forth in the Joint Medical Affairs Plan. The JMAC shall prepare and approve the initial Joint Medical Affairs Plan. The Joint Medical Affairs Plan with respect to a Licensed Product and subsequent revisions thereto shall contain such information as the JMAC believes necessary for the successful medical affairs support of such Licensed Product, both pre- and post-launch. On an annual Calendar Year basis, or more often as the Parties deem appropriate, the JMAC shall prepare and approve the Joint Medical Affairs Plan and any amendments thereto in consultation with the JDC and JCC with respect to the associated budgets for the Joint Operational Costs, Joint Development Costs and Joint Early Program Development Costs. In the event of any inconsistency between a Joint Medical Affairs Plan and this Agreement, the terms of this Agreement shall prevail.

5.7 Operations Costs.

(a) Roche Territory. With respect to Compounds and Licensed Products, Roche shall be responsible for one hundred percent (100%) of all costs and expenses incurred by Roche and its Affiliates and Sublicensees with respect to Commercialization thereof in the Roche Territory.

(b) Shared Territory. BPM and Roche shall share equally all Joint Operational Costs with respect to Licensed Products in the Shared Territory. Notwithstanding the amounts allocated to Commercialization of Licensed Products in the Shared Territory in the applicable Joint Commercialization Budget, for any Calendar Year, Roche and BPM shall each be permitted to recover Joint Operational Costs with respect to such Party's Commercialization activities for such Calendar Year covered in the Joint Commercialization Budget in excess of the amount allocated to it therein (i) by [***] of the amount so allocated, but solely to the extent such overage was outside the reasonable control of the applicable Party and was not attributable to a failure by the applicable Party to use Commercially Reasonable Efforts to adequately supervise any Third Party performing such activities or (ii) with the unanimous approval of the JCC, which approval may be granted either in advance of such costs being incurred or retroactively. Roche and BPM shall reconcile Joint Operational Costs incurred by each Party through the procedures in Section 8.3.

5.8 Commercialization Reports. Roche shall keep the JCC fully informed regarding the progress and results of Commercialization activities for Licensed Products in the Roche Territory, [***]. The TAT shall keep the JCC fully informed regarding the progress and results of Commercialization activities for Licensed Products in the Shared Territory [***]. The TAT shall provide a [***] forecast for Licensed Products in the Shared Territory as agreed with the JCC.

5.9 Sales and Distribution.

(a) Subject to the terms and conditions of this Agreement and prior to the Transition Date with respect to booking of sales in the Shared Territory, (i) [***] (ii) [***]; provided that, (A) [***], and (B) [***] and (iii) Roche shall not accept orders for Licensed Products or make sales for its own account or for BPM's account, and if Roche receives any order for Licensed Products in the Shared Territory, it shall refer such orders to BPM for acceptance or rejection.

(b) Subject to the terms and conditions of this Agreement, (i) following the Transition Date with respect to the booking of sales for the Lead Product in the Shared Territory and (ii) during the Term, in the Roche Territory, (A) [***], (B) [***], and (C) BPM shall not accept orders for Licensed Products or make sales for its own account or for Roche's account, and, if BPM receives any order for Licensed Products in the Territory, it shall refer such orders to Roche for acceptance or rejection.

5.10 Coordination of Operational Activities. The Parties recognize that each Party may benefit from the coordination of certain Commercialization activities and Medical Affairs Activities for the Licensed Products inside and outside of the Territory (other than pricing for the Licensed Products inside and outside of the Territory). Accordingly, the Parties shall coordinate such activities through the JCC where appropriate, which coordination may include communications regarding product positioning, and BPM shall have the right to disclose information regarding the Commercialization and Medical Affairs Activities related thereto of Licensed Products in the Territory with its licensees and Sublicensees in the Existing Partner Territory and shall have the obligation to disclose to Roche information regarding the Commercialization and Medical Affairs Activities related thereto of Licensed Products in the Existing Partner Territory.

5.11 Cross-Territorial Restrictions.

(a) Roche hereby covenants and agrees that, insofar as permitted by Applicable Law, it shall not, and shall ensure that its Affiliates and Sublicensees shall not, either directly or indirectly, knowingly promote, market, distribute, import, sell or have sold any Licensed Product, including via internet or mail order, into countries in the Existing Partner Territory. As to such countries in the Existing Partner Territory, Roche shall not, and shall ensure that its Affiliates and Sublicensees shall not:

(i) establish or maintain any branch, warehouse or distribution facility for any Licensed Product in such countries, (ii) engage in any advertising or promotional activities relating to any Licensed Product that are directed primarily to customers or other purchasers or users of such Licensed Product located in such countries, (iii) solicit orders from any prospective purchaser located in such countries, or (iv) sell or distribute any Licensed Product to any person in the Roche Territory who it knows intends to sell any Licensed Product in such countries. If Roche receives any order from a prospective purchaser located in a country in the Existing Partner Territory, insofar as permitted by Applicable Law, Roche shall immediately refer that order to BPM, and Roche shall not accept any such orders. Roche shall not deliver or tender (or cause to be delivered or tendered) any Licensed Product into a country in the Existing Partner Territory. Roche shall not, and shall ensure that its Affiliates and Sublicensees shall not, restrict or impede in any manner BPM's exercise of its retained rights in the Existing Partner Territory.

(b) BPM hereby covenants and agrees that, insofar as permitted by Applicable Law, it shall not, and shall ensure that its Affiliates and Sublicensees shall not, either directly or indirectly, knowingly promote, market, distribute, import, sell or have sold any Licensed Product, including via internet or mail order, into countries in the Roche Territory. As to such countries in the Roche Territory, BPM shall not, and shall ensure that its Affiliates and Sublicensees shall not: (i) establish or maintain any branch, warehouse or distribution facility for any Licensed Product in such countries, except as permitted for the purposes of Section 7.2(a)(iii), (ii) engage in any advertising or promotional activities relating to any Licensed Product that are directed primarily to customers or other purchasers or users of such Licensed Product located in such countries, (iii) solicit orders from any prospective purchaser located in such countries, or (iv) sell or distribute any Licensed Product to any person outside the Roche Territory who it knows intends to sell any Licensed Product in such countries. If BPM receives any order from a prospective purchaser located in a country in the Roche Territory, insofar as permitted by Applicable Law, BPM shall immediately refer that order to Roche, and BPM shall not accept any such orders. BPM shall not deliver or tender (or cause to be delivered or tendered) any Licensed Product into a country in the Roche Territory.

5.12 Subcontracts. Each Party may perform any of its obligations under the Joint Commercialization Plan or Joint Medical Affairs Plan and Roche may perform any of its Commercialization obligations relating to the Licensed Products in the Roche Territory through one or more subcontractors or consultants, provided that (a) such Party remains responsible for the work allocated to, and payment to, such subcontractors and consultants to the same extent it would if it had done such work itself; (b) the subcontractor or consultant undertakes in writing commercially reasonable obligations of confidentiality and non-use regarding Confidential Information that are substantially the same as those undertaken by the Parties with respect to Confidential Information pursuant to Article 12 hereof; and (c) the subcontractor or consultant undertakes in writing to assign or exclusively license back (with the right to sublicense) all intellectual property with respect to Licensed Products developed in the course of performing any such work under the Joint Commercialization Plan or Joint Medical Affairs Plan to the Party retaining such subcontractor or consultant. A Party may also subcontract Commercialization work on terms other than those set forth in this Section 5.12, with the prior approval of the JCC.

5.13 Commercialization of Diagnostic Tests and Biomarkers. In connection with the Commercialization of any Licensed Product, the Parties may contemplate the Development of one or more Diagnostic Tests or Biomarkers to be used in connection with such Licensed Product in the Territory. Development of any Diagnostic Test to support Commercialization of any Licensed Product following Regulatory Approval of such Licensed Product in the Territory shall be pursuant to an approved Commercialization Plan or Roche Operational Plan, as applicable. If the JDC determines that either Party shall Develop a Diagnostic Test or Biomarker to be used to support Commercialization of a Licensed Product following Regulatory Approval of such Licensed Product in the Territory, then the costs and expenses incurred by or on behalf of such Party in connection with the Development (including seeking Regulatory Approval therefor) and Commercialization of any such Diagnostic Tests or Biomarkers shall be

(a) included as Joint Development Costs hereunder and shared by the Parties in accordance with Section 8.3 if such Diagnostic Test or Biomarker is intended for use in the Shared Territory, and (b) borne by Roche if such Diagnostic Test or Biomarker is intended for use solely in the Roche Territory.

ARTICLE 6 MANUFACTURE AND SUPPLY

6.1 Manufacturing Responsibilities.

(a) BPM shall have primary responsibility for Manufacture of Compounds and Licensed Products in the Shared Territory and all CMC Activities necessary to support receipt of Regulatory Approval of Licensed Products in the Shared Territory, and for all commercial supply of Licensed Products in the Shared Territory. Upon BPM's request, Roche shall provide reasonable support and assistance to BPM with respect to CMC Activities for Licensed Products in the Shared Territory. Notwithstanding the foregoing, subject to Section 6.2(a), [***].

(b) Subject to Section 6.2(a), Roche shall have primary responsibility for Manufacture of Compounds and Licensed Products for the Roche Territory and all CMC Activities necessary to support receipt of Regulatory Approval of Licensed Products in the Roche Territory, and for all commercial supply of Licensed Products for the Roche Territory. [***].

6.2 Technology Transfer.

(a) Roche shall have the right, but not obligation, to request a Technology Transfer (as defined below) at any time following first commercial launch of a Licensed Product in the Shared Territory. Within [***] after such request of Roche, subject to any confidentiality obligations to Third Parties, BPM shall complete the transfer of all its Know-How within the BPM Technology relating to the Manufacturing of the Compounds and Licensed Products to Roche or one or more CMOs designated by and engaged directly by Roche with the goal of enabling Roche or its designated CMO to Manufacture Compounds and Licensed Products ("**Technology Transfer**"). The Parties shall agree in good faith on a Technology Transfer plan defining the scope, timeline and conditions of the Technology Transfer. Each Party shall bear its own cost of such Technology Transfer provided that if BPM's man hours for such Technology Transfer exceeds [***], Roche shall reimburse additional man hours incurred by BPM at the FTE Rate within [***] of receiving an invoice thereof.

(b) The JSC shall form a manufacturing committee within [***] after the Effective Date (the "**Manufacturing Committee**") to (i) develop the aforementioned Technology Transfer plan and manage the activities thereunder, (ii) after such time as the Lead Product receives Regulatory Approval from both the FDA and the EMA for each of NSCLC and MTC, review and approve any changes to the process and quality specifications ("**Specifications**") for the Lead Product, and (iii) review and approve Specifications for other Licensed Products and any changes thereto (excluding the Second Generation Compound unless and until Roche exercises the Option Right pursuant to Section 3.13). For the avoidance of doubt, decisions to be made by the Manufacturing Committee [***].

(c) During the Technology Transfer, [***].

(d) At such time as Roche is able to Manufacture the Lead Product (either itself or through one or more CMOs), Roche shall be responsible for obtaining all licenses or other authorizations for the importation of all quantities of Lead Product in the Roche Territory.

6.3 Additional Studies. Roche shall complete any additional studies or testing required to maintain any qualifications and Regulatory Approvals (including manufacturing licenses) from any

Regulatory Authorities or other Governmental Authorities necessary to Manufacture such Licensed Product for the Territory, as applicable, and provide to BPM copies of reports from any such additional studies or testing in English, at Roche's sole cost and expense.

6.4 Specifications. Each Party shall Manufacture and require its Affiliates and CMOs to Manufacture each Licensed Product is at all times in accordance with the approved Specifications for such Licensed Product and cGMP and ICH Guidelines.

6.5 Supply Agreements. In accordance with the Transition Plan, the Parties shall negotiate and enter into a commercial supply agreement (together with a corresponding quality agreement, the "**Commercial Supply Agreement**"), for the Manufacture and supply by BPM to Roche of quantities of the Lead Product for Commercialization of Licensed Products for the Territory. In the event that it is anticipated that prior to such time as Roche is able to Manufacture the Lead Product (either itself or through one or more CMOs) for the Roche Territory or as provided in Section 6.1(a), Roche shall (a) perform Development of the Lead Product in the Territory or (b) conduct a Supplemental Study (subject to the availability of available inventory for such Supplemental Study), then the Parties shall negotiate and enter into a clinical supply agreement (together with a corresponding quality agreement, the "**Clinical Supply Agreement**" and together with the Commercial Supply Agreement, the "**Supply Agreements**") for the supply by BPM to Roche of quantities of the Lead Product as necessary for Roche to fulfill its Development obligations of the Lead Product until such time as Roche is able to Manufacture the Lead Product (either itself or through one or more CMOs). [***]. Each Supply Agreement shall include customary terms and be consistent with the terms of this Agreement and the terms of supply agreements between BPM and its CMOs to the extent applicable to the supply of the Licensed Product. [***]. The Parties shall endeavor to agree on such operational terms in the Supply Agreements that are closely aligned as possible with the terms of the agreements between BPM and its CMOs. The Parties shall review the [***] at the time the JCC prepares amendments to the Joint Commercialization Plan in accordance with Section 5.4(a)(ii) and adjust the [***] by mutual written agreement of the Parties.

6.6 Allocation of Manufacturing Costs. All Cost of Goods Sold and costs and expenses for CMC Activities incurred pursuant to the approved Lead Product Development Plan to support receipt of Regulatory Approvals in the Shared Territory shall be shared by the Parties as Joint Development Costs or Joint Early Program Development Costs, as applicable, pursuant to Section 8.3. All Cost of Goods Sold incurred in support of Commercialization of Licensed Products for sale in the Shared Territory shall be included in the calculation of Gross Profit pursuant to Section 8.4. All other Manufacturing costs and expenses incurred in support of Commercialization of Licensed Products for sale in the Roche Territory by or on behalf of Roche, its Affiliates and its Sublicensees shall be borne solely by Roche.

6.7 Subcontracts; Affiliates. Either Party may perform any of its Manufacturing and supply obligations through one or more Third Parties, provided that (a) such Party remains responsible for the work allocated to, and payment to, such Third Party to the same extent it would if it had done such work itself; (b) the Third Party undertakes in writing commercially reasonable obligations of confidentiality and non-use regarding Confidential Information that are substantially the same as those undertaken by the Parties with respect to Confidential Information pursuant to Article 13 hereof; and (c) the Third Party undertakes in writing to assign or exclusively license back (with the right to sublicense) all intellectual property with respect to Licensed Products developed in the course of performing any such Manufacturing for such Party.

6.8 Product Tracking. Each Party shall, and shall ensure that its Affiliates and Sublicensees, maintain adequate records to permit the Parties to trace the distribution, sale, and use of all Licensed Products in the Territory.

ARTICLE 7 LICENSES AND EXCLUSIVITY

7.1 Licenses to Roche. Subject to the terms and conditions of this Agreement, during the Term, BPM hereby grants Roche:

(a) a non-transferable (except as provided in Section 15.5), exclusive (even as to BPM but subject to BPM's retained rights set forth in Section 7.2), royalty-bearing, sublicensable (solely as permitted in accordance with Section 7.3) license under the BPM Technology to Exploit Compounds and Licensed Products in the Field in the Roche Territory;

(b) a non-transferable (except as provided in Section 15.5), co-exclusive (with BPM, and subject to BPM's retained rights set forth in Section 7.2), sublicensable (solely as permitted in accordance with Section 7.3) license under the BPM Technology to Exploit Compounds and Licensed Products in the Field in the Shared Territory;

(c) [***]; and

(d) a non-transferable (except as provided in Section 15.5), sublicensable (solely as permitted in accordance with Section 7.3), non-exclusive license under BPM Technology for Roche to conduct Supplemental Studies in the Territory in compliance with Section 3.5.

[***]. Notwithstanding any other provision of this Agreement, for the purposes of the license grants under Section 7.1 with respect to any Licensed Product that is a Combination Product, (i) such license will only include a license with respect to the Compound in such Combination Product, and (ii) in no event is a license granted hereunder with respect to any Other Component of a Combination Product.

7.2 BPM Retained Rights; License to BPM.

(a) Notwithstanding the exclusive license granted to Roche pursuant to Sections 7.1, and without limiting the generality of Section 7.6, BPM and its Affiliates shall retain, and have the right to license (through multiple tiers and subject to Section 7.3, as applicable) under the BPM Technology to BPM's Affiliates and Third Parties, the following rights: (i) a co-exclusive (with Roche) right to Exploit Compounds and Licensed Products in the Shared Territory, (ii) the right under the BPM Technology to perform (or to have performed by permitted subcontractors hereunder) its activities and exercise its rights under this Agreement, including in furtherance of the Development activities to be conducted by BPM and its Affiliates under this Agreement and in support of Roche's Exploitation of the Compounds and Licensed Products in the Roche Territory, (iii) the right to Manufacture and have Manufactured Compounds and Licensed Products anywhere in the world for the purpose of (A) Developing and Commercializing Compounds and Licensed Products for the Shared Territory, and (B) Developing and Commercializing Compounds and Licensed Products for the Existing Partner Territory and pursuant to Section 6.5 for the Roche Territory, and (iv) the right to research and Develop Compounds and Licensed Products anywhere in the world as and to the extent necessary or useful to Exploit Compounds and Licensed Products in the Existing Partner Territory or Shared Territory.

(b) Subject to the terms and conditions of this Agreement, Roche hereby grants BPM:

(i) a non-transferable (except as provided in Section 15.5), non-exclusive, sublicensable (solely as permitted in accordance with Section 7.3), royalty-free, fully-paid license under the Roche Technology solely to conduct the activities assigned to BPM under this Agreement;

(ii) a non-transferable (except as provided in Section 15.5), co-exclusive (with Roche), sublicensable (solely as permitted in accordance with Section 7.3) license under the Roche Technology to Exploit Compounds and Licensed Products in the Field in the Shared Territory;

(c) a non-transferable (except as provided in Section 15.5), sublicensable (solely as permitted in accordance with Section 7.3), worldwide, non-exclusive license under Roche Technology for BPM to conduct Supplemental Studies in compliance with Section 3.4; and

(d) a non-transferable (except as provided in Section 15.5), non-exclusive, sublicensable (solely as permitted in accordance with Section 7.3), perpetual, irrevocable, royalty-free license, under the Roche Collaboration Patents and Roche Collaboration Know-How and Roche's interests in Joint Collaboration Technology solely to Exploit Compounds, Licensed Products and Blueprint Combination Products in the Field in the Existing Partner Territory.

7.3 Sublicensing.

(a) Scope of Permissible Sublicensing.

(i) The licenses granted by BPM to Roche in Section 7.1 may be sublicensed by Roche to: (A) an Affiliate of Roche [***] without any requirement of consent (provided that a sublicense to an Affiliate of Roche shall immediately terminate if and when such party ceases to be an Affiliate of Roche) or (B) a Third Party, provided that (x) [***] and (y) in each case of (A) and (B), (1) Roche shall ensure that the financial terms included in Article 9 that are applicable to the scope of the sublicense granted remain unchanged, (2) BPM's obligations to such a Sublicensee shall be no broader than BPM's obligations were to Roche under this Agreement prior to Roche's grant of such a sublicense, and (3) Roche shall be liable for any act or omission of any such Sublicensee that is a breach of any of Roche's obligations under this Agreement as though the same were a breach by Roche, and BPM shall have the right to proceed directly against Roche without any obligation to first proceed against such Sublicensee.

(ii) The licenses granted by Roche to BPM in Section 7.2(b) and the retained rights of BPM in Section 7.2(a)(i) may be sublicensed by BPM to: (A) an Affiliate of BPM without any requirement of consent, provided that such sublicense to an Affiliate of BPM shall immediately terminate if and when such party ceases to be an Affiliate of BPM or (B) a Third Party, provided that (x) [***] and (y) in each case of (A) and (B) only with respect to the licenses granted by Roche to BPM in Section 7.2(b), (1) BPM shall ensure that the financial terms included in Article 9 that are applicable to the scope of the sublicense granted remain unchanged, (2) Roche's obligations to such a Sublicensee shall be no broader than Roche's obligations were to BPM under this Agreement prior to BPM's grant of such a sublicense, and (3) BPM shall be liable for any act or omission of any such Sublicensee that is a breach of any of BPM's obligations under this Agreement as though the same were a breach by BPM, and Roche shall have the right to proceed directly against BPM without any obligation to first proceed against such Sublicensee.

(b) Sublicense Agreements. Roche shall, in each agreement under which it grants a sublicense pursuant to Section 7.3(a)(i) under the license set forth in Section 7.1 (each, a "**Sublicense Agreement**"), require the Sublicensee to provide the following to BPM if this Agreement terminates [***], and to Roche if only such Sublicense Agreement terminates: (i) the assignment and transfer of ownership and possession of, or a right of reference to, all Regulatory Materials and Regulatory Approvals Controlled by such Sublicensee (which assignment or right of reference may also be provided directly to Roche prior to any such termination), but solely to the extent such assignment and transfer, or right of reference, would be required of Roche under Section 14.5, and (ii) the assignment of, or a freely sublicensable (through

multiple tiers) exclusive license to, all intellectual property (including Patents) Controlled by such Sublicensee that covers or embodies a Licensed Product or its respective use, Manufacture, sale, or importation and was conceived, discovered, developed or otherwise made by or on behalf of such Sublicensee during the exercise of its rights or fulfillment of its obligations pursuant to such Sublicense Agreement [***]. Each Sublicense Agreement shall be subject to the applicable terms and conditions of this Agreement. For clarity, in the case of any subcontractor, this Section 7.3(b) shall not apply but Roche shall comply with Sections 3.12, 5.12 or 6.7, as applicable.

7.4 Distributorships and Co-Promotion Rights.

(a) Distributorships. Roche shall have the right to appoint its Affiliates, and Roche and its Affiliates shall have the right, in their sole discretion, to appoint any other Persons, in any country(ies) (i) in the Roche Territory, and (ii) in the Shared Territory following the Transition Date with respect to booking of sales in the Shared Territory, in each case of (i) and (ii), in accordance with Roche's typical practices for its proprietary products, to distribute, market, and sell Licensed Products. If Roche or any of its Affiliates appoints such a Person and such Person is not an Affiliate of Roche [***], such Person shall be a "**Distributor**" for purposes of this Agreement. Any agreement between a Distributor and Roche or its Affiliates regarding a Licensed Product shall be on commercially reasonable and arm's-length terms.

(b) Promotion Rights. For the avoidance of doubt, (i) Roche and its Affiliates shall have the right to co-promote the Licensed Products with any other Person(s) or to appoint one or more Third Parties to promote the Licensed Products without Roche, in all or any part of the Roche Territory, and (ii) each Party and its Affiliates shall have the right to (A) co-promote the Licensed Products with any other Person(s) (in addition to the other Party), or (B) appoint one (1) or more Third Parties to promote the Licensed Products in the Shared Territory, provided in the case of either (A) or (B) it is in accordance with the Joint Commercialization Plan or as otherwise approved by the JCC or JSC.

7.5 Negative Covenant. Each Party covenants that it shall not knowingly use or practice any of the other Party's intellectual property rights licensed to it under this Article 7 in a manner that would constitute infringement or misappropriation of such intellectual property rights except for the purposes expressly permitted in the applicable license grant.

7.6 No Implied Licenses. Except as explicitly set forth in this Agreement, neither Party grants to the other Party any license, express or implied, under its intellectual property rights.

7.7 Third Party Payments.

(a) During the Term, the Parties may determine that planned activities or Licensed Product features under this Agreement with respect to Licensed Products may require or benefit from a license under additional Patents of Third Parties. The Parties agree that the payments to any Third Party in respect of any such license shall be deemed a "**Third Party Payment**" and subject to this Section 7.7. Responsibility for Third Party Payments shall be as follows:

(i) Any Third Party Payment owed under a license entered into after the Effective Date for the use or practice of Patents of a Third Party applicable to the Exploitation of Compounds and Licensed Products in the Shared Territory shall constitute Joint Development Costs, Joint Early Program Development Costs or Joint Operational Costs, as applicable, and be shared by the Parties pursuant to Section 8.3.

(ii) Subject to this Section 7.7(a)(ii) and Section 8.7(d)(iii), Roche shall be solely responsible for all Third Party Payments owed under a license entered into after the Effective

Date for the use or practice of Patents of a Third Party applicable to the Exploitation of Compounds or Licensed Products in the Roche Territory; provided that, in the event that, after the Effective Date, BPM in-licenses BPM Technology that would be deemed Controlled for purposes of the licenses granted to Roche under Section 7.1(a) but for BPM owing payments under the agreement for such in-licensed BPM Technology on account of any sublicense granted thereunder to Roche or its Affiliates or Sublicensees, BPM shall notify Roche of the existence of and anticipated Third Party Payments and Roche shall have the right to decline a sublicense to such in-licensed BPM Technology or take such sublicense, in which case Roche agrees to comply with any obligations under such agreement of BPM that apply to Roche and of which Roche was informed by BPM, including any obligation to make such Third Party Payments. In the event Roche elects to take such sublicense, Roche shall make such payments to BPM within [***] of receiving an invoice from BPM for the same.

(b) [***].

7.8 Exclusivity.

(a) During the Term and subject to the terms of this Agreement, BPM shall not, and shall ensure that its Affiliates do not, directly or indirectly, by itself or for or with any Third Party [***]. Notwithstanding the foregoing: (A) this Section 7.8(a) shall not prohibit BPM, its Affiliates and their sublicensees (through multiple tiers) from (1) exercising the rights retained by them pursuant to Section 7.2(a) or conducting any activities described therein, or (2) Commercializing any Compounds or Licensed Products in the Shared Territory as expressly permitted under the terms of this Agreement; and (B) in the event that Roche does not timely exercise its Option Right for any Second Generation Clinical Candidate, this Section 7.8(a) shall automatically and immediately terminate upon the expiration of the Option Period for such Second Generation Clinical Candidate.

(b) During the Term and subject to the terms of this Agreement, Roche shall not, and shall ensure that its Affiliates do not, directly or indirectly, by itself or for or with any Third Party [***].

(c) Notwithstanding Section 7.8(a) and Section 7.8(b), and subject to Section 7.8(d), in the event that a Party or its Affiliates acquire a Third Party or a portion of the business of a Third Party (whether by merger, stock purchase, purchase of assets, in-license or other means) (a "**Third Party Acquisition**") that is, prior to such Third Party Acquisition, conducting a research, development or commercialization program or activities that, if conducted by a Party or its Affiliates at such time would be a breach of such Party's exclusivity obligation in Section 7.8(a) or Section 7.8(b), as applicable (an "**Other Program**"), such Party may elect to (i) [***], (ii) if such Third Party Acquisition includes the acquisition by such Party, in addition to rights in such Other Program, of rights [***], then, subject to the restrictions in the remainder of this Section 7.8(c), such Party shall be permitted to [***], or (iii) use commercially reasonable efforts to divest such Other Program [***], provided that [***], provided that [***]. With respect to Section 7.8(c)(ii) after the closing of such Third Party Acquisition and with respect to Section 7.8(c)(iii) during such [***] period, BPM and Roche shall not be deemed in breach of Section 7.8(a) or Section 7.8(b), respectively, with respect to such Other Program provided that [***].

(d) In the event of a Change of Control of a Party, the exclusivity obligations of such Party set forth in Section 7.8(a) or Section 7.8(b), as applicable, shall not apply to any Other Program that (i) is owned, in-licensed or otherwise controlled by a Third Party described in the definition of "Change of Control" or its Affiliates prior to the closing of such Change of Control or (ii) becomes owned, in-licensed or otherwise controlled by such Third Party or its Affiliates (other than by such Party or any of its direct or indirect subsidiary Affiliates) after the closing of such Change of Control, in each case ((i) and (ii)) if such Other Program is conducted independently of such Party's activities under this Agreement and with respect

to BPM, without any use of any Roche Technology or Roche Confidential Information and with respect to Roche, without any use of any BPM Technology or BPM Confidential Information. "**Change of Control**" means with respect to a Party: (A) the acquisition (in a transaction or series of related transactions) by any Third Party, together with its Affiliates, of beneficial ownership of fifty percent (50%) or more of the then outstanding securities or combined voting power of such Party, other than acquisitions by employee benefit plans sponsored or maintained by such Party; (B) the consummation of a business combination (including a merger or consolidation) involving such Party with a Third Party, unless, following such business combination, the stockholders of such Party immediately prior to such business combination beneficially own directly or indirectly more than fifty percent (>50%) of the then outstanding securities or combined voting power of the surviving entity or the parent of the surviving entity immediately after such business combination; or (C) the sale or other transfer to a Third Party of all or substantially all of such Party's and its Affiliates' assets or business relating to the subject matter of the Agreement.

(e) With respect to Section 7.8(c) or Section 7.8(d), each Party and its Affiliates (including such Third Party and its Affiliates under the preceding paragraph) shall adopt reasonable procedures (which include appropriate administrative, physical and technical safeguards, including underlying operating system and network security controls and other firewalls) to prevent the use of, with respect to BPM, any Roche Technology or Roche Confidential Information and with respect to Roche, use of any BPM Technology or BPM Confidential Information, in each case, in a manner that is not in compliance with Section 7.8(c) or Section 7.8(d).

ARTICLE 8 FINANCIALS

8.1 Upfront Payment. Within [***] after the Effective Date and receipt of an invoice from BPM, Roche shall pay to BPM six hundred seventy-five million dollars ($675,000,000). Such payment shall be non-refundable, non-creditable and not subject to set-off.

8.2 Equity Investment. Roche Holdings, Inc., a Delaware corporation, will purchase shares of common stock of BPM in accordance with the terms set forth in the Stock Purchase Agreement.

8.3 Joint Development Costs; Joint Early Program Development Costs.

(a) Subject to this Section 8.3, all Joint Development Costs for the Lead Product in the Territory shall be shared forty-five percent (45%) by BPM and fifty-five percent (55%) by Roche; provided that the foregoing Joint Development Costs sharing shall apply up to a maximum of [***] in the aggregate of Joint Development Costs (the "**Joint Development Costs Cap**") for the Lead Product in the Territory, and any Joint Development Costs in excess of such Joint Development Costs Cap for the Lead Product in the Territory shall be shared [***] by Roche and [***] by BPM.

(b) Subject to this Section 8.3, all Joint Early Program Development Costs for the Second Generation Product and Licensed Products containing a Lead Backup in the Territory shall be shared [***] by BPM and [***] by Roche until [***] after which Joint Early Program Development Costs shall be shared [***] by Roche and [***] by BPM.

(c) Commencing the first Calendar Quarter immediately following a Party incurring Joint Development Costs or Joint Early Program Development Costs, as applicable, under this Agreement and continuing thereafter so long as a Party incurs Joint Development Costs or Joint Early Program Development Costs, as applicable, under this Agreement for which reconciliation shall be provided, within [***] after the end of each Calendar Quarter during which either Party incurs any Joint Development Costs or Joint Early Program Development Costs, as applicable, each Party shall submit to a finance designee of the other Party a report setting forth a good faith estimate of the Joint Development Costs or Joint Early

Program Development Costs, as applicable, it incurred in such Calendar Quarter, as detailed in the Development Plan as approved by the JDC. Within [***] following the end of such Calendar Quarter, each Party shall update such report to reflect the final amount of Joint Development Costs or Joint Early Program Development Costs, as applicable, incurred by such Party; provided that if there are any Joint Development Costs or Joint Early Program Development Costs, as applicable, incurred in such Calendar Quarter that a Party is unable to timely include in such financial report, then such amount shall be included and reconciled in the financial report in a future Calendar Quarter. Each such report shall specify in reasonable detail costs incurred and shall include reasonably detailed supporting information. Within [***] after receipt of such reports, the finance designees from both Parties shall confer and agree in writing on whether a reconciliation payment is due from one Party to the other Party, and if so, the amount of such reconciliation payment, so that the Parties share Joint Development Costs or Joint Early Program Development Costs, as applicable, in accordance with this Section 8.3. The Party required to pay such reconciliation payment shall make such payment to the other Party within [***] after the end of such [***] conferral period; provided, however, that in the event of any disagreement with respect to the calculation of such reconciliation payment, any undisputed portion of such reconciliation payment shall be paid in accordance with the foregoing timetable and the remaining, disputed portion shall be paid within [***] after the date on which the Parties, using good faith efforts, resolve the dispute. For the avoidance of doubt, no cost or expense shall be counted more than once in calculating each of Joint Development Costs or Joint Early Program Development Costs, as applicable, even if such cost or expense falls into more than one of the cost categories that comprise Joint Development Costs or Joint Early Program Development Costs, as applicable.

(d) For the avoidance of doubt, any costs incurred by a Party for any Development activity that are not set forth in then-current Joint Development Cost Budget or Early Program Development Cost Budget, or are incurred for any Development activity not included in the then-current Development Plan or Early Program Development Plan, are not Joint Development Costs or Joint Early Program Development Costs, respectively, and shall not be subject to allocation and reconciliation pursuant to this Section 8.3.

8.4 Profit Sharing in the Shared Territory Following Commercialization. The terms and conditions of this Section 8.4 shall govern the rights and obligations of BPM and Roche with respect to Gross Profits relating to each Licensed Product in the Shared Territory. For clarity, BPM shall have no right to share Gross Profits, and no obligation to bear any operating losses, with respect to any Licensed Product in the Roche Territory, and BPM shall instead be entitled to receive from Roche royalties pursuant to Section 8.7.

(a) Share of Gross Profits. During the Gross Profit Sharing Term, BPM and Roche shall equally share all Gross Profits for each Licensed Product in the Shared Territory.

(b) Calculation and Payment. Within [***] after the end of each Calendar Quarter beginning with the Calendar Quarter in which the First Commercial Sale of a Licensed Product occurs in the Shared Territory, each Party shall report to a finance officer designated by BPM and a finance officer designated by Roche (the "**Finance Officers**") an estimate of its BPM Net Sales, Roche Net Sales, Joint Operational Costs and Cost of Goods Sold incurred by it in such Calendar Quarter for each Licensed Product in the Shared Territory. Each such report shall specify in reasonable detail all deductions allowed in the calculation of such BPM Net Sales, Roche Net Sales and all expenses included in Joint Operational Costs and Cost of Goods Sold. Within [***] after receipt of such report, each Party shall update such report to reflect the final amount of its BPM Net Sales, Roche Net Sales, Joint Operational Costs and Cost of Goods Sold. Within [***] of receipt of such final report, the Finance Officers shall confer and agree upon in writing a consolidated financial statement setting forth the Gross Profit for such Calendar Quarter for such Licensed Product in the Shared Territory and calculating each Party's share of such Gross Profit. Within [***] conferral period, BPM or Roche, as applicable, shall make a reconciliation payment to Roche

or BPM respectively, as applicable, so that each of BPM and Roche has been compensated for its respective share of such Gross Profit after giving effect to the BPM Net Sales invoiced by BPM or the Roche Net Sales invoiced by Roche, as applicable, the Joint Operational Costs incurred by each Party, and the Cost of Goods Sold incurred by BPM with respect to such Licensed Product in such Calendar Quarter; provided, however, that in the event of any disagreement with respect to the calculation of such payment, any undisputed portion of such payment shall be paid in accordance with the foregoing timetable and the remaining, disputed portion shall be paid within [***] after the date on which BPM and Roche, using good faith efforts, resolve the dispute. An example of quarterly profit/loss calculation is attached as Appendix 8.4(b).

(c) Consistency with Accounting Treatment. All calculations of Cost of Goods Sold and Gross Profits hereunder shall be made in accordance with GAAP, including the provisions thereof regarding expense recognition, as applied by BPM consistently with its application in its financial reporting.

(d) Quarterly Financial Statements Reporting Support. Beginning after the first sale of a Licensed Product booked by Roche in the Shared Territory, Roche shall provide to BPM necessary information requested by BPM to allow BPM to perform reconciliation between GAAP and IFRS and to fulfill its GAAP financial statements disclosure requirements as required by applicable regulations and rules.

8.5 Development and Regulatory Milestone Payments.

(a) Lead Product Milestone Payments. Roche shall make milestone payments to BPM based on achievement of the development and regulatory milestone events as set forth in this Section 8.5(a) for the first Lead Product to achieve the corresponding milestone event.

Milestone Event	**Payment**
[***]	[***]

(b) Second Generation Compound and Lead Backup Milestone Payments. Roche shall make milestone payments to BPM based on achievement of the following development and regulatory milestones events as set forth in this Section 8.5(b) with respect to a (i) Second Generation Compound and the first Licensed Product containing a Second Generation Compound and a (ii) Lead Backup and the first Licensed Product containing a Lead Backup.

Milestone Event	**Payment**
[***]	[***]

For the purposes of this Section 8.5(b), [***].

(c) Clarification. Each milestone payment in Section 8.5(a) shall be paid only once, without regard to whether two or more Licensed Products ultimately achieve the applicable milestone event. Each milestone payment in Section 8.5(b) shall be paid only once with respect to each of the first Licensed Product containing a Second Generation Compound and the first Licensed Product [***]. The maximum total amount of payments to BPM pursuant to Section 8.5(a) shall be [***], and the maximum total amount of payments to BPM pursuant to Section 8.5(b) shall be [***].

(d) Notice; Payment. Roche shall notify and pay to BPM the amounts set forth in this Section 8.5 within [***] after the achievement of the applicable milestone event. If a milestone event occurs before the Effective Date, then Roche shall make the corresponding payment [***] after the Effective Date. Each such milestone payment shall be made by wire transfer of immediately available funds into an account designated by BPM. Each such milestone payment shall be non-refundable, non-creditable and not subject to set-off with respect to undisputed amounts.

8.6 Sales Milestone Payments.

(a) Lead Product Sales Milestone Events. For all Lead Products, Roche shall pay BPM the following one-time milestone event payment for the first achievement of such milestone event:

Calendar Year Roche Net Sales Threshold	**Payment**
[***]	[***]

Each milestone in this Section 8.6(a) shall be paid no more than once during the Term.

(b) Second Generation and Lead Backup Sales Milestone Events. For each Licensed Product containing a Second Generation Compound or Lead Backup, Roche shall pay BPM the following one-time milestone event payment for the first achievement of such milestone event:

Calendar Year Roche Net Sales Threshold	**Payment**
[***]	[***]

(c) Payment. Each sales milestone payment shall be deemed earned upon achievement of the corresponding sales milestone, and Roche shall notify and make the corresponding sales milestone payment to BPM within [***] after the achievement of the applicable sales milestone threshold. If more than one-sales based milestone is achieved in the same Calendar Year for a given Licensed Product, then each corresponding sales milestone payment for such sales milestone for such Licensed Product shall be payable. Each sales milestone payment shall be made by wire transfer of immediately available funds into an account designated by BPM. Each such sales milestone payment shall be non-refundable, non-creditable and not subject to set-off with respect to undisputed amounts

8.7 Licensed Product Royalties.

(a) Lead Products. Subject to Section 3.7, Roche shall pay to BPM non-refundable, non-creditable royalties on the amount of Roche Net Sales of each Lead Product in the Roche Territory in each Calendar Year, as calculated by multiplying the applicable royalty rates set forth below by the corresponding amount of incremental Roche Net Sales in the Roche Territory of each Lead Product in such Calendar Year.

Roche Net Sales in the Roche Territory	**Royalty Rate**
[***]	[***]

By way of example, and without limitation, if Roche Net Sales of a Lead Product in the Roche Territory in a particular Calendar Year are [***], then the amount of royalties payable under this Section 8.7(a) for such Lead Product shall be as follows: [***].

(b) Licensed Products Containing a Second Generation Compound or a Lead Backup. With respect to any Licensed Product that does not contain a Lead Compound (e.g. containing a Second Generation Compound or a Lead Backup Compound), Roche shall pay to BPM non-refundable, non-creditable royalties on the amount of Roche Net Sales of each such Licensed Products in the Roche Territory in each Calendar Year, as calculated by multiplying the applicable royalty rates set forth below by the corresponding amount of incremental Roche Net Sales in the Roche Territory of such Licensed Product in such Calendar Year.

Roche Net Sales in the Roche Territory	**Royalty Rate**
[***]	[***]

(c) Royalty Term. Royalties under Section 8.7(a) and 8.7(b) shall be payable, on a Licensed Product-by-Licensed Product and country-by-country basis, in the Roche Territory, on the Roche Net Sales of any Licensed Product during the period of time beginning with First Commercial Sale of a Licensed Product in such country and ending [***] ("**Royalty Term**").

(d) Additional Royalty Provisions. The royalties payable under Section 8.7(a) and 8.7(b) shall be subject to the following:

(i) only one royalty shall be payable hereunder with respect to each Licensed Product; and

(ii) on a country-by-country basis, upon the First Commercial Sale in a country of a Generic Product in such country (the "**Generic Launch Quarter**"), the applicable royalty rate for Calendar Year Roche Net Sales, in such country for such Licensed Product shall be reduced as follows: (A) if at any time after the Generic Launch Quarter there has been a decline of the quarterly Net Sales of the applicable Licensed Product in such country greater than [***], then the royalty payments due to BPM for such Licensed Product in such country shall be reduced by [***] for the remainder of the Royalty Term, or (B) if at any time after the Generic Launch Quarter there has been a decline of the quarterly Net Sales of the applicable Licensed Product in such country greater than [***] (collectively, the "**Loss of Market Exclusivity**"), then the royalty payments due to BPM for such Licensed Product in such country shall be reduced by [***] for the remainder of the Royalty Term for so long as the Loss of Market Exclusivity continues during the Royalty Term for the applicable Licensed Product; provided, however, (1) if the quarterly Net Sales for such Licensed Product in such country during any two consecutive Calendar Quarters following the Generic Launch Quarter subsequently exceed [***], then the royalty payments due to BPM for such Licensed Product in such country shall be reduced by [***] for the remainder of the Royalty Term unless and until a royalty reduction trigger under this Section 8.7(d)(ii) occurs again with respect to such Licensed Product; and (2) if the quarterly Net Sales for such Licensed Product in such country [***], then the condition of Loss of Market Exclusivity will cease with respect to such Licensed Product in such country unless and until a royalty reduction trigger under this Section 8.7(d)(ii) occurs again with respect to such Licensed Product. Roche will promptly notify BPM of the occurrence of Loss of Market Exclusivity, which notice will specify the applicable Generic Products, Indication and country in the Territory; and

(iii) [***] if Roche is obligated to remit payments to a Third Party in relation to Third Party issued patents that would allegedly be infringed by the Exploitation of a Licensed Product and are necessary for the Exploitation of such Licensed Product, then Roche shall be permitted to offset up to [***] of any payments paid to such Third Party against any royalty

payments for such Licensed Product otherwise payable by Roche to BPM for such Licensed Product in the applicable Calendar Quarter; and

(iv) royalties when owed or paid hereunder shall be non-refundable and non-creditable and, except as set forth in Sections 3.7 or 8.7, not subject to set-off; and

(v) the maximum aggregate of all reductions under this Section 8.7(d) will reduce the amount of royalties owed to BPM hereunder in any given Calendar Quarter by no more than [***] from the amounts otherwise due to BPM hereunder in such Calendar Quarter in the absence of any such reductions.

(e) Combination Product.

(i) If Roche or its Affiliates intend to sell a Combination Product, then the Parties shall meet [***] to negotiate in good faith and agree [***]. If, after such good faith negotiations not to exceed [***], the Parties cannot agree [***], the dispute shall be initially referred to the executive officers of the Parties in accordance with Section 14.1. Should the Parties fail to agree within [***] of such referral, then [***].

(ii) If the Parties are unable to agree on [***], then Roche shall select one (1) individual who would qualify as an Expert, BPM shall select one (1) individual who would qualify as an Expert, and those two (2) individuals shall select one (1) individual who would qualify as an Expert and who shall be chairman of a committee of the three Experts (the "**Expert Committee**"), each with a single deciding vote. The Expert Committee shall promptly hold a meeting to review the issue under review, at which it shall consider memoranda submitted by each Party at least [***] before the meeting, as well as reasonable presentations that each Party may present at the meeting. The determination of the Expert Committee as to the issue under review shall be binding on both Parties. The Parties shall share equally in the costs of the Expert Committee. Unless otherwise agreed to by the Parties, the Expert Committee may not decide on issues outside the scope mandated under terms of this Agreement. If the Expert Committee is unable to come to a determination within [***] of such meeting, the matter shall be decided pursuant to Section 14.2.

(iii) For any BPM/Roche Combination Product in the Shared Territory, the Parties agree that [***]. In this case, [***].

(f) Apportionment of Compulsory Sublicense Consideration.

Compulsory Sublicense Compensation received by Roche from a Compulsory Sublicensee shall be shared with BPM on an equivalent profit share percentage (the "**Compulsory Profit Share Percentage**") calculated for the respective Calendar Year as follows:

[***]

At the end of the Calendar Year, the Roche shall pay to BPM the Compulsory Sublicense Compensation under a given country or region of the Roche Territory multiplied by the Compulsory Profit Share Percentage. For clarity, any sales or payments by Compulsory Sublicensees under a Compulsory Sublicense shall not be considered as Roche Net Sales and shall not give rise to any royalty payment under Section 8.7(a) of this Agreement.

8.8 Royalty Payments and Reports.

(a) Monthly Flash Reports. Beginning after the first sale of a Licensed Product, (i) Roche shall provide a forecast of estimated quarterly and annual Roche Net Sales and (ii) within [***] after the end of [***], Roche shall provide BPM with a flash report providing a good-faith estimate of the amount of Roche Net Sales on a Licensed Product-by-Licensed Product basis in the Territory during such month (including such amounts expressed in local currency and as converted to dollars). Notwithstanding the foregoing, Roche shall provide final reports for each Calendar Quarter as set forth in Section 8.8(b), and it is understood that for purposes of calculating the royalty owed under Section 8.7 final reported Roche Net Sales (as reported pursuant to Section 8.8(b)) may vary from the flash report for the applicable month.

(b) Quarterly Royalty Payments and Final Reports. Within [***] after the end of each Calendar Quarter, Roche (i) shall pay to BPM any amounts due pursuant to Section 8.7, and (ii) shall provide to BPM concurrently with such payment a statement (in English) setting forth (A) the amount of Roche Net Sales on a Licensed Product-by-Licensed Product basis in the Territory during such Calendar Quarter (including such amounts expressed in local currency and as converted to dollars); (B) the type and amount of permitted deductions from gross sales to determine Roche Net Sales and the total amount of such deductions; and (C) a calculation of the royalties due to BPM for such Calendar Quarter.

8.9 Following Royalty Term and Gross Profit Sharing Term.

(a) Upon expiration of the Royalty Term with respect to a Licensed Product in a country in the Roche Territory, Roche's license with respect to the Licensed Product in such country shall become fully paid-up, perpetual, and irrevocable; no royalties or milestone payments shall be due thereafter with respect to Roche Net Sales of the Licensed Product in such country.

(b) Upon expiration of the Gross Profit Sharing Term with respect to a Licensed Product in the Shared Territory, BPM's license with respect to such Licensed Product in the Shared Territory shall become fully paid-up, perpetual, and irrevocable; no Gross Profit payments shall be due thereafter with respect to the Lead Product in the Shared Territory.

8.10 Other Amounts Payable. Within [***] after the end of each Calendar Quarter, each Party shall invoice the other Party for any amounts owed by the other Party under this Agreement that are not otherwise accounted for in this Article 8, including Third Party Payments that are the responsibility of one Party or the other pursuant to Section 7.7, and payments made on account of expenses and recoveries pursuant to Section 9.4(d). The owing Party shall pay any undisputed amounts that have not been so offset within [***] of receipt of the invoice, and any disputed amounts owed by a Party shall be paid (or offset) within [***] of resolution of the dispute.

8.11 Taxes.

(a) Taxes on Income, Tax Treatment. Each Party shall be solely responsible for the payment of all taxes imposed on its share of income arising directly or indirectly from the collaborative efforts of the Parties under this Agreement. The Parties intend that the co-Development and co-Commercialization of Licensed Products in the Shared Territory gives rise to a partnership solely for U.S. federal (and to the extent applicable, state and local) income tax purposes, and solely with respect to the Shared Territory, shall be governed by the terms of Exhibit I with respect to the tax matters set forth therein.

(b) Tax Cooperation. The Parties agree to cooperate with one another and use reasonable efforts to avoid or reduce tax withholding, deductions or similar obligations in respect of royalties, milestone payments, and other payments made by Roche Basel to BPM under this Agreement.

Without limiting the foregoing, BPM shall provide Roche Basel with any required tax forms, if any, and other information that may be reasonably necessary in order for Roche Basel to not withhold or deduct any taxes or similar obligations on payments made by Roche Basel to BPM under this Agreement. Unless required under Applicable Law, Roche Basel agrees not to withhold or deduct any taxes or similar obligations on any payment made to BPM under this Agreement. Each Party shall provide the other with reasonable assistance to enable the recovery, as permitted by Applicable Law, of withholding taxes, value added taxes, or similar obligations resulting from payments made under this Agreement, such recovery to be for the benefit of the Party bearing such withholding tax or value added tax.

(c) Payment of Tax. To the extent Roche Basel is required by Applicable Law to deduct or withhold taxes on any payment to BPM, Roche shall notify BPM of such deduction or withholding, pay the amounts of such taxes to the proper Governmental Authority in a timely manner and promptly transmit to BPM a copy of a tax certificate or other evidence of such deduction or withholding sufficient to enable BPM to claim such payment of taxes or for a refund claim, as applicable. Notwithstanding this Section 8.11(c), if, as a result of a Withholding Action by Roche Basel (including any assignee or successor), withholding is required by Applicable Law and the amount of such withholding exceeds the amount of withholding that would have been required if Roche Basel had not committed the Withholding Action, then Roche Basel shall pay an additional amount to BPM such that, after withholding from the payment contemplated by this Agreement and such additional amount, BPM receives the same amount as it would have received from Roche Basel absent such Withholding Action by Roche Basel. For the avoidance of doubt, if as a result of a Withholding Action by BPM (including any assignee or successor) the amount of withholding under Applicable Law of the applicable jurisdiction exceeds the amount of such withholding that would have been required in the absence of such Withholding Action by BPM, Roche Basel shall be required to pay an additional amount only to the extent that Roche Basel would be required to pay any additional amount to BPM pursuant to the preceding sentence if BPM had not committed such Withholding Action. Notwithstanding the above, Roche Basel shall only pay an additional amount to the extent BPM did not receive a tax credit or refund for the taxes withheld on any payments made by Roche Basel as a consequence of such Withholding Action. For purposes of this Section 8.11(c), "**Withholding Action**" by a Party means (i) a permitted assignment or sublicense of this Agreement (in whole or in part) by such Party to an Affiliate or a Third Party outside of the United States; (ii) the exercise by such Party of its rights under this Agreement (in whole or in part) through an Affiliate or Third Party outside of the United States (or the direct exercise of such rights by an Affiliate of such Party outside of the United States); (iii) a redomiciliation of such Party, an assignee or a successor to a jurisdiction outside the United States; and (iv) any action taken after the Effective Date by such Party that causes this Agreement or any payment contemplated by this Agreement to become subject to tax (including by virtue of withholding or deduction) in any additional jurisdictions after the Effective Date.

8.12 Blocked Currency. In each country where the local currency is blocked and cannot be removed from the country, Roche will notify BPM in writing and (a) BPM will have the right to receive the applicable royalties of Net Sales in such country in local currency by deposit in a local bank designated by BPM, or (b) if such local currency payment is not allowed by reason of Applicable Law or if otherwise requested by BPM, then the royalties related to such Net Sales in such country shall continue to be accrued and shall continue to be reported, but such royalties will not be paid until the sales proceeds related to such Net Sales may be removed from such country. At such time as Roche, its Affiliates or their Sublicensees, as the case may be, is able to remove the sales proceeds related to such Net Sales from such country, Roche shall also pay such accrued royalties in Payment Currency using the actual exchange rate which is used to remove such sales proceeds from such country.

8.13 Foreign Exchange. The rate of exchange to be used in computing the amount of currency equivalent in dollars of Roche Net Sales invoiced in other currencies shall be calculated based on currency exchange rates for the Calendar Quarter for which remittance is made for royalties. When calculating the

Sales of any Licensed Product that occur in currencies other than dollars, Roche shall convert the amount of such sales into Swiss Francs and then into dollars using Roche's then-current internal foreign currency translation method actually used on a consistent basis in preparing its audited financial statements (YTD average rate as reported by Reuters). For purposes of calculating the Roche Net Sales thresholds set forth in Sections 8.6 and 9.3(f), the aggregate Roche Net Sales with respect to each Calendar Quarter within a Calendar Year shall be calculated based on the currency exchange rates for the Calendar Quarter in which such Roche Net Sales occurred, in a manner consistent with the exchange rate procedures set forth in this Section 8.13.

8.14 Late Payments. If a Party does not receive payment of any sum due to it on or before the due date therefor, simple interest shall thereafter accrue on the sum due to such Party from the due date until the date of payment at a per-annum rate of [***] the prime rate as reported in The Wall Street Journal, Eastern Edition, or the maximum rate allowable by Applicable Law, whichever is less.

8.15 Financial Records; Audits. Each Party shall maintain complete and accurate records in sufficient detail to permit the other Party to confirm the accuracy of the amount to be reimbursed, pursuant to this Article 8, with respect to Joint Development Costs, Joint Early Program Development Costs, Joint Operational Costs, or other amounts to be reimbursed or shared hereunder incurred or generated (as applicable) by such Party, achievement of sales milestones, royalty payments and other compensation or reimbursement payable under this Agreement. Upon reasonable prior notice, such records shall be open during regular business hours for a period of [***] from the creation of individual records for examination at the auditing Party's expense, and not more often than [***] by an independent certified public accountant selected by the auditing Party and reasonably acceptable to the audited Party for the sole purpose of verifying for the auditing Party the accuracy of the financial statements or reports or sales milestone notices furnished by the audited Party pursuant to this Agreement or of any payments made, or required to be made, by or to the audited Party to the other pursuant to this Agreement. Any such auditor shall not disclose the audited Party's confidential information to the auditing Party, except to the extent such disclosure is necessary to verify the accuracy of the financial reports furnished by the audited Party or the amount of payments due by the audited Party under this Agreement. Any amounts shown to be owed but unpaid, or overpaid and in need of reimbursement, shall be paid or refunded (as the case may be) within [***] after the accountant's report, plus interest (as set forth in Section 8.14) from the original due date (unless challenged in good faith by the audited Party, in which case any undisputed portion shall be paid in accordance with the foregoing timetable, any dispute with respect to such challenge shall be resolved in accordance with Article 14, any remaining disputed portion shall be paid within [***] after resolution of the dispute, and interest shall not accrue with respect to the disputed portion during the period of time the dispute is being resolved). The auditing Party shall bear the full cost of such audit unless such audit reveals an overpayment to, or an underpayment by, the audited Party that resulted from a discrepancy in a report that the audited Party provided to the other Party during the applicable audit period, which underpayment or overpayment was more than [***] of the amount set forth in such report, in which case the audited Party shall bear the full cost of such audit.

8.16 Manner and Place of Payment. All payments owed under this Agreement shall be made by wire transfer in immediately available funds to a bank and account designated in writing by BPM or Roche (as applicable), unless otherwise specified in writing by such Party.

ARTICLE 9 INTELLECTUAL PROPERTY

9.1 Ownership of Inventions.

(a) Ownership.

(i) Subject only to the rights expressly granted to the other Party under this Agreement, each Party shall and does own all rights, title, and interest in and to any Patents and Know-How that are Controlled by such Party prior to the Effective Date or that such Party creates or obtains outside the scope of this Agreement.

(ii) As between the Parties, (A) BPM shall solely own or Control all BPM Technology, including Assigned Product-Specific Collaboration Technology, but excluding Joint Collaboration Technology, (B) Roche shall solely own or Control all Roche Technology, excluding Joint Collaboration Technology, and (C) the Parties shall jointly own all Joint Collaboration Technology.

(iii) Inventorship for patentable Know-How conceived or reduced to practice during the course of the performance of activities pursuant to this Agreement shall be determined on a worldwide basis in accordance with United States Patent Laws and, except as expressly set forth herein, ownership of any such patentable Know-How shall be determined by inventorship under Applicable Law.

(b) Disclosure. Each Party shall promptly disclose to the other Party all Collaboration Know-How that it conceives, discovers, develops or otherwise makes in the course of performing any activities or exercising any rights under this Agreement, whether solely or jointly with others (in any event, prior to the filing of any patent application with respect to any patentable invention), including all invention disclosures or other similar documents submitted to such Party by it or its Affiliates, or subcontractors or its or their respective directors, officers, employees or agents relating thereto. Each Party shall also promptly respond to reasonable requests from the other Party for additional information relating thereto.

(c) Assignment; Ownership of Joint Collaboration Technology.

(i) Assigned Product-Specific Technology. Roche shall and hereby does assign to BPM all of its rights, title, and interests in and to all Assigned Product-Specific Technology, and BPM hereby accepts such assignment. Roche shall take (and cause its Affiliates and Sublicensees, and their respective employees, agents, and contractors to take) such further actions reasonably requested by BPM to evidence such assignment and to assist BPM in obtaining patent and other intellectual property rights protection for Collaboration Know-How within the Assigned Product-Specific Know-How including executing further assignments, consents, releases, and other commercially reasonable documentation and providing good faith testimony by affidavit, declaration, in-person, or other proper means in support of any effort by BPM to establish, perfect, defend, or enforce its rights in any Assigned Product-Specific Technology through prosecution of governmental filings, regulatory proceedings, litigation, and other means, including through the filing, prosecution, maintenance, and enforcement of the Assigned Product-Specific Technology. Roche shall obligate its Affiliates, Sublicensees, and subcontractors to assign all Assigned Product-Specific Technology to Roche (or directly to BPM) so that Roche can comply with its obligations under this Section 9.1(c)(i), and Roche shall promptly obtain such assignment. Without limitation, Roche shall cooperate with BPM if BPM applies for U.S. or foreign patent protection for such Assigned Product-Specific Technology and shall obtain the cooperation of the individual inventors of any such Assigned Product-Specific Technology. If Roche is unable to

assign any Assigned Product-Specific Technology, then Roche hereby grants and agrees to grant to BPM a royalty-free, fully paid-up, exclusive (even as to Roche, subject to the terms of this Agreement, including the licenses granted to Roche pursuant to Section 7.1, perpetual, irrevocable license (with the right to grant sublicenses through multiple tiers) under such Assigned Product-Specific Technology for any and all purposes. [***].

(ii) Ownership of Joint Collaboration Technology. Subject only to the rights expressly granted to the Parties under this Agreement, the Parties shall and do jointly own the Joint Collaboration Technology, with each Party having an equal, undivided interest therein. Each Party shall promptly disclose to the other Party in writing and shall cause its Affiliates, and its and their licensees and Sublicensees to so disclose, the making of any Joint Collaboration Technology. Subject to the licenses granted hereunder and the other terms and conditions of this Agreement, including Section 7.1, each Party may exercise its ownership rights in and to such Joint Collaboration Technology, including the right to license and sublicense or otherwise to exploit, transfer or encumber its ownership interest, throughout the world, without an accounting or obligation (including paying royalties) to, or consent required from, the other Party. At the reasonable written request of a Party, the other Party shall take such further actions to confirm that no such accounting is required or to otherwise effect the foregoing regarding such Joint Collaboration Technology.

9.2 CREATE Act. This Agreement shall be understood to be a joint research agreement in accordance with 35 U.S.C. §103(c) to Develop, Manufacture and Commercialize Compounds or Licensed Products, provided that neither Party shall (i) unilaterally invoke the protections of or (ii) be required by this reference to have any Patent take advantage of or become subject to, such §103(c) except with the prior written consent of the other Party.

9.3 Prosecution of Patents.

(a) BPM Patents. Subject to Section 9.3(b) (with respect to Joint Collaboration Patents), as between the Parties, BPM shall [***] to prepare, file, prosecute (including the defense of any oppositions, interferences, reissue proceedings, reexaminations and other post-grant proceedings originating in a patent office) and maintain the BPM Patents, including any Assigned Product-Specific Patents in throughout the world using counsel of its choice. All Patent Costs incurred in connection with the foregoing activities (i) for the BPM Patents in any jurisdiction in the Roche Territory shall be borne [***], and (ii) for the BPM Patents in the Shared Territory shall be borne [***], and in each case, shall be reimbursed [***] of receiving an invoice thereof.

(b) Roche Patents. Roche shall [***] to prepare, file, prosecute (including any oppositions, interferences, reissue proceedings, reexaminations and other post-grant proceedings originating in a patent office) and maintain the Roche Patents in any jurisdiction in the Territory using counsel of its choice. All Patent Costs incurred in connection with the foregoing activities (i) for the Roche Patents in any jurisdiction in the Roche Territory shall be borne [***], and (ii) for the Roche Patents in the Shared Territory shall be borne [***], and reimbursed [***] of receiving an invoice thereof. Roche shall keep BPM reasonably informed of all material matters relating to the preparation, filing, prosecution and maintenance of the Roche Patents (including providing BPM with copies of all material correspondence with the applicable patent office from countries or corresponding authorities within the Territory). BPM shall bear any costs and expenses it may incur in connection with its review and consultation concerning any such Roche Patents.

(c) Joint Collaboration Patents. Roche shall [***] to prepare, file, prosecute (including any oppositions, interferences, reissue proceedings, reexaminations and other post-grant

proceedings originating in a patent office) and maintain the Joint Collaboration Patents in any jurisdiction [***] using counsel of its choice. BPM shall [***] to prepare, file, prosecute (including any oppositions, interferences, reissue proceedings, reexaminations and other post-grant proceedings) and maintain the Joint Collaboration Patents in any jurisdiction [***] using counsel of its choice. Each Party shall be solely responsible for all Patent Costs incurred by or on behalf of it in connection with the foregoing activities for the Joint Collaboration Patents without reimbursement by the other Party. The controlling Party shall keep the other Party reasonably informed of all material matters relating to the preparation, filing, prosecution and maintenance of the Joint Collaboration Patents (including providing copies of all material correspondence with the applicable patent offices) and shall reasonably consider in good faith the other Party's comments with respect to the Joint Collaboration Patents. The other Party shall bear any costs and expenses it may incur in connection with its review and consultation concerning any such Joint Collaboration Patents.

(d) Abandonment. Notwithstanding Sections 9.3(a), 9.3(b) and 9.3(c), before abandoning any Patent within the BPM Patents and Roche Patents in the Territory, or any Joint Collaboration Patents in the Territory [***] (including electing not to file any continuation Patents upon issuance of any Patents), the applicable controlling Party shall notify the other Party in advance of such possible abandonment to allow the Parties to discuss whether to abandon, continue or such other Party to elect to assume the patent prosecution and maintenance of such Patent at its sole cost and expense.

(e) Cooperation. The Parties shall form a Patent Coordination Team within [***]. The Patent Coordination Team shall meet as it deems necessary but no less than once monthly. Each Party shall provide the other Party all reasonable notice, assistance and cooperation in the Patent prosecution efforts provided above in this Section 9.3, including providing any necessary powers of attorney and executing any other required documents or instruments for such prosecution. Through the Patent Coordination Team, BPM and Roche shall (i) discuss potential Patent filings that arise from Collaboration Know-How, the scope of the countries throughout the world in which a Collaboration Patent shall be filed [***], and choice of counsel, (ii) keep the other Party informed of all material matters relating to the preparation, filing, prosecution and maintenance of the BPM Patents, Roche Patents and Joint Collaboration Patents (including providing the other Party with copies of all material correspondence with the applicable patent office from countries or corresponding authorities within the Territory [***], to the extent possible for BPM), (iii) consult with each other on patent strategy for (A) filing, prosecuting, maintaining, and enforcing Patents and (B) defending against patent challenges, and (iv) consider and implement in good faith the other Party's comments, but BPM shall retain final decision-making authority with respect to prosecution and maintenance of the BPM Patents and Roche shall retain final decision-making authority with respect to the prosecution and maintenance of the Roche Patents. BPM may invite non-members to participate in the discussions and meetings of the Patent Coordination Team to the extent such matters may affect the prosecution and maintenance of the BPM Patents [***]. Roche shall bear any internal costs and expenses it may incur in connection with its review and consultation concerning any such BPM Patents.

(f) Patent Term Extensions. BPM shall have the sole right, but agrees to consult with Roche on the strategy and selection of Patent, to apply for and obtain any patent term extension or related extension of rights, including supplementary protection certificates and similar rights, for any BPM Patents or Roche Patents in the Shared Territory or any Joint Collaboration Patents in the Shared Territory [***]. Roche shall have the sole right, but agrees to consult with BPM on the strategy and selection of patent, to apply for and obtain any patent term extension or related extension of rights, including supplementary protection certificates and similar rights, for any BPM Patents, Roche Patents or Joint Collaboration Patents in the Roche Territory. If the Parties disagree on the appropriate strategy with respect to such an extension, the disagreement shall be resolved by the JSC. If the JSC is unable to reach consensus on the strategy, BPM shall have the final say with respect to the matter in the Shared Territory and Roche shall have the final say with respect to the matter in the Roche Territory; provided that each Party considers, reasonably

and in good faith all input received from the other Party, and provided further that each Party exercises such final say in a manner reasonably believed to be in the best interests of the Development and Commercialization of Licensed Products. Each Party shall provide reasonable assistance to the other Party in connection with obtaining any such extensions for the Collaboration Patents consistent with such strategy. To the extent reasonably and legally required in order to obtain any such extension in a particular country, each Party shall make available to the other a copy of the necessary documentation to enable such other Party to use the same for the purpose of obtaining the extension in such country. In the event that the lead Party elects not to file for a Patent Term Extension, the lead Party shall (i) promptly inform the other Party of its intention and reason not to file and (ii) grant the other Party the right to file for such Patent Term Extension.

(g) Orange Book and Other Equivalent Listings. Until [***], BPM shall have lead responsibility for making any filing with respect to any BPM Patent, Roche Patent, Joint Collaboration Patent in connection with the FDA's Orange Book, under the national implementations of Article 10.1(a)(iii) of Directive 2001/EC/83 in the Shared Territory and Roche shall have the lead responsibility for making any such filings with respect to other equivalents in the Roche Territory. Following [***], Roche shall have the lead responsibility for making any such filings [***]. Each Party shall consult with the other Party regarding the strategy therefor. If the Parties disagree on the appropriate strategy with respect to such a filing, the disagreement shall be resolved by the JSC. If the JSC is unable to reach consensus on the strategy, [***]; provided that each Party considers, reasonably and in good faith all input received from the other Party, and provided further that each Party exercises such final say in a manner reasonably believed to be in the best interests of the Development and Commercialization of Licensed Products. Each Party shall provide reasonable assistance to the other Party in connection with any such filing.

9.4 Infringement by Third Parties.

(a) Notification. If, during the Term, either Party becomes aware of (i) any infringement, threatened infringement, or alleged infringement of any BPM Patent, Roche Patent or Joint Collaboration Patent by a Third Party or (ii) known or suspected unauthorized use or misappropriation by a Third Party of any BPM Know-How, Roche Know-How or Joint Collaboration Know-How, in each case if and to the extent involving the manufacture, use, marketing, or sale of a product falling within the scope of the exclusive license granted to Roche under Section 7.1(a) or the co-exclusive licensed granted to Roche under Section 7.1(b) (each, a "**Product Infringement**"), then each Party shall promptly notify the other Party in writing thereof and provide evidence in such Party's possession demonstrating such threatened, alleged or actual infringement or such use. Within [***] after a Party provides or receives written notice ("**Decision Period**"), [***] shall decide whether or not to initiate a suit or action in the Territory regarding such Product Infringement and shall notify the other Party in writing of its decision in writing ("**Suit Notice**").

(b) Enforcement Rights.

(i) [***] shall [***] to bring an appropriate suit or other action against any Third Party allegedly engaged in any Product Infringement [***] (and to defend any related counterclaim) (or to settle or otherwise secure the abatement of such Product Infringement). Prior to commencing any such action, [***] shall consult with [***] and shall consider [***] requests and recommendations regarding such proposed action. [***] may be represented by counsel of its choice in any such action or proceeding, at [***] expense, acting in an advisory but not controlling capacity. In the event that [***] (A) does not provide [***] with a Suit Notice within the Decision Period that [***] shall commence suit or take action, or (B) fails to commence a suit or take action within [***] after its receipt or delivery of notice and evidence pursuant to Section 9.4(a), [***]

shall thereafter [***] to commence a suit or take action with respect to such Product Infringement [***] (and to defend any related counterclaim) (or to settle or otherwise secure the abatement of such Product Infringement).

(ii) [***] shall [***] to bring an appropriate suit or other action against any Third Party allegedly engaged in any Product Infringement [***] (and to defend any related counterclaim) (or to settle or otherwise secure the abatement of such Product Infringement). [***] shall consult with [***] and shall consider [***] requests and recommendations regarding such proposed action. [***] may be represented by counsel of its choice in any such action or proceeding, at [***] expense, acting in an advisory but not controlling capacity. [***] will be entitled to attend any substantive meetings, hearings, or other proceedings related to such action and to review and comment on all substantive documents related to such Product Infringement prior to such filing or submission of such documents. In the event that [***] (A) does not provide [***] with a Suit Notice within the Decision Period that [***] shall commence suit or take action, or (B) fails to commence a suit or take action within [***] after its receipt or delivery of notice and evidence pursuant to Section 9.4(a), [***] shall thereafter have the right, but not the obligation, to commence a suit or take action with respect to such Product Infringement in the [***] (and to defend any related counterclaim) (or to settle or otherwise secure the abatement of such Product Infringement).

(iii) Each Party shall provide to the Party enforcing any such rights under this Section 9.4(b)(iii) reasonable assistance in such enforcement, at such enforcing Party's request and expense, including joining such action as a party plaintiff if required to perfect or maintain jurisdiction to pursue such suit or action. The enforcing Party shall keep the other Party regularly informed of the status and progress of such enforcement efforts, including providing the other Party with copies, to the extent the Party enforcing is lawfully permitted to do so, of all substantive documents or communications filed in such action and shall reasonably consider the other Party's comments on any such efforts. The enforcing Party shall incur no liability to the other Party as a consequence of such enforcement efforts or any unfavorable decision resulting therefrom, including any decision holding any BPM Patent, Roche Patent or Joint Collaboration Patent invalid or unenforceable.

(c) Settlement. Without the prior written consent of the other Party, such consent not to be unreasonably withheld, delayed or conditioned, neither Party shall settle any claim, suit or action that it brought under Section 9.4 involving BPM Patents, Roche Patents or Joint Collaboration Patents.

(d) Expenses and Recoveries. Except as otherwise specified in Section 9.4(b)(i) and (ii), all costs incurred in connection with enforcing any rights under Section 9.4(b) with respect to (i) a Product Infringement in the Roche Territory shall be [***], and (ii) a Product Infringement in the Shared Territory shall be [***], and in each case, shall be reimbursed [***] of receiving an invoice thereof. If a Party bringing a claim, suit or action under Section 9.4 against any Third Party engaged in Product Infringement recovers monetary damages from such Third Party in such suit or action, such recovery shall be allocated first to the reimbursement of any expenses incurred by the Parties in such litigation, and any remaining amount shall be distributed as follows: (i) if related to infringing activities in the Roche Territory, then (A) if Roche was the controlling Party, such amount shall be treated as Roche Net Sales of Licensed Products under this Agreement (and, for clarity, any such amounts shall be considered in the calculation of annual Roche Net Sales for purposes of Sections 8.6 and 8.7, and (B) if BPM was the controlling Party, such amount shall be shared [***], and (ii) if related to infringing activities in the Shared Territory, then such amount shall be shared [***].

9.5 Defense of Patents. Except as set forth in Section 9.3(a), to the extent any Party receives notice by counterclaim, or otherwise, alleging the invalidity or unenforceability of any BPM Patent, Roche Patent or Joint Collaboration Patent, it shall bring such fact to the attention of the other Party, including all relevant information related to such claim. The Parties, through the Patent Coordination Team and JSC, shall discuss such claim. Where such allegation is made in an opposition, reexamination, interference, post-grant proceeding or other patent office proceeding, the provisions of Section 9.3 shall apply. Where such allegation is made in a counterclaim to a suit or other action brought under Section 9.4, the provisions of Section 9.4 shall apply. In all other cases, (a) where such allegation relates to a BPM Patent or Roche Patent in the Shared Territory or any Joint Collaboration Patent in the Shared Territory [***], BPM shall have the first right to defend such action, and all reasonable costs incurred in connection with such defense shall be included as Joint Operational Costs, and (b) where such action relates to a BPM Patent, Roche Patent or Joint Collaboration Patent in a jurisdiction of the Roche Territory, Roche shall have the first right to defend such action, at Roche's expense, and BPM shall cooperate with Roche, at Roche's expense in such defense. In the event a Party does not so elect to defend an action with respect to any BPM Patent, Roche Patent or Joint Collaboration Patent under this Section 9.5, it shall so promptly notify the other Party in writing, and such Party shall have the back-up right to so defend such action, at such Party's expense. Each Party shall provide to the Party defending any such rights under this Section 9.5 all reasonable assistance in such enforcement. The defending Party shall keep the other Party regularly informed of the status and progress of such efforts and shall reasonably consider the other Party's comments on any such efforts.

9.6 Defense of Infringement Actions. During the Term, each Party shall bring to the attention of the other Party all information regarding potential infringement or any claim of infringement of Third Party intellectual property rights in connection with the development, manufacture, use, importation, offer for sale, or sale of Compounds and Licensed Products in the Territory. The Parties shall discuss such information and decide how to handle such matter [***]. This Section 9.6 shall not be interpreted as placing on either Party a duty of inquiry regarding Third Party intellectual property rights.

9.7 Patent Marking. Roche shall, and shall require its Affiliates and Sublicensees, to mark Licensed Products sold by it hereunder (in a reasonable manner consistent with industry custom and practice) with appropriate patent numbers or indicia to the extent permitted by Applicable Law, in those countries in the Territory in which such markings or such notices impact recoveries of damages or equitable remedies available with respect to infringements of patents.

9.8 Personnel Obligations. Prior to beginning work under this Agreement relating to any discovery, Development, Manufacture or Commercialization of a Compound or Licensed Product, each employee, agent or independent contractor of Roche or BPM or of either Party's respective Affiliates or Sublicensees shall be bound by non-disclosure and invention assignment obligations which are consistent with the obligations of Roche or BPM, as appropriate, in this Article 9, to the extent permitted by Applicable Law, including: (a) promptly reporting any invention, discovery, process or other intellectual property right; (b) assigning to Roche or BPM, as appropriate, all of his or her right, title and interest in and to any invention, discovery, process or other intellectual property right; (c) in the case of employees, agents, or independent contractors working in the United States, taking actions reasonably necessary to secure patent protection; (d) performing all acts and signing, executing, acknowledging and delivering any and all documents required for effecting the obligations and purposes of this Agreement; and (e) abiding by the obligations of confidentiality and non-use set forth in Article 12. It is understood and agreed that such non-disclosure and invention assignment agreement need not reference or be specific to this Agreement.

9.9 Product Trademarks.

(a) Global Brand Elements. Roche acknowledges that BPM has developed and adopted certain distinctive colors, logos, images, symbols, internet domain names, trade dress, style of packaging and trademarks (the "**Marks**") to be used in connection with the Commercialization of the Lead Product on a global basis (such branding elements, including any future branding elements for Licensed Products, collectively, the "**Global Brand Elements**"). With respect to any Second Generation Compound, BPM shall have the first right to develop Marks for such Licensed Product containing such Second Generation Compound in the Territory in consultation with Roche, and such Marks shall be incorporated into the Global Brand Elements for Licensed Products. BPM shall and hereby does grant Roche (i) the exclusive right to use such Global Brand Elements in connection with the Commercialization of the Licensed Product in the Roche Territory; and (ii) the co-exclusive right (with BPM) to use such Global Brand Elements in connection with the Commercialization of the Licensed Product in the in the Shared Territory.

(b) Product Marks in the Roche Territory. Subject to Section 9.9(a), Roche shall have the right to brand the Licensed Products in the Roche Territory using Marks that it determines appropriate for such Licensed Products, which may vary by region or within a region, and that are consistent with BPM's Global Brand Elements (the "**Product Marks**"); provided, however, a Product Mark may deviate from BPM's Global Brand Elements if (i) the JSC determines such Product Mark is not appropriate for the Roche Territory due to linguistic reasons or market research showing that such Product Mark is not appropriate, or (ii) in Roche's reasonable discretion if a Governmental Authority rejects or refuses such Product Mark for use in the Roche Territory. Roche shall provide BPM with a reasonable opportunity to review and provide comments on each proposed Product Mark, and Roche shall consider in good faith and incorporate where appropriate BPM's comments before selecting any Product Mark. Roche shall not use any trademarks of BPM (including Blueprint's corporate name, subject to Section 12.6) or any trademark confusingly similar thereto without BPM's prior written consent.

(c) Ownership. BPM shall be the sole and exclusive owner of all Product Marks and Global Brand Elements, including all trademark registrations and applications therefor and all goodwill associated therewith. To the extent Roche acquires any rights, title, or interests in or to any Product Mark or Global Brand Element (including any trademark registration or application therefore or goodwill associated with any Product Mark), Roche shall, and hereby does, assign the same to BPM. BPM shall and hereby does grant Roche (i) the exclusive right to use such Product Marks in connection with the Commercialization of the applicable Licensed Product in the Roche Territory; and (ii) the co-exclusive right (with BPM) to use such Product Marks in connection with the Commercialization of the applicable Licensed Product in the in the Shared Territory.

(d) Use. Roche agrees that it and its Affiliates and Sublicensees shall Commercialize each of the Licensed Products in the Territory in a manner consistent with the Global Brand Elements and shall: (i) ensure that all Licensed Products that are sold bearing the Product Marks and Global Brand Elements are of a high quality consistent with industry standards for global pharmaceutical and biologic therapeutic products; (ii) ensure that each use of the Global Brand Elements and Product Marks by Roche and its Affiliates and Sublicensees is accompanied by an acknowledgement that such Global Brand Elements and Product Marks are owned by BPM; (iii) not use such Global Brand Elements or Product Marks in a way that might materially prejudice their distinctiveness or validity or the goodwill of BPM therein and includes the trademark registration symbol ® or ™ as appropriate; (iv) not use any trademarks or trade names so resembling any of such Global Brand Elements or Product Marks as to be likely to cause confusion or deception; and (e) place and display the Global Brand Elements and the Product Marks on and in connection with the Licensed Products in a way that acknowledges BPM's role in discovering the Licensed Products and that such Licensed Product is under license from BPM. To the extent permitted by Applicable Law, Roche shall include the words (A) "Discovered by Blueprint Medicines Corporation" on all packaging and labeling for any Licensed Product that is not a BPM/Roche Combination Product and in

relevant scientific, medical, and other Licensed Product-related communications to the extent such communications address the Development or Commercialization of such Licensed Product (that is not a BPM/Roche Combination Product), and (B) "Discovered in Collaboration by Blueprint Medicines Corporation and Roche (or specific Roche entity if applicable)" on all packaging and labeling for any BPM/Roche Combination Product (to the extent feasible, for example, if the Roche Marketed Product and the Licensed Product are co-packaged) and in relevant scientific, medical, and other BPM/Roche Combination Product-related communications to the extent such communications address the Development or Commercialization of a BPM/Roche Combination Product, in each case ((A) and (B)), or such other similar text provided by BPM and reasonably acceptable to Roche.

(e) Infringement. During the term, if either Party becomes aware of any infringement of the Global Brand Elements or Product Marks by a Third Party including, but not limited to, the existence of conflicting trademarks of Third Parties in the Territory, such Party shall promptly notify the other Party in writing. Roche shall have the first right, but not the obligation, to bring an appropriate suit or action against such Third Party engaged in infringement of the Global Brand Element or Product Mark in the Roche Territory. Prior to commencing any such action, Roche shall consult with BPM and shall consider BPM's requests and recommendations regarding such proposed action. If Roche does not bring an appropriate action against such infringement of the Global Product Element or Product Mark within [***] after receiving notice, then BPM shall have the right, but not the obligation, to bring an appropriate suit or action against any Third Party engaged in such infringement. BPM shall have the first right, but not the obligation, to bring an appropriate suit or action against such Third Party, in the Shared Territory. Prior to commencing any such action, BPM shall consult with Roche and shall consider Roche's requests and recommendations regarding such proposed action. If BPM does not bring an appropriate action against such infringement of the Global Product Element or Product Mark within [***] after receiving notice, then BPM shall have the right, but not the obligation, to bring an appropriate suit or action against any Third Party engaged in such infringement. Without the prior written consent of the other Party, neither Party shall settle any suit or action that it brought under Section 9.9(e) involving the Global Brand Elements or Product Marks anywhere in the Territory.

(f) The Trademark Costs for the Licensed Products in the Shared Territory shall be Joint Operational Costs, and the Trademark Costs for the Licensed Products in the Roche Territory shall be the responsibility of Roche.

9.10 Confirmatory Patent Licenses. BPM shall, if so requested by Roche, promptly enter into confirmatory license agreements, in a form consistent with the terms of this Agreement and reasonably acceptable to the Parties, for purposes of recording the licenses granted under this Agreement with such patent offices in the Territory as Roche reasonably considers appropriate. Roche shall bear any filing costs and any costs of outside counsel or experts required with respect to such recordations.

ARTICLE 10 REPRESENTATIONS AND WARRANTIES

10.1 Mutual Representations and Warranties. Each Party hereby represents, warrants, and covenants (as applicable) to the other Party as of the Effective Date as follows:

(a) Corporate Existence and Power. It is a company or corporation duly organized, validly existing, and in good standing under the laws of the jurisdiction in which it is incorporated, and has full corporate power and authority and the legal right to own and operate its property and assets and to carry on its business as it is now being conducted and as contemplated in this Agreement, including the right to grant the licenses granted by it hereunder.

(b) Authority and Binding Agreement. (i) It has the corporate power and authority and the legal right to enter into this Agreement and perform its obligations hereunder; (ii) it has taken all necessary corporate action on its part required to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder; and (iii) this Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, and binding obligation of such Party that is enforceable against it in accordance with its terms.

(c) No Conflict. It is not a party to and shall not enter into any agreement that would prevent it from granting the rights or exclusivity granted or intended to be granted to the other Party under this Agreement or performing its obligations under this Agreement.

(d) No Debarment. Neither it nor any of its or its Affiliates' employees, agents or independent contractors performing under this Agreement, or in the case of BPM, no employee, agent or independent contractor engaged by BPM or its Affiliates in the development of any of the Compound or Licensed Product prior to the Effective Date, has ever been, or is currently: (i) debarred under 21 U.S.C. § 335a or its equivalents in the Territory; (ii) excluded, debarred, suspended, or otherwise ineligible to participate in federal health care programs or in federal procurement or non-procurement programs; (iii) listed in the FDA's Clinical Investigators – Disqualification Proceedings Database, including for restrictions; or (iv) convicted of a criminal offense that falls within the scope of 42 U.S.C. § 1320a-7(a) or its equivalents in the Territory, but has not yet been excluded, debarred, suspended, or otherwise declared ineligible. Each Party further covenants that if, during the Term of this Agreement, it becomes aware that it or any of its or its Affiliates' employees, agents or independent contractors performing under this Agreement is the subject of any investigation or proceeding that could lead to that Party becoming a debarred entity or individual, an excluded entity or individual or a convicted entity or individual, such Party shall immediately notify the other Party. This provision shall survive termination or expiration of this Agreement.

(e) Anti-Corruption. To its knowledge, neither it nor any of its Affiliates, or its or their directors, officers, employees, distributors, agents, representatives, sales intermediaries, or other Third Parties acting on behalf of such Party or any of its Affiliates:

(i) has taken any action in violation of any applicable anti-corruption laws (including the provisions of the United States Foreign Corrupt Practices Act of 1977, as amended, collectively, "**Anti-Corruption Laws**"); or

(ii) has corruptly offered, paid, given, promised to pay or give, or authorized the payment or gift of anything of value, directly or indirectly, to any Public Official, for the purposes of:

(iii) influencing any act or decision of any Public Official in his or her official capacity;

(iv) inducing such Public Official to do or omit to do any act in violation of his or her lawful duty;

(v) securing any improper advantage; or

(vi) inducing such Public Official to use his or her influence with a government, governmental entity, or commercial enterprise owned or controlled by any government (including state-owned or controlled veterinary, laboratory or medical facilities) in obtaining or retaining any business whatsoever.

10.2 Representations and Warranties by BPM. BPM hereby represents and warrants to Roche, as of the Effective Date, as follows:

(a) Title; Encumbrances. BPM owns or has a valid right to use the BPM Technology existing as of the Effective Date, including the Patents listed on Exhibit A which are owned by BPM free and clear of any encumbrances, provided, however, that the foregoing shall not constitute a representation or warranty of non-infringement of a Third Party's intellectual property rights. BPM has the right to grant the licenses to Roche as purported to be granted pursuant to this Agreement. Neither BPM nor any of its Affiliates has entered into any agreement granting any right, interest or claim in or to, any BPM Patents or BPM Know-How to any Third Party that would conflict with the licenses to Roche as purported to be granted pursuant to this Agreement.

(b) Recordation. BPM has properly recorded in the relevant U.S. and foreign patent offices (to the extent required by such foreign patent offices) the assignments, or other necessary documents, supporting its legal title to the BPM Patents.

(c) Notice of Infringement or Misappropriation. BPM has not received any written notice from any Third Party asserting or alleging that any research, development, use, manufacture, sale, offer for sale or importation of Compounds or Licensed Products by BPM has infringed or misappropriated, or would infringe or misappropriate, the intellectual property rights of any Third Party.

(d) No Proceedings. There are no pending, and to the knowledge of BPM, there are no threatened, actions, claims, demands, suits, proceedings, arbitrations, grievances, citations, summonses, subpoenas, inquiries or investigations of any nature, civil, criminal, regulatory or otherwise, in law or in equity, against BPM or any of its Affiliates or, to the knowledge of BPM, pending or threatened against any Third Party, in each case involving the BPM Technology, or relating to the transactions contemplated by this Agreement.

(e) [***].

(f) No Misappropriation. To the knowledge of BPM, the conception and reduction to practice of any inventions and the use or development of any other Know-How within the BPM Technology have not constituted or involved the misappropriation of trade secrets or other rights or property of any Third Party.

10.3 Other Covenants.

(a) No Transfer of Title. BPM covenants and agrees that during the Term, neither it nor its Affiliates shall enter into any agreement with any Third Party, whether written or oral, with respect to, or otherwise assign, transfer, license, or convey its right, title or interest in or to, the BPM Technology, in each case, that is in conflict with the rights granted by BPM to Roche under this Agreement or that would prevent BPM from performing its obligations under this Agreement.

(b) Anti-Corruption.

(i) Neither Roche nor any of its Affiliates (or any of their respective Sublicensees, employees and contractors) shall, in connection with the exercise of Roche's rights or performance of its obligations under this Agreement, directly or indirectly through Third Parties, pay, promise or offer to pay, or authorize the payment of, any money or give any promise or offer to give, or authorize the giving of anything of value to a public official or entity or other Person for purpose of obtaining or retaining business for or with, or directing business to, any Person,

including Roche and its Affiliates, nor shall Roche or any of its Affiliates directly or indirectly promise, offer or provide any corrupt payment, gratuity, emolument, bribe, kickback, illicit gift or hospitality or other illegal or unethical benefit to a public official or entity or any other Person in connection with the exercise of Roche's rights or performance of Roche's obligations under this Agreement; and

(ii) Neither Roche nor any of its Affiliates (or any of their respective Sublicensees, employees and contractors), in connection with the exercise of Roche's rights or performance of Roche's obligations under this Agreement, shall knowingly cause BPM to be in violation of Anti-Corruption Laws.

(c) Export Control. Neither Roche nor any of its Affiliates (or any of their respective Sublicensees, employees and contractors), in connection with the exercise of Roche's rights or performance of Roche's obligations under this Agreement, shall knowingly cause BPM to be in violation of any applicable U.S. or foreign export control laws and regulations.

(d) BPM Technology. Neither Roche nor any of its Affiliates (or any of their respective Sublicensees, employees and contractors), shall engage in any activities that use the BPM Technology in a manner that is outside the scope of the license rights granted to it hereunder.

(e) [***].

10.4 Disclaimer. BPM makes no representations or warranties except as set forth in this Article 10 concerning the BPM Technology, and Roche makes no representations or warranties except as set forth in this Article 10 concerning the Roche Technology.

10.5 No Other Representations or Warranties. EXCEPT AS EXPRESSLY STATED IN THIS ARTICLE 10, NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR NON-MISAPPROPRIATION OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS, IS MADE OR GIVEN BY OR ON BEHALF OF A PARTY. EXCEPT AS EXPRESSLY STATED IN THIS AGREEMENT, ALL REPRESENTATIONS AND WARRANTIES, WHETHER ARISING BY OPERATION OF LAW OR OTHERWISE, ARE HEREBY EXPRESSLY EXCLUDED.

ARTICLE 11 INDEMNIFICATION

11.1 Indemnification by BPM. BPM shall defend, indemnify, and hold Roche, its Affiliates, subcontractors, Sublicensees and Distributors, and each of their respective officers, directors, employees, and agents (the "**Roche Indemnitees**") harmless from and against any and all damages or other amounts payable to a Third Party claimant (excluding Sublicensees of Roche), as well as any reasonable attorneys' fees and costs of litigation incurred by such Roche Indemnitees (collectively, "**Roche Damages**"), all to the extent resulting from claims, suits, proceedings or causes of action brought by or on behalf of such Third Party ("**Roche Claims**") against such Roche Indemnitee that arise from or are based on: (a) the Exploitation by or on behalf of BPM or its Affiliates, subcontractors, licensees or sublicensees (excluding such conduct by or on behalf of Roche, its Affiliates and Sublicensees as licensees or sublicensees of BPM hereunder) of any Compound or Licensed Product in the Shared Territory, but excluding the Shared Program Activities; (b) a breach of any of BPM's representations, warranties and obligations under this Agreement; (c) the willful misconduct or grossly negligent acts of BPM, its Affiliates, or subcontractors, or the officers, directors, employees, or agents of BPM or its Affiliates, or subcontractors; or (d) any violation of Applicable Law by BPM, its Affiliates, subcontractors or sublicensees (excluding Roche, its

Affiliates, and Sublicensees as licensees or sublicensees of BPM hereunder), or the officers, directors, employees, or agents of BPM or its Affiliates, contractors or such sublicensees; excluding, in each case ((a), (b), (c) and (d)), any damages or other amounts for which Roche has an obligation to indemnify any BPM Indemnitee pursuant to Section 11.2.

11.2 Indemnification by Roche. Roche shall defend, indemnify, and hold BPM, its Affiliates, subcontractors, distributors, licensees and sublicensees, and each of their respective officers, directors, employees, and agents, (the "**BPM Indemnitees**") harmless from and against any and all damages or other amounts payable to a Third Party claimant (excluding Sublicensees of BPM), as well as any reasonable attorneys' fees and costs of litigation incurred by such BPM Indemnitees (collectively, "**BPM Damages**"), all to the extent resulting from any claims, suits, proceedings or causes of action brought by such Third Party (collectively, "**BPM Claims**") against such BPM Indemnitee that arise from or are based on: (a) the Exploitation of Compounds or Licensed Products by Roche or its Affiliates, subcontractors, Distributors or Sublicensees in the Territory, but excluding the Shared Program Activities; (b) a breach of any of Roche's representations, warranties, and obligations under the Agreement; (c) the willful misconduct or grossly negligent acts of Roche or its Affiliates, subcontractors, Distributors, or Sublicensees, or the officers, directors, employees, or agents of Roche or its Affiliates, subcontractors, Distributors, or Sublicensees; or (d) any violation of Applicable Law by Roche, its Affiliates, subcontractors, Distributors, or Sublicensees, or the officers, directors, employees, or agents of Roche or its Affiliates, subcontractors, Distributors, or Sublicensees; excluding, in each case ((a), (b), (c) and (d)), any damages or other amounts for which BPM has an obligation to indemnify any Roche Indemnitee pursuant to Section 11.1.

11.3 Indemnification Procedures. The Party claiming indemnity under this Article 11 (the "**Indemnified Party**") shall give written notice to the Party from whom indemnity is being sought (the "**Indemnifying Party**") promptly after learning of the claim, suit, proceeding or cause of action for which indemnity is being sought ("**Claim**"). The Indemnifying Party's obligation to defend, indemnify, and hold harmless pursuant to Section 11.1 or 11.2, as applicable, shall be reduced to the extent the Indemnified Party's delay in providing notification pursuant to the previous sentence results in prejudice to the Indemnifying Party. At its option, the Indemnifying Party may assume the defense of any Claim for which indemnity is being sought by giving written notice to the Indemnified Party within [***] after receipt of the notice of the Claim. The assumption of defense of the Claim shall not be construed as an acknowledgment that the Indemnifying Party is liable to indemnify any Indemnified Party in respect of the Claim, nor shall it constitute waiver by the Indemnifying Party of any defenses it may assert against the Indemnified Party's claim for indemnification. The Indemnified Party shall provide the Indemnifying Party with reasonable assistance, at the Indemnifying Party's expense, in connection with the defense. The Indemnified Party may participate in and monitor such defense with counsel of its own choosing at its sole expense; provided, however, the Indemnifying Party shall have the right to assume and conduct the defense of the Claim with counsel of its choice. The Indemnifying Party shall not admit liability or settle any Claim without the prior written consent of the Indemnified Party, not to be unreasonably withheld, conditioned or delayed, unless the settlement involves only the payment of money. The Indemnified Party shall not settle any such Claim without the prior written consent of the Indemnifying Party, which consent shall not be unreasonably withheld, conditioned or delayed. If the Indemnifying Party does not assume and conduct the defense of the Claim as provided above, (a) the Indemnified Party may defend against, and consent to the entry of any judgment or enter into any settlement with respect to the Claim in any manner the Indemnified Party may deem reasonably appropriate (and the Indemnified Party need not consult with, or obtain any consent from, the Indemnifying Party in connection therewith), and (b) the Indemnified Party reserves any right it may have under this Article 12 to obtain indemnification from the Indemnified Party.

11.4 Certain Third Party Claims Related to Licensed Products in the Shared Territory. The Parties shall share in any Shared Program Damages. With respect to any Shared Program Damages incurred by a Party (or any of its Indemnified Persons) during the Term, such Shared Program Damages shall be

deemed to constitute (and shall be included in) Joint Development Costs, Joint Early Program Development Costs or Joint Operational Costs, as applicable (and the Parties shall cooperate in good faith to allocate such amount(s) to the appropriate cost category). After the Term, any Shared Program Damages shall continue to be shared with [***] and the Party (or any of its Indemnified Persons) that has incurred such Shared Program Damages shall be reimbursed by the other Party [***] no later than [***] after receipt of reasonable documentation evidencing such amounts. If either Party receives notice of a Third Party claim that arises from or is based on any Shared Program Activities, such Party shall inform the other Party in writing as soon as reasonably practicable, and the Parties shall discuss a strategy on how to defend against such Third Party claim.

11.5 Limitation of Liability. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT OR ANY TORT CLAIMS ARISING HEREUNDER, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 11.5 IS INTENDED TO OR SHALL LIMIT OR RESTRICT (A) THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF ANY PARTY UNDER SECTION 11.1, 11.2 OR 11.4, (B) DAMAGES AVAILABLE FOR A PARTY'S BREACH OF ITS CONFIDENTIALITY OBLIGATIONS UNDER ARTICLE 12, OR (C) DAMAGES AVAILABLE IN THE CASE OF A PARTY'S FRAUD, GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT.

11.6 Insurance.

(a) General. Each Party shall maintain, at its own expense, insurance to cover such Party's obligations under this Agreement; provided, however Roche has the right, in its sole discretion to self-insure, in part or in whole, for any such coverage. Each party shall, at a minimum, maintain the insurance coverage specified in Section 11.6(b). Such insurance policies shall be primary and non-contributing, including any deductibles, with respect to any other similar insurance policies available to the other Party or its Affiliates, and shall be maintained with an insurance company or companies having an A.M. Best's rating (or its equivalent) of A-VII or better. Each Party shall provide the other Party with written evidence of such insurance upon the other Party's request. Each Party shall provide the other with written notice of any expiration, cancellation, non-renewal or material change in accordance with policy provisions in such insurance, in each case, which materially adversely affects the rights of the other Party hereunder. The insurance policies shall be under an occurrence form, but if only a claims-made form is available to a Party, such Party shall maintain the insurance coverage for a term of [***]. [***]. It is understood that such insurance shall not be construed to create a limit of either Party's liability with respect to its indemnification obligations under this Article 11.

(b) Each Party shall maintain [***].

ARTICLE 12 CONFIDENTIALITY

12.1 Non-Use and Non-Disclosure. Subject to the remainder of this Article 12, during the Term and [***], a Receiving Party shall (i) treat Confidential Information provided by Disclosing Party as it would treat its own information of a similar nature, (ii) take all reasonable precautions not to disclose such Confidential Information to Third Parties, without the Disclosing Party's prior written consent, and (iii) not use such Confidential Information other than for fulfilling its obligations or exploit its licenses and other rights under this Agreement.

12.2 Permitted Disclosure. Notwithstanding the obligation of non-use and non-disclosure set forth in Section 12.1, the Parties recognize the need for certain exceptions to this obligation, specifically

set forth below in Sections 12.3, 12.4 and 12.5, with respect to press releases, patent rights, publications, and certain commercial considerations.

12.3 Initial Press Releases; Further Publicity and Communications Alignment.

(a) Initial Press Releases. Promptly following the Effective Date, the Parties shall have the right to individually issue agreed upon press releases announcing the existence and selected key terms of this Agreement and the Stock Purchase Agreement, each in a form substantially similar to those attached as Appendix 12.3(a)(1) (with respect to BPM) and Appendix 12.3(a)(2) (with respect to Roche) (each, an "**Initial Press Release**").

(b) Additional Press Releases. Following the Effective Date and the issuance of an Initial Press Release, except as otherwise set forth in Sections 12.3(d), 12.4 and 12.5, each Party shall have the right to issue additional press releases related to the activities contemplated by this Agreement in accordance with this Section 12.3(b):

(i) By Roche. Roche shall issue press releases in accordance with its internal policy that typically does not issue a second press release until Phase 1 Clinical Trial proof-of-concept has been achieved for a Licensed Product. Roche shall provide a copy of any draft press release related to the activities contemplated by this Agreement and shall endeavor to provide such draft at least [***] prior to its intended issuance to BPM for its review and comment. BPM shall provide any comments as soon as practicable, and Roche shall consider in good faith any timely comments provided by BPM.

(ii) By BPM. Except for any additional press release (A) issued by BPM in accordance with Section 12.3(d) or (B) required to be issued by BPM as a matter of law in accordance with Section 12.5, BPM shall not issue additional press releases related to the activities contemplated by this Agreement without Roche's prior approval. For each such additional press release approved by Roche, BPM shall provide a copy of any such additional draft press release and shall endeavor to provide such copy [***] prior to its intended issuance to Roche for its review and comment. Roche shall provide any comments as soon as practicable, and BPM shall consider in good faith any timely comments provided by Roche. For the avoidance of doubt, following the Effective Date, except as required as a matter of law in accordance with Section 12.5, BPM shall not issue any additional press release related to (x) any new results from a Clinical Trial for a Licensed Product or (y) the Regulatory Approval of a Licensed Product for a new Indication or in a new jurisdiction, in each case, without Roche's prior approval.

(c) Communications Alignment. To ensure communications alignment, the Parties shall periodically meet and discuss and keep the other Party reasonably informed of their communications plans and strategies related to the activities contemplated by this Agreement. In addition, any responses to inquiries by media or other Third Parties after issuance of a press release by either Party (solely or jointly with the other Party) pursuant to this Section 12.3 shall consist solely of the language in such press release and otherwise follow response guidelines, if any, that may be mutually developed by the Parties, except to the extent additional or varying disclosure is (A) required by a Regulatory Authority, including the SEC (or foreign equivalent) to comply with either Party's disclosure obligations as a public company or (B) permitted in accordance with Sections 12.3(d), 12.4 or 12.5.

(d) Further Disclosures. In addition, the Parties agree that after (i) the issuance of a press release (including any Initial Press Release by each Party) in accordance with Section 12.3(b), (ii) a publication in accordance with Section 12.4 or (iii) a disclosure in accordance with Section 12.5, a Party may make subsequent public disclosures in quarterly earnings press releases (subject to Section 12.5(b)),

investor and analyst presentations and its corporate or its Affiliates' corporate websites reiterating such information without having to obtain the other Party's prior consent and approval so long as the information remains true, correct, and the most current information with respect to the subject matters set forth therein and would not reasonably be expected to adversely impact the other Party.

12.4 Publications. The following restrictions shall apply with respect to disclosure by any Party of Confidential Information in any publication or presentation:

(a) Both Parties acknowledge that it is their policy for the studies and results thereof to be registered and published in accordance with their internal guidelines. Roche, in accordance with its internal policies and procedures, shall have the right to publish all results related to Licensed Products from any Supplemental Studies conducted by or on behalf of Roche or its Affiliates. BPM, in accordance with its internal policies, shall have the right to publish all results related to Licensed Products from any Supplemental Studies conducted by or on behalf of BPM or its Affiliates. The Parties shall publish all results from any Clinical Trial conducted by or on behalf of the Parties or their respective Affiliates under any Development Plan in accordance with the publications strategy and plans established by the JCC, JMAC or JDC, as applicable.

(b) A Party ("**Publishing Party**") shall provide the other Party with a copy of any proposed material publication or presentation at least [***] prior to submission for publication so as to provide such other Party with an opportunity to recommend any changes it reasonably believes are necessary to continue to maintain the Confidential Information disclosed by the other Party to the Publishing Party in accordance with the requirements of this Agreement. The incorporation of such recommended changes shall not be unreasonably refused; and if such other Party notifies ("**Publishing Notice**") the Publishing Party in writing, within [***] after receipt of the copy of the proposed publication, presentation, or manuscript, that such publication or presentation in its reasonable judgment (i) contains an invention, solely or jointly conceived or reduced to practice by the other Party, for which the other Party reasonably desires to obtain patent protection or (ii) could be expected to have a material adverse effect on the commercial value of any Confidential Information disclosed by the other Party to the Publishing Party, the Publishing Party shall prevent such publication or delay such publication for a mutually agreeable period of time. In the case of inventions, a delay shall be for a period reasonably sufficient to permit the timely preparation and filing of a patent application(s) on such invention, and in no event less than [***] from the date of the Publishing Notice.

12.5 Commercial Considerations.

(a) Nothing in this Agreement shall prevent a Receiving Party or its Affiliates from disclosing Confidential Information of the Disclosing Party and the existence and terms of this Agreement or the Stock Purchase Agreement to (i) governmental agencies to the extent required or desirable to secure government approval for the Exploitation of a Licensed Product in the Territory or to obtain patents in accordance with this Agreement, provided that such Confidential Information shall be disclosed only to the extent reasonably necessary to do so, and where permitted, subject to confidential treatment, (ii) Third Parties actually or potentially acting on behalf of the Receiving Party or its Affiliates, to the extent reasonably necessary for the Receiving Party to perform its obligations or exercise its rights under this Agreement, (iii) Third Parties requesting Clinical Trial data information (in accordance with the Receiving Party's then-current data sharing policy), (iv) Third Parties to the extent reasonably necessary to market the Licensed Products in the Territory, (v) its Affiliates, consultants, CROs, licensees or Sublicensees, and its and their directors, officers, employees, agents or advisors (including accountants, attorneys, consultants, bankers, financial advisors and members of advisory boards) who reasonably require Confidential Information in order for a Party, its Affiliates or Sublicensees to perform its or their activities, or in exercising its or their rights, under this Agreement, are informed of the confidential nature of such

information and are bound by non-use and confidentiality obligations with respect to such Confidential Information, and (vi) any bona fide potential or actual sources of debt or equity financing or parties to a merger, acquisition or similar transaction (including attorneys, accountants, consultants, bankers or financial advisors of the foregoing) who reasonably require such Confidential Information as part of their due diligence investigations and who are informed of the confidential nature of such information and this Agreement and are bound by obligations of non-use and confidentiality with respect to such Confidential Information (which may include, solely with respect to attorneys and accountants, professional ethical obligations).

(b) A Party may disclose Confidential Information of the other Party to the extent that such Confidential Information is required to be disclosed by such Party to comply with Applicable Law or judicial or administrative process, including (i) the rules and regulations of the SEC (or equivalent foreign agency) or a securities exchange on which its or its Affiliate's securities are listed (or to which an application for listing has been submitted) or (ii) to defend or prosecute litigation or to comply with court orders or governmental regulations; provided that, to the extent practicable and not prohibited by Applicable Law or judicial or administrative process, the disclosing Party shall provide prior written notice and a draft of such disclosure to the non-disclosing Party [***], as soon as practicable in advance of such disclosure to provide the non-disclosing Party the opportunity to review and comment and shall specify to the non-disclosing Party when its comments need to be provided in order to be considered. The non-disclosing Party shall provide any comments as soon as practicable, and the disclosing Party shall consider in good faith any timely comments provided by the non-disclosing Party; provided that the disclosing Party (A) may or may not accept such comments in its sole discretion, (B) discloses such Confidential Information only to the extent reasonably necessary to do so, and (C) to the extent practicable, takes (or causes to be taken) all reasonable and lawful actions to avoid and minimize the extent of such disclosure. Notwithstanding anything to the contrary in this Article 12, BPM may disclose in accordance with this Section 12.5(b) the achievement of any milestone event or the payment of royalties under this Agreement (including the nature, BPM's assessment of probability, amount, payment and timing of any such milestone event or royalty) or any financial information with respect to Licensed Products in the Shared Territory provided by Roche under Section 8.4 or with respect to the Licensed Products in the Territory provided by Roche under Section 8.8 whether by press release, SEC filing or other similar disclosure.

(c) In addition, either or both Parties may be obligated to make a filing or disclosure of a copy of this Agreement or one or more of the Ancillary Agreements (in each case, including any subsequent amendments thereto) with the SEC (or equivalent foreign agency) or a Governmental Authority, and each Party shall be entitled to make such a required filing or disclosure; provided that, to the extent not prohibited by Applicable Law or judicial or administrative process, prior to making any such filing or disclosure, such Party shall provide a draft of this Agreement or such Ancillary Agreements (in each case, or amendments thereto, as applicable) to the other Party as soon as practicable in advance of such filing or disclosure to provide the other Party the opportunity to review and comment and shall specify to the non-disclosing Party when its comments need to be provided in order to be considered. The non-disclosing Party shall provide any comments as soon as practicable, and the disclosing Party shall consider in good faith any timely comments provided by the non-disclosing Party; provided that the disclosing Party may or may not accept such comments in its sole discretion. Each Party shall be responsible for its own legal and other external costs in connection with any such filing or disclosure pursuant to this Section 12.5(c).

12.6 Use of Names. Following the issuance of the press release attached hereto as Appendix 12.3, each Party shall have the right to use the other Party's name and logo in presentations, its website, collateral materials, investor and analyst presentations and corporate overviews to describe the collaboration relationship, as well as in taglines of press releases issued pursuant to this Article 12; provided that neither Party shall use the other Party's corporate name in such manner that the distinctiveness,

reputation, and validity of any trademarks and corporate or trade names of such other Party shall not be impaired, and consistent with best practices used by such other Party for its other collaborators.

12.7 Tax Treatment. Nothing in this Article 12 shall limit either Party in any way from disclosing to any Third Party such Party's U.S. or foreign income tax treatment and the U.S. or foreign income tax structure of the transactions relating to such Party that are based on or derived from this Agreement, or materials of any kind (including opinions or other tax analyses) relating to such tax treatment or tax structure to the extent that nondisclosure of such matters is reasonably necessary in order to comply with applicable securities laws.

12.8 Attorney-Client Privilege. Neither Party is waiving, nor shall be deemed to have waived or diminished, any of its attorney work product protections, attorney-client privileges or similar protections and privileges or the like as a result of disclosing information pursuant to this Agreement, or any of its Confidential Information (including Confidential Information related to pending or threatened litigation) to the Receiving Party, regardless of whether the Disclosing Party has asserted, such privileges and protections. The Parties: (a) share a common legal and commercial interest in such disclosure that is subject to such privileges and protections; (b) are or may become joint defendants in proceedings to which the information covered by such protections and privileges relates; (c) intend that such privileges and protections remain intact should either Party become subject to any actual or threatened proceeding to which the Disclosing Party's Confidential Information covered by such protections and privileges relates; and (d) intend that after the Effective Date both the Receiving Party and the Disclosing Party shall have the right to assert such protections and privileges. Notwithstanding the foregoing, nothing in this Section 12.8 shall apply with respect to a dispute between the Parties (including their respective Affiliates).

ARTICLE 13 TERM AND TERMINATION

13.1 Term. This Agreement shall become effective on the Effective Date and, unless earlier terminated pursuant to this Article 13, shall expire, on a Licensed Product-by-Licensed Product basis, (a) in the Shared Territory, at the expiry of the Gross Profit Sharing Term for such Licensed Product and (b) in the Roche Territory, on a country-by-country basis at the end of the applicable Royalty Term for such Licensed Product (the "**Term**").

13.2 Termination Rights of each Party.

(a) Termination by Roche. Roche shall have the right to terminate this Agreement in its entirety or on a Licensed Product-by-Licensed Product or country-by-country basis [***].

(b) Termination by BPM. BPM shall have the right to terminate this Agreement in its entirety upon written notice to Roche in the event that Roche or any of its Affiliates or Sublicensees directly or indirectly challenges in a legal or administrative proceeding the patentability, enforceability or validity of any BPM Patents (except as a defense against a claim, action or proceeding asserted by BPM against Roche or its Affiliates or Sublicensees) (a "**Patent Challenge**"); provided that BPM shall not have the right to terminate this Agreement under this Section 13.2(b) for any such Patent Challenge by any Sublicensee if such Patent Challenge is dismissed within [***] of BPM's notice to Roche under this Section 13.2(b) and not thereafter continued. In the event Roche intends to assert a Patent Challenge in any forum, not less than [***] prior to making any such assertion, Roche shall provide to BPM a complete written disclosure of each basis known to Roche for such assertion. In the event that BPM has not yet exercised its right to terminate this Agreement pursuant to this Section 13.2(b), as of and following an initial ruling in any such legal or administrative proceeding finding any BPM Patents that are the subject of such Patent Challenge are not

invalid, unenforceable or not patentable, the royalty rates set forth in Section 8.7, as applicable, shall double for the remainder of the Term.

13.3 Termination by Either Party for Breach or Insolvency.

(a) Breach.

(i) Subject to Section 13.3(b), BPM shall have the right to terminate this Agreement in its entirety or with respect to any country or Licensed Product upon written notice to Roche if Roche materially breaches its obligations under this Agreement with respect to such country or Licensed Product and, after receiving written notice from BPM identifying such material breach by Roche in reasonable detail, fails to cure such material breach within [***] from the date of such notice (or within [***] from the date of such notice in the event such material breach is solely based upon Roche's failure to pay any amounts due BPM hereunder).

(ii) Subject to Section 13.3(b) and 13.3(c), Roche shall have the right to terminate this Agreement in its entirety or with respect to a country or Licensed Product upon written notice to BPM if BPM materially breaches its obligations under this Agreement with respect to such country or Licensed Product and, after receiving written notice from Roche identifying such material breach by BPM in reasonable detail of its obligations under this Agreement, fails to cure such material breach within [***] from the date of such notice (or within [***] from the date of such notice in the event such material breach is solely based upon BPM's failure to pay any amounts due Roche hereunder).

(b) Disputed Breach. If the alleged breaching Party disputes in good faith the existence or materiality of a breach specified in a notice provided by the other Party in accordance with Section 13.3(a), and such alleged breaching Party provides the other Party notice of such dispute within such [***] period, as applicable, then the non-breaching Party shall not have the right to terminate this Agreement under Section 13.3(a) unless and until an arbitrator, in accordance with Article 14, has determined that the alleged breaching Party has materially breached the Agreement and that such Party fails to cure such breach within [***] following such arbitrator's decision (except to the extent such breach involves the failure to make a payment when due, which breach must be cured within [***] following such arbitrator's decision). It is understood and agreed that during the pendency of such dispute, all of the terms and conditions of this Agreement shall remain in effect.

(c) Disfavored Remedy. The Parties agree that termination pursuant to this Section 13.3 is a remedy to be invoked only if the breach cannot be adequately remedied through a combination of specific performance and the payment of money damages. In that regard, if the money damages payable under this Agreement by reason of a breach were materially limited by reason of Section 12.5 (for reasons other than the exclusion for punitive damages), it shall be assumed that the payment of money damages was not an adequate remedy for the breach unless the breaching Party elects to waive the protections of Section 12.5 (other than with respect to punitive damages) and pay the resulting amounts.

(d) Insolvency. If, at any time during the Term (i) a case is commenced by or against either Party under Title 11, United States Code, as amended, or analogous provisions of Applicable Law outside the United States (the "**Bankruptcy Code**") and, in the event of an involuntary case under the Bankruptcy Code, such case is not dismissed within [***] after the commencement thereof, (ii) either Party files for or is subject to the institution of bankruptcy, liquidation or receivership proceedings (other than a case under the Bankruptcy Code), (iii) either Party assigns all or a substantial portion of its assets for the benefit of creditors, (iv) a receiver or custodian is appointed for either Party's business, or (v) a substantial

portion of either Party's business is subject to attachment or similar process; then, in any such case ((i), (ii), (iii), (iv) or (v)), the other Party may terminate this Agreement upon written notice to the extent permitted under Applicable Law.

13.4 Effects of Termination of the Agreement. Upon termination of this Agreement (i) with respect to one or more countries of the Territory or in its entirety (the "**Terminated Region(s)**"; with the entire Territory being the Terminated Region in the event of termination of this Agreement in its entirety) or (ii) with respect to one or more Licensed Products, the following shall apply with respect to the Terminated Region(s) and Reversion Product, as applicable (in addition to any other rights and obligations under this Article 13 or otherwise under this Agreement with respect to such termination):

(a) Exclusivity; Licenses. The exclusivity obligations in Section 7.8(a) shall not apply with respect to the Reversion Product or any Compound contained in such Reversion Product. The licenses granted in Article 7 and Section 9.9 shall terminate with respect to the Terminated Region(s) and the Reversion Product except that limited license rights shall remain in effect with respect to such Terminated Region(s) or Reversion Product, as applicable solely for the limited purpose of allowing Roche to (i) Develop or Manufacture Compounds and Licensed Product(s) in the Terminated Region(s) for sale or distribution thereof in any country which has not been terminated or (ii) to perform its other obligations under this Section 13.4. Notwithstanding the foregoing, effective upon the effective date of termination of this Agreement with respect to any Terminated Region or Reversion Product, Roche hereby grants to BPM, effective only upon such termination, an exclusive, fully-paid, perpetual, irrevocable, royalty-free (in the case of a Lead Product) or royalty-bearing (in the case of any other Licensed Product) license, with the right to grant multiple tiers of sublicenses, under the Roche Technology (along with any other Patents Controlled by Roche that, absent a license, would be infringed by the manufacture, use, sale or import of a Licensed Product in a Terminated Region or a Reversion Product in the Territory) as such Roche Patents, Roche Know-How and interests in Roche Patents and Roche Know-How exist as of the effective date of termination, to Exploit Reversion Products for the Field in the Territory or Licensed Products in the Field in the Terminated Region(s), as applicable. For clarity, no licenses are granted with respect to a Roche Other Component, such as a Roche Clinical Compound or Roche Marketed Product. Royalties would be payable by BPM to Roche on worldwide BPM Net Sales depending upon the stage of development of the applicable Reversion Product at the time of termination as set forth in the following table and in accordance with the terms and conditions set forth in Sections 8.7(c) through 8.7(f) and Sections 8.8 through 8.16 *mutatis mutandis*:

[***]

(b) Regulatory Materials.

(i) Effective on the effective date of termination, Roche hereby assigns all Regulatory Materials, Regulatory Approvals, Pricing and Reimbursement Approvals and Pricing and Reimbursement Approvals, copies of material correspondence and conversation logs, pre-clinical and clinical study reports, clinical study protocols, and all data (in the format in which is maintained by Roche), including non-clinical and clinical data, in and for the benefit of the Terminated Regions solely relating to Reversion Products that are owned by Roche or its Affiliates. Roche shall take all steps necessary to transfer ownership of all such assigned Regulatory Materials, Regulatory Approvals and Pricing Approvals to BPM, including submitting to each applicable Regulatory Authority a letter or other necessary documentation (with a copy to BPM) notifying such Regulatory Authority of the transfer of such ownership of each Regulatory Material, Regulatory Approval and Pricing and Reimbursement Approval. The Transition Agreement shall contain terms governing the coordination of the Party's ongoing regulatory responsibilities with respect to Licensed Products.

(ii) Roche shall grant to BPM a right of reference under all Regulatory Materials, Regulatory Approvals and Pricing and Reimbursement Approvals for Reversion Products in the Terminated Regions that are Controlled by Roche or its Affiliates or Sublicensees, unless and until assigned to BPM pursuant to any Transition Agreement.

(c) Conduct During Termination Notice Period.

(i) Following any notice of termination permitted under this Article 13 [***], during any applicable termination notice period (the applicable "**Termination Notice Period**"), each Party shall continue to perform all of its obligations under this Agreement, including performing all activities allocated to it pursuant to the Development Plan, Joint Commercialization Plan and Joint Medical Affairs Plan, respectively, then in effect in accordance with the terms and conditions of this Agreement. In such circumstances, each Party shall also continue to bear its share of all Joint Development Costs, Joint Early Program Development Costs and Joint Operational Costs, as applicable, incurred during the Termination Notice Period. [***].

(ii) During the applicable Termination Notice Period, neither Party shall make any statement to any Person, whether written, verbal, electronic or otherwise, that disparages any Licensed Product, the work performed by either Party under this Agreement, or the other Party.

(d) Transition Agreement. In connection with the termination of this Agreement in its entirety or with respect to one or more countries, other than by Roche pursuant to Section 13.3(a), and to facilitate the reversion of the Reversion Products the Parties shall enter into a written agreement (the "**Transition Agreement**") that would include other reasonable terms and conditions, including terms allocating costs and expenses, describing the Parties' indemnification obligations, setting forth the Parties' obligations with respect to unauthorized sales, and setting forth other coordination obligations. If, despite such efforts, the Parties are unable to agree upon such terms and conditions within [***] from the effective date of the termination, either Party may refer the dispute for resolution by arbitration in accordance with Section 14.2, and the arbitrator shall have the authority to require the Parties to execute a Transition Agreement in the form approved by the arbitrator.

(i) Know-How Transfer Support. Roche shall, at no cost to BPM, provide reasonable consultation and assistance for a period of no more than [***] for the purpose of disclosing and providing to BPM, all Roche Know-How not already in BPM's possession that is relevant to the Reversion Products and the applicable Terminated Region(s).

(ii) Assignment of Contracts. At BPM's request, all then-existing commercial arrangements to the extent relating solely and specifically to the Reversion Products and the applicable Terminated Region(s) that Roche is able, using reasonable commercial efforts, to disclose and provide to BPM, in each case, to the extent reasonably necessary or useful for BPM to commence or continue researching, Developing, Manufacturing or Commercializing the Reversion Products with respect to the applicable Terminated Region(s). The foregoing shall include assigning, upon request of BPM, any agreements with Third Party suppliers or vendors, including Clinical Trial agreements, Manufacturing agreements and distribution agreements, to the extent they solely and specifically cover the supply or sale of Reversion Products in applicable Terminated Region(s). If any such contract between Roche and a Third Party is not assignable to BPM (whether by such contract's terms or because such contract does not relate specifically to Reversion Products or the Terminated Region(s)) but is otherwise reasonably necessary or useful for BPM to commence or continue researching, Developing, Manufacturing, or Commercializing Reversion Products with respect to the Terminated Region(s), then Roche shall reasonably cooperate with BPM in BPM's efforts to obtain from such Third Party the assignment of such

contract or of that portion of such contract that solely relates to researching, Developing, Manufacturing, or Commercializing Reversion Products with respect to the Terminated Regions.

(iii) Supply Obligations. Unless and until the necessary Third Party Manufacturing agreements are assigned to BPM pursuant to the preceding sentences, or if Roche Manufactures the Reversion Products itself (and thus there is no contract to assign), the Transition Agreement shall either (i) to the extent allowable under such agreements, assign to BPM or its Affiliates the portion of Roche's agreement(s) with its Third Party manufacturing provider related to the Reversion Product(s), or alternatively, use Commercially Reasonable Efforts to facilitate BPM's entering into a direct supply agreement with such Third Party manufacturing provider of the Reversion Product(s) on comparable terms to those between Roche and such Third Party manufacturing provider (in each case assuming Roche is then obtaining supply of Reversion Products from a Third Party manufacturing provider) and (ii) to the extent Roche or its Affiliate is producing its own supply of the Reversion Products, supply such bulk finished Reversion Product, as applicable, to BPM for a reasonable period [***] to enable BPM to establish an alternate, validated source of supply for the applicable Reversion Products. The cost to BPM for such supply shall be [***]. Without limiting the foregoing, in either case BPM shall additionally have the right to immediately have Roche commence the transfer of the Manufacturing process for such Reversion Product(s) to BPM or its designee.

(iv) Promotional Materials. Roche shall assign and transfer to BPM or its designee all of Roche's rights, title, and interests in and to any promotional materials, training materials, medical education materials, packaging and labeling, and all other literature, information or similar materials related to the Reversion Products and copyrights and any registrations for the foregoing.

(e) Appointment as Exclusive Distributor. If Roche is Commercializing any Reversion Products as of the applicable effective date of termination, then, at BPM's election (in its sole discretion) on a country-by-country basis [***], until such time as all Regulatory Approvals with respect to such Reversion Products in such country have been assigned and transferred to BPM, Roche will appoint BPM or its designee as its exclusive distributor of such Reversion Products in such country and grant BPM or its designee the right to appoint sub-distributors, to the extent not prohibited by any written agreement between Roche or any of its Affiliates and a Third Party [***].

(f) Third-Party Agreements. To the extent that any payments would be owed by Roche to any Third Parties (including royalties, milestones and other amounts) under any Third Party agreements that are applicable to the grant to BPM of any (sub)license, right of reference or other right provided in this Section 13.4 or the Transition Agreement, or that are applicable to the exercise by BPM or any of its Affiliates or sublicensees of any sublicense or other right with respect thereto, Roche shall notify BPM of the existence and anticipated amounts of such payments and BPM shall have the right either to decline such (sub)license, right of reference or other right provided in this Section 13.4 or the Transition Agreement or to take the same, in which case BPM agrees to comply with any obligations under such agreements of Roche that apply to BPM and of which BPM was informed by Roche and to make such payments. Irrespective of anything to the contrary in this Agreement, any existing sublicense granted by Roche to a Third Party in the Roche Territory under Section 7.1(a) (and any further sublicenses thereunder) shall, upon written request of Roche, remain in full force and effect, provided that (i) such Third Party Sublicensee is not then in breach of its sublicense agreement (and, in the case of termination by BPM for breach by Roche, that such Third Party Sublicensee and any further sublicensees did not cause or otherwise contribute to the breach that gave rise to the termination by BPM), (ii) for clarity, BPM's obligations with respect to such Third Party Sublicensee do not in any event exceed those obligations to Roche under this Agreement that apply to the sublicense agreement, and (iii) such Third Party Sublicensee agrees to be bound

to BPM under the financial and other terms and conditions of the sublicense agreement. BPM shall thereafter enter into a direct license with such Sublicensee on terms consistent with this Agreement.

(g) Ongoing Clinical Trials.

(i) Transfer to BPM. In connection with the termination of this Agreement or with respect to one or more Terminated Region(s) or Reversion Product(s), other than by Roche pursuant to Section 13.3(a), if, as of the effective date of termination of this Agreement with respect to a Reversion Product, Roche or its Affiliates are conducting any Clinical Trials for such Reversion Product, then, at BPM's election on a Clinical Trial-by-Clinical Trial basis, Roche shall fully cooperate, and shall ensure that its Affiliates fully cooperate, with BPM to transfer the conduct of such Clinical Trial to BPM or its designees. BPM shall assume any and all liability for the conduct of such transferred Clinical Trial for a Reversion Product after the effective date of such transfer (except to the extent arising prior to the transfer date or from any willful misconduct or negligent act or omission by Roche, its Affiliates or their respective employees, agents and contractors). Roche shall provide such knowledge transfer and other training to BPM or its designated Affiliate or Third Party as reasonably necessary for Blueprint or such designated Affiliate or Third Party to continue such Clinical Trial for the applicable Reversion Product.

(ii) Wind-Down. If BPM does not elect to assume control of any such Clinical Trials for a Reversion Product, then Roche shall, in accordance with accepted pharmaceutical industry norms and ethical practices, wind-down the conduct of any such Clinical Trial in an orderly manner. Roche shall be responsible for any costs and expenses associated with such wind-down.

(h) Remaining Inventories.

(i) Roche shall be entitled, during the [***] following termination of this Agreement, to finish any work-in-progress and to sell, as applicable, (i) in the Terminated Region(s) any inventory of Licensed Product or (ii) in the Territory any Reversion Product that remains on hand as of the effective date of the termination. Roche shall pay BPM the amounts applicable to such sales in accordance with the terms and conditions of this Agreement.

(ii) At any time within [***] after the effective date of termination with respect to any Reversion Product or Terminated Region(s), BPM shall have the right, in its sole discretion and upon written notification to Roche, to purchase from Roche any or all of the inventory of Reversion Products held by Roche as of the date of such notice solely for distribution in the Terminated Region(s) and not for distribution in other countries (that are not committed to be supplied to any Third Party or Sublicensee as of such date) [***].

13.5 Other Remedies. Termination or expiration of this Agreement for any reason shall not release either Party from any liability or obligation that already has accrued prior to such expiration or termination, nor affect the survival of any provision hereof to the extent it is expressly stated to survive such termination. Termination or expiration of this Agreement for any reason shall not constitute a waiver or release of, or otherwise be deemed to prejudice or adversely affect, any rights, remedies or claims, whether for damages or otherwise, that a Party may have hereunder or that may arise out of or in connection with such termination or expiration.

13.6 Rights in Bankruptcy. All rights and licenses granted under or pursuant to this Agreement by BPM and Roche are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of right to "intellectual property" as defined under Section 101 of the U.S.

Bankruptcy Code. The Parties agree that each Party, as licensee of certain rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the U.S. Bankruptcy Code. The Parties further agree that, in the event of the commencement of a bankruptcy proceeding by or against a Party (such Party, the "**Bankrupt Party**") under the U.S. Bankruptcy Code, the other Party shall be entitled to a complete duplicate of (or complete access to, as appropriate) any intellectual property licensed to such other Party and all embodiments of such intellectual property, which, if not already in such other Party's possession, shall be promptly delivered to it (a) upon any such commencement of a bankruptcy proceeding upon such other Party's written request therefor, unless the Bankrupt Party elects to continue to perform all of its obligations under this Agreement or (b) if not delivered under clause (a), following the rejection of this Agreement by the Bankrupt Party upon written request therefor by the other Party.

13.7 Survival. Termination or expiration of this Agreement shall not affect rights or obligations of the Parties under this Agreement that have accrued prior to the date of termination or expiration of this Agreement. Notwithstanding anything to the contrary, the following provisions shall survive and apply after expiration or termination of this Agreement in its entirety: Sections 7.2(d) (BPM Retained Rights; License to BPM), 9.1 (Ownership of Inventions), 9.2 (Create Act), 10.1(d) (No Debarment), 10.4 (Disclaimer), 10.5 (No Other Representations or Warranties), 13.4 (Effects of Termination of the Agreement), 13.5 (Other Remedies), 13.6 (Rights in Bankruptcy), 13.7 (Survival) and Article 1 (Definitions, but only to the extent necessary to interpret the Agreement), Article 8 (Financials, but only with respect to any payments accrued thereunder prior to expiration or termination of the Agreement), Article 11 (Indemnification), Article 12 (Confidentiality), Article 14 (Dispute Resolution), and Article 15 (Miscellaneous). For any surviving provisions requiring action or decision by a Committee, each Party shall appoint representatives to act as its Committee members. All provisions not surviving in accordance with the foregoing shall terminate upon expiration or termination of this Agreement and be of no further force and effect. If this Agreement is terminated with respect to one or more Reversion Products or Terminated Region(s) but not in its entirety, then following such termination the foregoing provisions of this Agreement shall remain in effect with respect to the Reversion Products or Terminated Region(s) (to the extent they would survive and apply in the event the Agreement expires or is terminated in its entirety), and all provisions not surviving in accordance with the foregoing shall terminate upon termination of this Agreement with respect to the applicable Reversion Products or Terminated Region(s) and be of no further force and effect (and for the avoidance of doubt all provisions of this Agreement shall remain in effect with respect to any countries that are not terminated).

ARTICLE 14 DISPUTE RESOLUTION

14.1 Disputes.

Unless otherwise set forth in this Agreement, in the event of any dispute in connection with this Agreement, such dispute shall be referred to the respective executive officers of the Parties designated below or their designees, for good faith negotiations attempting to resolve the dispute. The designated executive officers are as follows:

For BPM: Chief Executive Officer

For Roche: Head of Pharma Partnering

14.2 Arbitration.

Except as otherwise expressly set forth in this Agreement (including with respect to any matters that are determined by an Expert or the Expert Committee), should the Parties fail to agree within [***] after such dispute has first arisen, it shall be finally settled by arbitration in accordance with the Rules of American

Arbitration Association ("**AAA**") as in force at the time when initiating the arbitration. The tribunal shall consist of three (3) arbitrators. The place of arbitration shall be New York City, New York, US and the arbitration shall be governed by the Laws of the State of New York. The language to be used shall be English. Documents submitted in the arbitration (the originals of which are not in English) shall be submitted together with an English translation.

(a) Arbitrators.

(i) Each Party shall nominate one arbitrator who are retired judges or attorneys with at least [***] years of relevant experience in the pharmaceutical or biotechnology industry, each of whom shall be impartial and independent. Should the claimant fail to appoint an arbitrator in the request for arbitration within [***] of being requested to do so, or if the respondent should fail to appoint an arbitrator in its answer to the request for arbitration within [***] of being requested to do so, the other Party shall request the AAA to make such appointment.

(ii) The arbitrators nominated by the Parties shall, within [***] from the appointment of the arbitrator nominated in the answer to the request for arbitration, and after consultation with the Parties, agree and appoint a third arbitrator, who shall act as a chairman of the three arbitrator committee (the "**Arbitral Tribunal**"). Should such procedure not result in an appointment within [***] time period set forth in Section 14.2(a)(i), either Party shall be free to request the AAA to appoint the third arbitrator.

(iii) Where there is more than one (1) claimant or more than one (1) respondent, the multiple claimants or respondents shall jointly appoint one (1) arbitrator.

(iv) If any Party-appointed arbitrator or the third arbitrator resigns or ceases to be able to act, a replacement shall be appointed in accordance with the arrangements provided for in this clause.

(b) Decisions; Timing of Decisions.

(i) The arbitrators shall render a written opinion setting forth findings of fact and conclusions of law with the reason therefor stated, within no later than [***] from the date on which the arbitrators were appointed to the dispute. A transcript of the evidence adduced at the arbitration hearing shall be made and, upon request, shall be made available to each Party.

(ii) The time periods set forth in the AAA Arbitration Rules shall be followed; provided however that the arbitrators may modify such time periods as reasonably necessary to render a written opinion in accordance with this Section 14.2(b).

(iii) The Arbitrator is empowered to award any remedy allowed by law, including money damages, prejudgment interest and attorneys' fees, and to grant final, complete, interim, or interlocutory relief, including injunctive relief.

(iv) This arbitration agreement does not preclude either Party seeking conservatory or interim measures from any court of competent jurisdiction including, without limitation, the courts having jurisdiction by reason of either Party's domicile. Conservatory or interim measures sought by either Party in any one or more jurisdictions shall not preclude the Arbitral Tribunal granting conservatory or interim measures. Conservatory or interim measures sought by either Party before the Arbitral Tribunal shall not preclude any court of competent jurisdiction granting conservatory or interim measures.

(v) In the event that any issue shall arise which is not clearly provided for in this Section 14.2(b), the matter shall be resolved in accordance with the AAA Arbitration Rules.

(vi) Any arbitration proceeding hereunder shall be confidential and the arbitrators shall issue appropriate protective orders to safeguard each Party's Confidential Information. Except as required by Applicable Law or in a proceeding to enforce the results of the arbitration, neither Party shall make (or instruct the arbitrators to make) any public announcement with respect to the proceedings or decision of the arbitrators without prior written consent of the other Party. The existence of any dispute submitted to arbitration, and the award, shall be kept in confidence by the Parties and the arbitrators, except as required in connection with the enforcement of such award or as otherwise required by Applicable Law.

(vii) Notwithstanding anything to the contrary in this Agreement, any and all issues regarding the scope, construction, validity or enforceability of any Patent shall be determined in a court of competent jurisdiction under the local patent laws of the jurisdictions having issued the Patent in question.

(viii) Notwithstanding anything to the contrary in this Agreement, any and all issues regarding a breach or alleged breach of a Party's obligations under Article 13 (Confidentiality) shall be determined in a court of competent jurisdiction under the laws of the State of New York, with express exclusion of its conflict of laws principles.

(ix) Fees, costs and expenses of arbitration are to be divided by the Parties in the following manner: BPM shall pay for the arbitrator it chooses, Roche shall pay for the arbitrator it chooses, and the Parties shall share payment for the third arbitrator.

14.3 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York, without reference to its conflict of laws principles, and shall not be governed by the United Nations Convention of International Contracts on the Sale of Goods (the Vienna Convention).

14.4 Award. Any award to be paid by one Party to the other Party as determined by the arbitrators as set forth above under Section 14.2 shall be promptly paid in U.S. dollars free of any tax, deduction or offset; and any costs, fees or taxes incident to enforcing the award shall, to the maximum extent permitted by law, be charged against the Party resisting enforcement. Each Party agrees to abide by the award rendered in any arbitration conducted pursuant to this Article 14, and agrees that, subject to the U.S. Federal Arbitration Act, 9 U.S.C. §§ 1-16, judgment may be entered upon the final award in the Federal District Court for the State of New York and that other courts may award full faith and credit to such judgment in order to enforce such award. The award shall include interest from the date of any damages incurred for breach of the Agreement, and from the date of the award until paid in full, at a rate fixed by the arbitrator.

14.5 Injunctive Relief; Remedy for Breach of Exclusivity. Nothing in this Article 14 shall preclude either Party from seeking equitable relief or interim or provisional relief from a court of competent jurisdiction, including a temporary restraining order, preliminary injunction or other interim equitable relief, concerning a dispute either prior to or during any arbitration if necessary to protect the interests of such Party or to preserve the status quo pending the arbitration proceeding. Therefore, in addition to its rights and remedies otherwise available at law, including the recovery of damages for breach of this Agreement, such non-breaching Party shall be entitled to seek (a) equitable relief, specifically including, but not limited to, both interim and permanent restraining orders and injunctions, and (b) such other and further equitable relief as the court may deem proper under the circumstances. For the avoidance of doubt, nothing in this

Section 14.5 shall otherwise limit a breaching Party's opportunity to cure a material breach as permitted in accordance with Section 13.3.

14.6 Confidentiality. The arbitration proceeding shall be confidential and the arbitrator shall issue appropriate protective orders to safeguard each Party's Confidential Information. Except as required by law, no Party shall make (or instruct the arbitrator to make) any public announcement with respect to the proceedings or decision of the arbitrator without prior written consent of the other Party. The existence of any dispute submitted to arbitration, and the award, shall be kept in confidence by the Parties and the arbitrator, except as required in connection with the enforcement of such award or as otherwise required by Applicable Law.

14.7 Survivability. Any duty to arbitrate under this Agreement shall remain in effect and be enforceable after termination of this Agreement for any reason.

14.8 Jurisdiction. For the purposes of this Article 14, the Parties acknowledge their diversity (Roche having a principal place of business in Basel, Switzerland and BPM having its principal place of business in the Commonwealth of Massachusetts), and except as provided in Section 14.9, agree to accept the jurisdiction of any United States District Court located in New York for the purposes of enforcing or appealing any awards entered pursuant to this Article 14 and for enforcing the agreements reflected in this Article 14 and agree not to commence any action, suit or proceeding related thereto except in such courts.

14.9 Patent and Trademark Disputes. Notwithstanding Section 14.2, any dispute, controversy or claim relating to the scope, validity, enforceability or infringement of any BPM Patents, Collaboration Patents, Joint Collaboration Patents, Roche Patents, Global Brand Elements, or Product Marks covering the manufacture, use, importation, offer for sale or sale of Licensed Products shall be submitted to a court of competent jurisdiction in the country in which such patent or trademark rights were granted or arose.

ARTICLE 15 MISCELLANEOUS

15.1 Entire Agreement; Amendment. This Agreement, including the Exhibits and Appendices hereto, and the Ancillary Agreements set forth the complete, final and exclusive agreement and all the covenants, promises, agreements, warranties, representations, conditions and understandings between the Parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings between the Parties with respect to the subject matter hereof, whether written or oral and including that certain Non-Disclosure Agreement by and between BPM and Hoffmann-La Roche Inc. effective [***], but provided that all "Confidential Information" disclosed or received by BPM or Roche thereunder shall be deemed "Confidential Information" disclosed or received by such Party under this Agreement and shall be subject to the terms and conditions of this Agreement. In the event of any inconsistency between any Exhibits, schedules or attachments to this Agreement or any plan under this Agreement (including any Development Plan, Joint Commercialization Plan or Joint Medical Affairs Plan) and this Agreement, the terms of this Agreement shall prevail. There are no covenants, promises, agreements, warranties, representations, conditions or understandings, either oral or written, between the Parties other than as specifically set forth in this Agreement. No subsequent alteration, amendment, change or addition to this Agreement shall be binding upon the Parties unless reduced to writing and signed by an authorized officer of each Party.

15.2 Force Majeure. Neither Party shall be held liable to the other Party nor be deemed to have defaulted under or breached this Agreement for failure or delay in performing any obligation under this Agreement to the extent that such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party that are not reasonably foreseeable or avoidable, potentially including embargoes, war, acts of war (whether war be declared or not), insurrections, riots, civil commotions, strikes,

lockouts or other labor disturbances, fire, earthquakes, floods, pandemics or other acts of God (provided that such failure or delay could not have been prevented by the exercise of skill, diligence, and prudence that would be reasonably and ordinarily expected from a skilled and experienced person engaged in the same type of undertaking under the same or similar circumstances) (each a "**Force Majeure Event**"). The affected Party shall notify the other Party of such force majeure circumstances as soon as reasonably practical, and shall promptly undertake all reasonable efforts necessary to cure such force majeure circumstances and resume performance of its obligations hereunder. If the failure to perform due to such Force Majeure Event continues for [***], then the unaffected Party may terminate this Agreement upon written notice to the other Party.

15.3 Notices. Any notice required or permitted to be given under this Agreement shall be in writing, shall specifically refer to this Agreement, and shall be addressed to the appropriate Party at the address specified below or such other address as may be specified by such Party in writing in accordance with this Section 15.3 (with a courtesy copy sent by email, which shall not constitute notice), and shall be deemed to have been given for all purposes when delivered by internationally-recognized overnight courier or sent by registered or certified mail, postage prepaid, return receipt requested. This Section 15.3 is not intended to govern the day-to-day business communications necessary between the Parties in performing their obligations under the terms of this Agreement.

If to BPM:

Blueprint Medicines Corporation
45 Sidney Street
Cambridge, Massachusetts 02139
U.S.A.
Attn: Chief Executive Officer

with a copy to:

Blueprint Medicines Corporation
45 Sidney Street
Cambridge, Massachusetts 02139
U.S.A.
Attn: Chief Legal Officer
Email: [***]

If to Roche:

F. Hoffmann-La Roche Ltd
Grenzacherstrasse 124
4070 Basel
Switzerland
Attn: Legal Department
Facsimile No.: [***]

and:

Genentech, Inc.
1 DNA Way
South San Francisco California 94080
U.S.A.

Attn. Corporate Secretary
Facsimile No.: [***]

15.4 No Strict Construction; Headings. This Agreement has been prepared jointly and shall not be strictly construed against either Party. Ambiguities, if any, in this Agreement shall not be construed against any Party, irrespective of which Party may be deemed to have authored the ambiguous provision. The headings of each Article and Section in this Agreement have been inserted for convenience of reference only and are not intended to limit or expand on the meaning of the language contained in the particular Article or Section.

15.5 Assignment.

(a) Neither Party may assign or transfer this Agreement or any rights or obligations hereunder without the prior written consent of the other Party; provided that either Party may assign or transfer this Agreement without the other Party's consent (but with written notice to the other Party promptly following such assignment or transfer) to an Affiliate or to a successor to all or substantially all of the business or assets to which this Agreement relates, whether by merger, sale of stock, sale of assets, reorganization, consolidation, royalty factoring or other similar transaction or series of transactions. Any permitted successor or assignee of rights or obligations hereunder shall, in a writing to the other Party, expressly assume performance of such rights or obligations (and in any event, any Party assigning this Agreement to an Affiliate shall remain bound by the terms and conditions hereof). Any permitted assignment shall be binding on the successors of the assigning Party. Any assignment or attempted assignment by either Party in violation of the terms of this Section 15.5 shall be null, void and of no legal effect.

(b) Securitization Transaction. Notwithstanding anything to the contrary in Section 15.5(a) or elsewhere in this Agreement, BPM may assign to a Third Party its right to receive all of the milestone payments, sales milestone payments, royalty payments owed under Article 8 (such assignment, a "**Securitization Transaction**") after notifying Roche. Further, in connection with a contemplated Securitization Transaction, BPM may disclose to such Third Party the terms of this Agreement and the royalty reports contemplated under Section 8.8, without the prior written consent of Roche, to the extent reasonably necessary to enable such Third Party to evaluate the Securitization Transaction opportunity (provided that such Third Party is under obligations of confidentiality and non-use with respect to such Confidential Information that are no less stringent than the terms of Article 12), and to allow such Third Party to exercise its rights under this Section 15.5(b). As part of any consummated Securitization Transaction, BPM may assign its right to receive the royalty reports and to conduct audits under Section 8.15 to the counterparty in such Securitization Transaction, and to allow such counterparty to exercise its rights under such Sections; provided that after such assignment BPM shall have no further right to receive the royalty reports or to conduct audits under Section 8.15.

(c) Notwithstanding anything to the contrary herein, (i) no material, Know-How, Patent, Regulatory Materials or Regulatory Approvals not Controlled by a Party or any of its Affiliates prior to a Change of Control of such Party shall be deemed Controlled for purposes of this Agreement after such Change of Control, other than (1) any Collaboration Know-How arising from the performance of the Collaboration no matter when Controlled, and (2) any Patent that claims priority, directly or indirectly, to any other Patent first Controlled by such Party before such Change of Control no matter when such Patent is filed or issued, and (ii) this Agreement (including Section 7.8 (Exclusivity)) shall apply only to those assets (including the items identified in clause (i) above) Controlled by such Party and its Affiliates before such Change of Control.

15.6 Non-Solicitation. During [***], each Party (each, a "**Recruiting Party**") agrees that neither it nor any of its Affiliates shall recruit, solicit, or induce any full-time employee of the other Party (the "**Employing Party**") or any of its Affiliates who has been in contact with the Recruiting Party in connection with this Agreement (whether prior to, on or after the Effective Date) to terminate his or her employment with the Employing Party or any of its Affiliates and become employed by or consult for the Recruiting Party or any of its Affiliates, and whether or not such employment or consulting is pursuant to a written agreement or such employment is at-will. For purposes of the foregoing, "**recruit**," "**solicit**," or "**induce**" shall not be deemed to mean (a) circumstances where an employee of an Employing Party or any of its Affiliates (i) initiates contact with the Recruiting Party or any of its Affiliates with regard to possible employment; or (ii) responds to general solicitations of employment not specifically targeted at employees of the Employing Party or any of its Affiliates, including responses to general advertisements or postings, and (b) discussions, interviews, negotiations, offers, or acceptances of employment or similar activities that arise as a result of circumstances described in the foregoing clause (a).

15.7 Further Actions. Each Party agrees to execute, acknowledge and deliver (or cause to be executed, acknowledged and delivered) such further instruments, and to do (or cause to be done) all such other acts, as may be necessary or appropriate or as the other Party may reasonably request in order to carry out the purposes and intent of this Agreement.

15.8 Compliance with Applicable Law. Each Party shall comply with Applicable Law in the course of performing its obligations or exercising its rights pursuant to this Agreement, including Anti-Corruption Laws. Each Party shall take no action that would cause the other Party to be in violation of Anti-Corruption Laws. Further, each Party shall notify the other Party if such Party has any information or suspicion that there may be a violation of Anti-Corruption Laws in connection with the performance of this Agreement.

15.9 Interpretation. The captions and headings to this Agreement are for convenience only, and are to be of no force or effect in construing or interpreting any of the provisions of this Agreement. Unless specified to the contrary, references to Articles, Sections or Exhibits mean the particular Articles, Sections, Exhibits or Appendices to this Agreement and references to this Agreement include all Exhibits and Appendices hereto. Unless context otherwise clearly requires, whenever used in this Agreement: (a) the words "include" or "including" shall be construed as incorporating, also, "but not limited to" or "without limitation;" (b) the word "day" or "year" means a calendar day or year unless otherwise specified; (c) the word "notice" means notice in writing (whether or not specifically stated) and shall include notices, consents, approvals and other written communications contemplated under this Agreement; (d) the words "hereof," "herein," "hereby" and derivative or similar words refer to this Agreement (including any Exhibits); (e) the word "or" shall be construed as the inclusive meaning identified with the phrase "and/or;" (f) provisions that require that a Party or the Parties hereunder "agree," "consent" or "approve" or the like shall require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter or otherwise and that consents not be unreasonably withheld, delayed or conditioned; (g) words of any gender include the other gender; (h) words using the singular or plural number also include the plural or singular number, respectively; and (i) unless expressly stated, dollar amounts set forth herein are U.S. dollars. Ambiguities and uncertainties in this Agreement, if any, shall not be interpreted against either Party, irrespective of which Party may be deemed to have caused the ambiguity or uncertainty to exist. This Agreement has been prepared in the English language, and the English language shall control its interpretation. In addition, all notices required or permitted to be given hereunder, and all written, electronic, oral or other communications between the Parties regarding this Agreement shall be in the English language.

15.10 Severability. If any one or more of the provisions of this Agreement is held to be invalid or unenforceable by an arbitrator or by any court of competent jurisdiction from which no appeal can be or

is taken, the provision shall be considered severed from this Agreement and shall not serve to invalidate any remaining provisions hereof. The Parties shall make a good faith effort to replace any invalid or unenforceable provision with a valid and enforceable one such that the objectives contemplated by the Parties when entering into this Agreement may be realized.

15.11 No Waiver. Any failure or delay in enforcing a Party's rights under this Agreement or any waiver as to a particular default or other matter shall not constitute a waiver of such Party's rights to the future enforcement of its rights under this Agreement, except with respect to an express written and signed waiver relating to a particular matter for a particular period of time. No waiver shall be effective unless it has been given in writing and signed by any authorized representative of the Party giving such waiver.

15.12 Relationship of Parties. Nothing in this Agreement, other than as described in Section 8.11(a), is intended or will be deemed to constitute a partnership, agency, employer-employee or joint venture relationship between the Parties. No Party will incur any debts or make any commitments for the other, except to the extent, if at all, specifically provided therein. There are no express or implied Third Party beneficiaries hereunder [***].

15.13 Counterparts. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via electronic mail, including Adobe™ Portable Document Format (PDF) or any electronic signature complying with the U.S. Federal ESIGN Act of 2000, and any counterpart so delivered shall be deemed to be original signatures, shall be valid and binding upon the Parties, and, upon delivery, shall constitute due execution of this Agreement.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the Parties have executed this Agreement by their respective duly authorized representatives as of the Effective Date.

BLUEPRINT MEDICINES CORPORATION

By: /s/ Jeffrey W. Albers

Name: Jeffrey W. Albers

Title: Chief Executive Officer

F. HOFFMANN-LA ROCHE LTD

By: /s/ James Sabry

Name: James Sabry

Title: Global Head, Pharma Partnering

By: /s/ Stefan Arnold

Name: Stefan Arnold

Title: Head Legal Pharma

GENENTECH, INC.

By: /s/ Edward Harrington

Name: Edward Harrington

Title: Chief Financial Officer

EXHIBIT A

BPM Patents

[***]

EXHIBIT B

Lead Backups

[***]

EXHIBIT C

Lead Compound Metabolites

[***]

EXHIBIT D

Manufacturing Cost

"**Manufacturing Cost**" means the fully burdened cost of Manufacturing Licensed Products (or other component(s) contained therein or placebo, as applicable), including any devices and other delivery technologies that are packaged or otherwise distributed with such Licensed Product, to be used in the calculation of Cost of Goods Sold, which equals the sum of (a) Direct Costs and Indirect Costs (each as defined below) incurred by a Party, (b) the amounts paid by a Party to a Third Party contract manufacturer as invoiced to such Party, including any fees paid to such Third Party as prepayments or to reserve capacity for the Licensed Products and any cancellation or early termination fees (provided that the Party incurring any cancellation or early termination fees used commercially reasonable efforts to mitigate such fees), and any value-added tax or similar tax due for amounts paid to such Third Party directly attributable to such Licensed Product, and any capital expenditures to the extent incurred for the Licensed Product, and (c) direct distribution expense (including without limitation, freight, postage, shipping, customs, duties and insurance charges) incurred for such Licensed Products, except to the extent such expenses were included in calculating BPM Net Sales or Roche Net Sales, as applicable, in each case, (i) without any mark-up; provided that the Parties will share depreciation of any internal capital expenditures, if any, to the extent incurred for the Licensed Product, and (ii) but including any Direct Costs or Indirect Costs incurred by a Party to supervise and coordinate the foregoing activities performed by a Third Party. Manufacturing Cost shall include costs incurred with respect to, or as a result of, spoilage, obsolescence, failed or destroyed batches of Licensed Product except to the extent attributable to a Party's or any of its Affiliates' negligence or willful misconduct. Notwithstanding anything to the contrary contained herein, Manufacturing Costs shall exclude any and all costs incurred in connection with establishing, or otherwise causing to become operational, any Manufacturing facilities, including any validation, technology transfer (other than the Manufacturing technology transfer costs) and licensure costs, and such costs shall be borne solely by the Party who is establishing or operationalizing (itself or through its Affiliate or Third Party contract manufacturer) such Manufacturing facilities.

For purposes of this Exhibit D, "**Direct Costs**" equals the sum of the following as incurred for Licensed Products:

(a) Direct labor, based on the actual hours or like methodology consumed by manufacturing, facility, and customer service personnel for Licensed Products charged at an average hourly wage rate that is designed to approximate actual cost for each employee's position.

(b) Direct labor fringe benefits, including, compensation expense (other than wages included in direct labor cost in clause (x)(i)), payroll taxes and benefits allocated based on a proportionate percentage of direct labor costs charged to the Licensed Products to total actual plant-wide labor costs, plus Licensed Product-specific travel.

(c) Materials and supplies for making Licensed Products, based on actual costs including any applicable freight, taxes, duties, customs or import fees, less any discounts or free goods.

(d) Other costs directly associated with or actually consumed for Licensed Products, including handling, storage, distribution, and transportation costs, facility costs, depreciation, waste removal, miscellaneous supplies, outside testing, consulting fees, occupancy costs, maintenance, rent, insurance, site service support, warehouse, customer services including order entry, billing and adjustments, inquiry and credit and collection, serialization, return and recall management, but for clarity, excluding in each case any such amounts to the extent included as a deduction in calculating BPM Net Sales or Roche Net Sales, as applicable.

For purposes of this Exhibit D, "**Indirect Costs**" equals the sum of the following as incurred for Licensed Products:

(i) Plant support services, which includes quality control, process sciences, quality assurance, regulatory and validation. All general costs for each plant support service department, which includes, labor, payroll taxes, fringe benefits, materials and supplies, outside testing, consulting fees, contractor costs, depreciation, maintenance and occupancy costs, shall be allocated to the cost of Licensed Products based on the proportion of actual labor hours consumed by each plant support service department on the Licensed Products to total actual labor hours consumed by each plant support service department on all of the applicable Party's products.

(ii) Overhead costs required to support the Manufacture of the Licensed Products. These overhead costs are allocated either based on actual labor hours, average headcount, space occupied, or other activity-based method, solely to the extent such allocation is attributable to Licensed Products and not to other products. Overhead costs primarily include general materials and supplies, consulting costs, and other labor costs such as general plant maintenance, management, engineering, janitorial services and administration, information services, human relations, travel and training, and vacation, holiday, personal and sick time, general facility costs which include facility services and supplies, utilities, rent, real estate taxes, depreciation, general and preventative maintenance, insurance and waste removal.

EXHIBIT E

Marks

[***]

EXHIBIT F

Transition Activities

[***]

EXHIBIT G

Initial Lead Product Development Plan

[***]

EXHIBIT H

Initial Joint Commercialization Plan

[***]

EXHIBIT I

Partnership Tax Matters

Section 1.1. Constructive Partnership, Tax Treatment.

(a) Genentech and BPM (the "Partners," and each a "Partner") acknowledge that the rights and obligations imposed on each of them pursuant to this Agreement that relate to the sharing of profits and losses from the Development and Commercialization of the U.S. Rights (as defined below), and the collaborative relationship formed between them in connection therewith, gives rise to a partnership for U.S. federal (and, to the extent applicable, state and local) income tax purposes (the "Partnership"), which will commence upon the Effective Date. The activities of the Partners with respect to the co-Development and co-Commercialization of Licensed Products in the Shared Territory and the rights related thereto (the "U.S. Rights"), shall be deemed to be conducted in and held by the Partnership. The Partnership shall not, and shall not be deemed to, have any interest or rights with respect to the Roche Territory or otherwise under the Agreement other than with respect to the U.S. Rights. The Partnership, and the rights and obligations set forth in this Exhibit I, shall remain in existence for so long as this Agreement remains in full force and effect (provided the Agreement has not been terminated in its entirety or with respect to the Shared Territory, in either case, in accordance with Article 13 of the Agreement). The Parties further acknowledge that the arrangement described in this Agreement (including this Exhibit I) shall be treated by the Parties as a partnership solely for U.S. federal (and applicable state and local) income tax purposes and is not intended to constitute a partnership for any non-tax, non-U.S., or any other purpose. The Partners agree not to take any tax position, whether in a tax return or otherwise, that is inconsistent with this Exhibit I, other than pursuant to Section 1.7 of this Exhibit I.

(b) For U.S. federal income and other applicable tax purposes, Genentech shall be treated as making an in-kind contribution in an amount determined by reference to the portion of the upfront payment made pursuant to Section 8.1 of the Agreement that is attributable to the U.S. Rights, which shall be a dollar amount jointly determined and mutually agreed to between Genentech and BPM [***] (the "**Genentech Contribution**"), and (ii) BPM shall be treated as making an in-kind contribution in an amount of equal value (the "**BPM Contribution**"). The Genentech Contribution and BPM Contribution shall be treated by the Partners as a purchase by Genentech from BPM of an undivided interest in the property giving rise to the U.S. Rights, and a contribution by each of Genentech and BPM of such Partner's undivided interest in the property giving rise to the U.S. Rights, in exchange for an interest in the Partnership, consistent with Revenue Ruling 99-5, Situation 1. The Parties also intend that the milestone payments contemplated by Section 8.5 of the Agreement attributable to the U.S. Rights be treated as additional consideration in the initial formation of the Partnership, consistent with Revenue Ruling 99-6, Situation 1.

Section 1.2. Definitions. Capitalized terms used, but not defined, herein will have the meanings ascribed to them in the Agreement. For purposes of this Exhibit I:

(a) "**Book**" means the method of accounting prescribed for compliance with the capital account maintenance rules set forth in Section 1.704-1(b)(2)(iv) of the Treasury Regulations, as distinguished from any accounting method which the Partnership may adopt for other purposes such as financial reporting.

(b) "**BPM Contribution**" has the meaning set forth in Section 1.1(b) of this Exhibit I.

(c) "**Capital Account**" has the meaning set forth in Section 1.3(a) of this Exhibit I.

(d) "**Capital Contribution**" means, for each Partner, such Partner's cash or property contributed (or deemed contributed) to the Partnership.

(e) "**Code**" means the U.S. Internal Revenue Code of 1986, as amended.

(f) "**Fiscal Year**" means the calendar year.

(g) "**Genentech Contribution**" has the meaning set forth in Section 1.1(b) of this Exhibit I.

(h) "**Gross Asset Value**" means, with respect to any asset of the Partnership, the asset's adjusted basis for U.S. federal income tax purposes, adjusted to reflect any adjustments required or permitted by Sections 1.704-1(b)(2)(iv)(d) through (g), (m) and (s) of the Treasury Regulations, as determined by the Partnership Representative in its reasonable discretion; provided that, in the case of any asset contributed to the Partnership, the initial Gross Asset Value of such property shall be equal to the fair market value of such asset as of the date of contribution, as determined by the Partnership Representative in its reasonable discretion.

(i) "**Net Income**" and "**Net Losses**" mean the Book income, gain, loss, deductions and credits of the Partnership in the aggregate or separately stated, as appropriate, as of the close of each Taxable Year on the Partnership's tax return filed for U.S. federal income tax purposes (or as of any other applicable time of the relevant Taxable Year).

(j) "**Partnership Representative**" has the meaning set forth in Section 1.6(a) of this Exhibit I.

(k) "**Taxable Year**" means the Partnership's Fiscal Year or such other year as may be required by Section 706 of the Code.

(l) "**Treasury Regulations**" means regulations (whether in final, proposed or temporary form) promulgated by the U.S. Department of the Treasury under the Code.

(m) "**U.S. Profit Share**" has the meaning set forth in Section 1.4(a) of this Exhibit I.

(n) "**U.S. Rights**" has the meaning set forth in Section 1.1(a) of this Exhibit I.

Section 1.3. Capital Accounts; Formation of the Partnership.

(a) The Partnership shall maintain a separate capital account for each Partner according to the rules set forth in Section 1.704-1(b)(2)(iv) of the Treasury Regulations (a "**Capital Account**").

(b) Each Partner's Capital Account:

(i) shall be increased by (A) the Capital Contributions by such Partner to the Partnership after the Effective Date, as determined by the Partnership Representative and mutually agreed upon by the Partners (net of liabilities secured by the contributed property that the Partnership is considered to assume or take subject to under Section 752 of the Code), and (B) such Partner's distributive share of Net Income and other items of income and gain allocated to such Partner after the Effective Date;

(ii) shall be decreased by (A) the amount of money distributed (or deemed distributed) to such Partner by the Partnership after the Effective Date, (B) the fair market value of property (as determined by the Partnership Representative and mutually agreed upon by the Partners) distributed (or deemed distributed) to such Partner by the Partnership (net of liabilities secured by the distributed property that the Partner is considered to assume or take subject to under Section 752 of the Code) after the Effective Date and (C) such Partner's distributive share of Net Losses and other items of loss and deduction allocated to such Partner after the Effective Date; and

(iii) other adjustments shall be made to the Capital Accounts of the Partners to accord with the regulations promulgated under Section 704(b) of the Code as determined by the Partnership Representative in its reasonable discretion.

(c) As of the Effective Date, the initial Capital Account of each Partner shall be equal to the initial Capital Contribution of each such Partner.

Section 1.4. Distributions.

(a) Non-Liquidating Distributions. In the event that assets of the Partnership are deemed to be distributed other than in liquidation of the Partnership, such assets shall be deemed to be distributed in accordance with the payments comprising the share of Gross Profits between BPM and Genentech under Article 8 of the Agreement (the "**U.S. Profit Share**"), unless otherwise determined by the Partnership Representative in its reasonable discretion.

(b) Liquidating Distribution. In the event that the Partnership is terminated pursuant to Section 708(b)(1) of the Code (or otherwise) and the assets of the Partnership are required to be distributed (or are deemed to be distributed) in liquidation of the Partnership, then such assets shall be distributed (or deemed to be distributed) in accordance with the U.S. Profit Share or with the terms applicable to Reversion Products, unless otherwise required by the Agreement or Applicable Law.

(c) Withholding for Taxes. Subject to the provisions of Section 8.11(c) of the Agreement, any Partner is authorized to withhold payments made to the other Partner that are treated as distributions described in Section 1.4(a) or Section 1.4(b) of this Exhibit I to the Partners, and with respect to allocations pursuant to Section 1.5 of this Exhibit I to the Partners, and to pay over to any federal, state or local government, any such taxes as are required to be deducted or withheld under any provision of Applicable Law. Any amounts so withheld shall be treated as distributed pursuant to Section 1.4(a) or Section 1.4(b) of this Exhibit I, as applicable.

Section 1.5. Allocations, Section 704(c).

(a) Except as required by Section 1.5(b) or Section 1.5(c) of this Exhibit I, the Net Income or Net Loss for any Taxable Year shall be allocated to the Partners in such a manner so that the Capital Account of each Partner equals (as of the end of such allocation period and to the fullest extent possible) the amount that would be distributed to such Partner if all properties of the Partnership, including cash, were sold for cash equal to their respective Gross Asset Values, all liabilities allocable to such properties were then due and were satisfied according to their terms, all minimum gain chargebacks required by this Agreement and the Treasury Regulations were made, and all obligations of Partners to contribute additional capital to the Partnership were satisfied and all remaining proceeds from such sale were distributed pursuant to the order and priority of Section 1.4(b) of this Exhibit I.

(b) Special Allocations. Notwithstanding Section 1.5(a) of this Exhibit I, the Partnership Representative may, in its reasonable discretion, specially allocate any costs or expenses that

are disproportionately borne by one Partner (including, without limitation any Development Costs that are funded from the Genentech Contribution) to such Partner.

(c) Regulatory Allocations. In the event any Partner unexpectedly receives any adjustments, allocations or distributions described in Sections 1.704-1(b)(2)(ii)(d)(4), 1.704-1(b)(2)(ii)(d)(5) or 1.704-1(b)(2)(ii)(d)(6) of the Treasury Regulations, items of income (including gross income) and gain shall be specially allocated to such Partner in an amount and manner sufficient to eliminate the deficit balance in such Partner's Capital Account (in excess of (i) the amount such Partner is obligated to restore upon liquidation of the Partnership or upon liquidation of such Partner's interest in the Partnership and (ii) such Partner's share of the Minimum Gain (as defined in Section 1.704-2 of the Treasury Regulations) created by such adjustments, allocations or distributions as quickly as possible. Additionally, there are hereby incorporated herein such special allocation provisions governing the allocation of income, deduction, gain, and loss for U.S. federal income tax purposes as may be necessary under, and in the manner required by, the Treasury Regulations to ensure that this Exhibit I complies with all requirements of Section 1.704-2 of the Treasury Regulations relating to "minimum gain" and "partner nonrecourse debt minimum gain" and the allocation and chargeback of so-called "nonrecourse deductions" and "partner nonrecourse deductions", including a "qualified income offset".

(d) Except as otherwise provided in this Section 1.5(d) and in Section 1.5(e) of this Exhibit I, for U.S. federal income tax purposes, all items of income gain, loss, deduction and credit shall be allocated among the Partners in the same manner the corresponding Book item was allocated pursuant to Section 1.5(a) or Section 1.5(b) of this Exhibit I. In the case of contributed property, items of income, gain, loss, deduction and credit, as determined for federal income tax purposes, shall be allocated first in a manner consistent with the requirements of Section 704(c) of the Code to take into account the difference between the Gross Asset Value of such property and its adjusted tax basis at the time of contribution. If the Gross Asset Value of any asset of the Partnership is adjusted pursuant to the terms of this Exhibit I, then subsequent allocations of income, gain, loss, deduction and credit, as determined for U.S. federal income tax purposes, shall be allocated with respect to such assets so as to take into account such adjustment in the same manner as under Section 704(c) of the Code and the Treasury Regulations promulgated thereunder.

(e) The method under Section 704(c) of the Code and the Treasury Regulations promulgated thereunder shall be the "traditional method" (as described in Section 1.704-3(c) of the Treasury Regulations) unless otherwise agreed to by each of the Partners. For the sake of clarity, the allocations required by Section 1.5(d) and this Section 1.5(e) of this Exhibit I are solely for purposes of U.S. federal and applicable state and local income taxes and will not affect the allocation of Net Income or Net Losses as between the Partners or any Partner's Capital Account.

Section 1.6. Tax Reports, Tax Elections and Partnership Representative.

(a) To the extent permitted under Applicable Law, the Partnership intends to elect out of the application of Subchapter C of Chapter 63 of the Code (i.e., the partnership audit rules) and any applicable state or local equivalent. For any applicable Taxable Year (or portion thereof) where the Partnership is able to so elect, the Partners agree to cooperate to share information relevant to the matters addressed by this Exhibit I and agree not to take any position on any tax return applicable to the matters addressed by this Exhibit I that may be materially adverse to the other Partner without the consent of the other Partner, not to be unreasonably withheld, delayed or conditioned. To the extent required after giving effect to the first sentence of Section 1.6 of this Exhibit I, the Partnership hereby designates Genentech to act as the "partnership representative" of the Partnership within the meaning of Section 6223 of the Code (along with any state or local equivalent, the "**Partnership Representative**"), and the Partnership Representative shall have the authority to appoint the "designated individual" within the meaning of Treasury Regulations Section 301.6223-1(b)(3). If the Partnership is unable to elect out of the partnership audit rules,

the Partnership Representative is authorized and required to represent the Partnership (at the Partnership's expense) in connection with all examinations of the Partnership's affairs by U.S. federal (and any applicable state) income tax authorities, including resulting administrative and judicial proceedings, to make any elections in connection therewith, and to incur expenses for professional services and costs associated therewith, which shall be equally borne by each of BPM and Genentech; provided, that the Partnership Representative shall notify BPM of any such administrative and judicial proceedings involving the Partnership and upon request shall provide BPM the opportunity to participate in any such matters if requested by BPM. BPM agrees to cooperate with the Partnership Representative as reasonably requested by the Partnership Representative with respect to the conduct of such proceedings. The Partnership Representative will, in its reasonable discretion, determine whether the Partnership (either on its own behalf or on behalf of the Partners) will contest or continue to contest any tax deficiencies assessed or proposed to be assessed by any taxing authority provided, however, that the Partnership Representative shall not (i) agree or consent to compromise or settle such matters or (ii) take any action that disproportionately adversely affects BPM, in each case without the prior written consent of BPM, which consent shall not be unreasonably delayed, conditioned or withheld. Any deficiency for taxes imposed on any Partner (including penalties, additions to tax or interest imposed with respect to such taxes) will be paid by such Partner, and if paid by another Partner, will be recoverable from the Partner on which such deficiency was imposed (including by offset against distributions otherwise payable to such Partner). The Partners agree to cooperate in good faith to notify each other regarding any tax notices or audits relating to the Partnership and to provide any information or documentation reasonably requested by the Partnership Representative in connection with its duties under Section 1.6(a) of this Exhibit K. In no event shall the Partnership Representative require the Partners to file an amended tax return. A Partner's obligation to cooperate with the Partnership Representative and to indemnify and make payments to another Partner under Section 1.6(a) of this Exhibit K will survive the termination, dissolution, liquidation and winding up of the Partnership and the transfer, assignment or liquidation of a Partner's interest in the Partnership.

(b) The Partnership Representative shall prepare and file, or cause to be prepared and filed, all necessary U.S. federal, state or local income tax returns for the Partnership. The Partnership Representative shall have such tax returns prepared by a "big four" accounting firm, such accounting firm to be chosen with BPM's consent, and the cost of the preparation of such tax returns shall be equally borne by each of BPM and Genentech. At least [***] before the due date (including extensions) of any such tax return, the Partnership Representative shall submit a copy of such tax return to BPM for its review and comment. The Partnership Representative shall consider in good faith any comments and incorporate any reasonable comments submitted by BPM no fewer than [***] prior to the due date of such tax return. Within [***] after the end of each Taxable Year, the Partnership Representative shall cause the Partnership to furnish BPM with an IRS Form K-1 for such Taxable Year. In addition, the Partnership shall deliver or cause to be delivered not later than the [***] after the end of each Taxable Year to a requesting Partner all information necessary for the preparation of such Partner's U.S. federal income tax returns and any state, local and other income tax returns that such Partner is required to file. Furthermore, the Partnership Representative shall consider in good faith any comments from BPM regarding any matter for which the Partnership Representative is responsible or over which the Partnership Representative has discretion under this Exhibit I, including without limitation the preparation of any tax return or the making of any election hereunder.

(c) The Partnership Representative will determine whether to make or revoke any available election pursuant to the Code, *provided*, *however*, that any action (or the failure to take any action known to the Partnership Representative to be reasonably necessary) on the part of the Partnership Representative with respect to such election in its capacity as Partnership Representative shall require the prior written consent of BPM if such action or failure, as applicable, would reasonably be expected to have a material adverse impact on BPM. Each Partner will, upon request, use reasonable efforts to supply the

information necessary to give proper effect to any such election. The Partners hereby agree to cooperate in good faith regarding any matters related to any tax elections or tax reporting positions of the Partnership.

Section 1.7. Tax Position. Unless otherwise required by Applicable Law, no Partner will take a position on such Partner's U.S. federal or other applicable income tax returns, in any claim for refund or in any administrative or legal proceedings that is inconsistent with this Agreement (including this Exhibit I) or with any information return filed by the Partnership. If any Partner believes that such a position is required by Applicable Law, such Partner must immediately notify the other Partner in writing, citing such Applicable Law or any interpretation thereof.

Section 1.8. Termination of Partnership. The Partnership shall terminate upon (i) the termination of the entire Agreement or (ii) the termination of the Agreement with respect to the Shared Territory, in either case, in accordance with Article 13 of the Agreement.

APPENDIX 1.34

[***]

APPENDIX 1.40

[***]

APPENDIX 8.4(b)

Example of Quarterly Profit/Loss Calculation

[***]

APPENDIX 12.3(a)(1)

Initial Press Release - BPM

(omitted intentionally)

APPENDIX 12.3(a)(2)

Initial Press Release – Roche

(omitted intentionally)

Exhibit 31.1

CERTIFICATIONS

I, Jeffrey W. Albers, certify that:

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

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: July 30, 2020

By: /s/ Jeffrey W. Albers
Jeffrey W. Albers
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATIONS

I, Michael Landsittel, certify that:

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

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: July 30, 2020

By: /s/ Michael Landsittel
Michael Landsittel
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Blueprint Medicines Corporation (the "Company") for the period ended June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company hereby certifies, pursuant to 18 U.S.C. Section 1350, that to his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: July 30, 2020

By: /s/ Jeffrey W. Albers
Jeffrey W. Albers
President and Chief Executive Officer
(Principal Executive Officer)

Date: July 30, 2020

By: /s/ Michael Landsittel
Michael Landsittel
Chief Financial Officer
(Principal Financial Officer)