UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 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 March 31, 2020

or

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

Commission File Number: 001-37702

Amgen Inc.

(Exact name of registrant as specified in its charter)

Delaware	**95-3540776**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Amgen Center Drive	
Thousand Oaks	
California	**91320-1799**
(Address of principal executive offices)	(Zip Code)

(805) 447-1000
(Registrant's telephone number, including area code)

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, $0.0001 par value	**AMGN**	**The NASDAQ Global Select Market**
1.250% Senior Notes Due 2022	**AMGN22**	**New York Stock Exchange**
2.00% Senior Notes Due 2026	**AMGN26**	**New York Stock Exchange**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or Section 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 the 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 ☑

As of April 27, 2020, the registrant had 588,247,399 shares of common stock, $0.0001 par value, outstanding.

AMGEN INC.

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Item 1. FINANCIAL STATEMENTS

AMGEN INC.
CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(In millions, except per-share data)
(Unaudited)

	Three months ended March 31,	
	2020	2019
Revenues:		
Product sales	$ 5,894	$ 5,286
Other revenues	267	271
Total revenues	6,161	5,557
Operating expenses:		
Cost of sales	1,513	1,055
Research and development	952	879
Selling, general and administrative	1,316	1,154
Other	25	(3)
Total operating expenses	3,806	3,085
Operating income	2,355	2,472
Interest expense, net	346	343
Interest and other income, net	11	185
Income before income taxes	2,020	2,314
Provision for income taxes	195	322
Net income	$ 1,825	$ 1,992
Earnings per share:		
Basic	$ 3.09	$ 3.20
Diluted	$ 3.07	$ 3.18
Shares used in calculation of earnings per share:		
Basic	590	622
Diluted	594	626

See accompanying notes.

AMGEN INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In millions)
(Unaudited)

	Three months ended March 31,	
	2020	**2019**
Net income	$ 1,825	$ 1,992
Other comprehensive (loss) income, net of reclassification adjustments and taxes:		
Losses on foreign currency translation	(52)	(13)
(Losses) gains on cash flow hedges	(61)	45
(Losses) gains on available-for-sale securities	(19)	221
Other	(2)	—
Other comprehensive (loss) income, net of taxes	(134)	253
Comprehensive income	$ 1,691	$ 2,245

See accompanying notes.

AMGEN INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(In millions, except per-share data)

	March 31, 2020	December 31, 2019
	(Unaudited)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 7,687	$ 6,037
Marketable securities	325	2,874
Trade receivables, net	5,009	4,057
Inventories	3,682	3,584
Other current assets	2,110	1,888
Total current assets	18,813	18,440
Property, plant and equipment, net	4,879	4,928
Intangible assets, net	18,653	19,413
Goodwill	14,683	14,703
Other assets	4,641	2,223
Total assets	$ 61,669	$ 59,707
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,338	$ 1,371
Accrued liabilities	8,649	8,511
Current portion of long-term debt	1,840	2,953
Total current liabilities	11,827	12,835
Long-term debt	30,008	26,950
Long-term deferred tax liabilities	427	606
Long-term tax liabilities	8,111	8,037
Other noncurrent liabilities	1,811	1,606
Contingencies and commitments		
Stockholders' equity:		
Common stock and additional paid-in capital; $0.0001 par value; 2,750.0 shares authorized; outstanding — 588.0 shares in 2020 and 591.4 shares in 2019	31,525	31,531
Accumulated deficit	(21,378)	(21,330)
Accumulated other comprehensive loss	(662)	(528)
Total stockholders' equity	9,485	9,673
Total liabilities and stockholders' equity	$ 61,669	$ 59,707

See accompanying notes.

AMGEN INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In millions, except per-share data)
(Unaudited)

	Number of shares of common stock	Common stock and additional paid-in capital	Accumulated deficit	Accumulated other comprehensive loss	Total
Balance as of December 31, 2019	591.4	$ 31,531	$ (21,330)	$ (528)	$ 9,673
Cumulative effect of changes in accounting principles, net of tax	—	—	(2)	—	(2)
Net income	—	—	1,825	—	1,825
Other comprehensive loss, net of taxes	—	—	—	(134)	(134)
Dividends declared on common stock ($1.60 per share)	—	—	(938)	—	(938)
Issuance of common stock in connection with the Company's equity award programs	0.9	10	—	—	10
Stock-based compensation expense	—	52	—	—	52
Tax impact related to employee stock-based compensation expense	—	(68)	—	—	(68)
Repurchases of common stock	(4.3)	—	(933)	—	(933)
Balance as of March 31, 2020	588.0	$ 31,525	$ (21,378)	$ (662)	$ 9,485

	Number of shares of common stock	Common stock and additional paid-in capital	Accumulated deficit	Accumulated other comprehensive loss	Total
Balance as of December 31, 2018	629.6	$ 31,246	$ (17,977)	$ (769)	$ 12,500
Net income	—	—	1,992	—	1,992
Other comprehensive income, net of taxes	—	—	—	253	253
Dividends declared on common stock ($1.45 per share)	—	—	(879)	—	(879)
Issuance of common stock in connection with the Company's equity award programs	0.7	6	—	—	6
Stock-based compensation expense	—	64	—	—	64
Tax impact related to employee stock-based compensation expense	—	(73)	—	—	(73)
Repurchases of common stock	(15.9)	—	(3,031)	—	(3,031)
Balance as of March 31, 2019	614.4	$ 31,243	$ (19,895)	$ (516)	$ 10,832

See accompanying notes.

AMGEN INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)
(Unaudited)

	Three months ended March 31,	
	2020	**2019**
Cash flows from operating activities:		
Net income	$ 1,825	$ 1,992
Depreciation, amortization and other	897	495
Deferred income taxes	(84)	(50)
Other items, net	107	24
Changes in operating assets and liabilities, net of acquisition:		
Trade receivables, net	(955)	(207)
Inventories	(113)	(28)
Other assets	319	(249)
Accounts payable	(25)	(112)
Accrued income taxes, net	137	277
Long-term tax liabilities	74	100
Other liabilities	(48)	(397)
Net cash provided by operating activities	2,134	1,845
Cash flows from investing activities:		
Purchases of marketable securities	(129)	(6,898)
Proceeds from sales of marketable securities	2,574	125
Proceeds from maturities of marketable securities	113	10,455
Purchases of property, plant and equipment	(142)	(116)
Purchases of equity method investments	(2,645)	(5)
Other	(1)	(6)
Net cash (used in) provided by investing activities	(230)	3,555
Cash flows from financing activities:		
Net proceeds from issuance of debt	4,963	—
Repayment of debt	(3,250)	(1,000)
Repurchases of common stock	(961)	(3,032)
Dividends paid	(945)	(901)
Other	(61)	(54)
Net cash used in financing activities	(254)	(4,987)
Increase in cash and cash equivalents	1,650	413
Cash and cash equivalents at beginning of period	6,037	6,945
Cash and cash equivalents at end of period	$ 7,687	$ 7,358

See accompanying notes.

1. Summary of significant accounting policies

Business

Amgen Inc. (including its subsidiaries, referred to as "Amgen," "the Company," "we," "our" or "us") is a global biotechnology pioneer that discovers, develops, manufactures and delivers innovative human therapeutics. We operate in one business segment: human therapeutics.

Basis of presentation

The financial information for the three months ended March 31, 2020 and 2019, is unaudited but includes all adjustments (consisting of only normal, recurring adjustments unless otherwise indicated), which Amgen considers necessary for a fair presentation of its condensed consolidated results of operations for those periods. Interim results are not necessarily indicative of results for the full fiscal year.

The condensed consolidated financial statements should be read in conjunction with our consolidated financial statements and the notes thereto contained in our Annual Report on Form 10-K for the year ended December 31, 2019.

Principles of consolidation

The condensed consolidated financial statements include the accounts of Amgen as well as its majority-owned subsidiaries. We do not have any significant interests in any variable interest entities. All material intercompany transactions and balances have been eliminated in consolidation.

Use of estimates

The preparation of condensed consolidated financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Actual results may differ from those estimates.

Property, plant and equipment, net

Property, plant and equipment is recorded at historical cost, net of accumulated depreciation and amortization of $8.5 billion and $8.4 billion as of March 31, 2020 and December 31, 2019, respectively.

Equity method investments

The equity method of accounting is used for equity investments that give us the ability to exert significant influence, but not control, over an investee based on such factors as our ownership percentage, voting and other shareholder rights, board of director representation and the existence of other collaborative or business relationships. The equity method of accounting requires us to allocate the difference between the fair value of securities acquired and our proportionate share of the carrying value of the underlying assets (the basis difference) to various items and amortize such differences over their useful lives. Our share of the investees' earnings or losses and amortization of basis differences, if any, are recorded one quarter in arrears in Interest and other income, net, in the Condensed Consolidated Statements of Income.

We record impairment losses on our equity method investments if we deem the impairment to be other-than-temporary. We deem an impairment to be other-than-temporary based on various factors including, but not limited to, the length of time the fair value is below the carrying value, volatility of the security price and our intent and ability to retain the investment to allow for a recovery in fair value.

Recent accounting pronouncements

In June 2016, the Financial Accounting Standards Board (FASB) issued a new accounting standard that amends the guidance for measuring and recording credit losses on financial assets measured at amortized cost by replacing the incurred-loss model with an expected-loss model. Accordingly, these financial assets will be presented at the net amount expected to be collected. This new standard also requires that credit losses related to available-for-sale debt securities be recorded as an allowance through net income rather than reducing the carrying amount under the current, other-than-temporary-impairment model. We adopted this standard as of January 1, 2020, using a modified-retrospective approach. Adoption of the standard did not have a material impact on our condensed consolidated financial statements.

In March 2020, the FASB issued a new accounting standard to ease the financial reporting burdens of the expected market transition from the London Interbank Offered Rate (LIBOR) and other interbank offered rates to alternative reference rates, commonly referred to as reference rate reform. The new standard provides temporary optional expedients and exceptions to current GAAP guidance on contract modifications and hedge accounting. Specifically, a modification to transition to an alternative reference rate is treated as an event that does not require contract remeasurement or reassessment of a previous accounting treatment. Moreover, for all types of hedging relationships, an entity may change the reference rate without having to dedesignate the hedging relationship. The standard is generally effective for all contract modifications made and hedging relationships evaluated through December 31, 2022, as a result of reference rate reform. We are currently evaluating the impact that this new standard will have on our condensed consolidated financial statements.

2. Revenues

We operate in one business segment: human therapeutics. Therefore, results of our operations are reported on a consolidated basis for purposes of segment reporting, consistent with internal management reporting. Revenues by product and by geographic area, based on customers' locations, are presented below. Rest-of-world (ROW) revenues relate to products that are sold primarily in Europe.

Revenues were as follows (in millions):

	Three months ended March 31,					
	2020			2019		
	US	ROW	Total	US	ROW	Total
Enbrel® (etanercept)	$ 1,117	$ 36	$ 1,153	$ 1,106	$ 45	$ 1,151
Prolia® (denosumab)	422	232	654	390	202	592
Neulasta® (pegfilgrastim)	534	75	609	893	128	1,021
XGEVA® (denosumab)	355	126	481	356	115	471
Otezla® (apremilast)	377	102	479	—	—	—
Aranesp® (darbepoetin alfa)	175	247	422	182	232	414
KYPROLIS® (carfilzomib)	187	93	280	154	91	245
Repatha® (evolocumab)	124	105	229	83	58	141
Other products	988	599	1,587	827	424	1,251
Total product sales[1]	$ 4,279	$ 1,615	5,894	$ 3,991	$ 1,295	5,286
Other revenues			267			271
Total revenues			$ 6,161			$ 5,557

[1] Hedging gains and losses, which are included in product sales, were not material for the three months ended March 31, 2020 and 2019.

3. Income taxes

The effective tax rates for the three months ended March 31, 2020 and 2019, were 9.7% and 13.9%, respectively.

The decrease in our effective tax rate for the three months ended March 31, 2020, was due primarily to amortization related to the Otezla® acquisition, changes in jurisdictional mix of earnings and certain favorable items in the quarter. The effective tax rates differ from the federal statutory rate primarily as a result of foreign earnings from the Company's operations conducted in Puerto Rico, a territory of the United States that is treated as a foreign jurisdiction for U.S. tax purposes and are subject to tax incentive grants through 2035. In addition, the Company's operations conducted in Singapore are subject to a tax incentive grant through 2034. These earnings are also subject to U.S. tax at a reduced rate of 10.5%.

The U.S. territory of Puerto Rico imposes an excise tax on the gross intercompany purchase price of goods and services from our manufacturer in Puerto Rico. The rate of 4% is effective through December 31, 2027. We account for the excise tax as a manufacturing cost that is capitalized in inventory and expensed in cost of sales when the related products are sold. For U.S. income tax purposes, the excise tax results in foreign tax credits that are generally recognized in our provision for income taxes when the excise tax is incurred.

One or more of our legal entities file income tax returns in the U.S. federal jurisdiction, various U.S. state jurisdictions and certain foreign jurisdictions. Our income tax returns are routinely examined by tax authorities in those jurisdictions. Significant disputes may arise with tax authorities involving issues regarding the timing and amount of deductions, the use of tax credits and allocations of income and expenses among various tax jurisdictions because of differing interpretations of tax laws, regulations and relevant facts. As previously disclosed, we received a Revenue Agent Report (RAR) from the Internal Revenue Service (IRS) for the years 2010, 2011 and 2012. The RAR proposes to make significant adjustments that relate primarily to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico. In November 2017, we received a modified RAR that revised the IRS's calculations but continued to propose substantial adjustments. We disagree with the proposed adjustments and calculations and are pursuing resolution with the IRS administrative appeals office, which currently has jurisdiction over the matter. If we deem necessary, we will vigorously contest the proposed adjustments through the judicial process. In addition, in April, we received draft notice of proposed adjustments (NOPAs) from the IRS for the years 2013, 2014 and 2015, which are similar to the proposed adjustments for the years 2010, 2011 and 2012 that relate primarily to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico. We disagree with the proposed adjustments and calculations and intend to contest them. We are also currently under examination by a number of other state and foreign tax jurisdictions.

Final resolution of these complex matters is not likely within the next 12 months and could have a material impact on our condensed consolidated financial statements. We believe our accrual for income tax liabilities is appropriate based on past experience, interpretations of tax law and judgments about potential actions by tax authorities; however, due to the complexity of the provision for income taxes, the ultimate resolution of any tax matters may result in payments substantially greater or less than amounts accrued. We are no longer subject to U.S. federal income tax examinations for years ended on or before December 31, 2009.

During the three months ended March 31, 2020, the gross amounts of our unrecognized tax benefits (UTBs) increased $50 million as a result of tax positions taken during the current year. Substantially all of the UTBs as of March 31, 2020, if recognized, would affect our effective tax rate.

4. Earnings per share

The computation of basic earnings per share (EPS) is based on the weighted-average number of our common shares outstanding. The computation of diluted EPS is based on the weighted-average number of our common shares outstanding and dilutive potential common shares, which include primarily shares that may be issued under our stock option, restricted stock and performance unit award programs (collectively, dilutive securities), as determined by using the treasury stock method.

The computations for basic and diluted EPS were as follows (in millions, except per-share data):

	Three months ended March 31,	
	2020	2019
Income (Numerator):		
Net income for basic and diluted EPS	$ 1,825	$ 1,992
Shares (Denominator):		
Weighted-average shares for basic EPS	590	622
Effect of dilutive securities	4	4
Weighted-average shares for diluted EPS	594	626
Basic EPS	$ 3.09	$ 3.20
Diluted EPS	$ 3.07	$ 3.18

For the three months ended March 31, 2020 and 2019, the number of antidilutive employee stock-based awards excluded from the computation of diluted EPS was not significant.

5. Collaborations

On January 2, 2020, we closed our strategic collaboration with BeiGene, Ltd. (BeiGene) to expand our oncology presence in China. Under the collaboration, BeiGene will commercialize XGEVA®, KYPROLIS® and BLINCYTO® (blinatumomab) in China, and Amgen will share profits and losses equally during the initial product-specific commercialization periods; thereafter, product rights may revert to Amgen, and Amgen will pay royalties to BeiGene on sales in China.

In addition, we will jointly develop a portion of our oncology portfolio with BeiGene sharing in global research and development (R&D) costs by providing cash and development services up to $1.25 billion. Upon regulatory approval, BeiGene will assume commercialization rights in China for a specified period, and Amgen and BeiGene will share profits equally until certain of these product rights revert to Amgen. Upon return of the product rights, Amgen will pay royalties to BeiGene on sales in China for a specified period. For product sales outside of China, Amgen will also pay BeiGene royalties.

For the three months ended March 31, 2020, costs recovered from BeiGene for oncology product candidates were $57 million and were recorded in R&D expense in the Condensed Consolidated Statements of Income. For the three months ended March 31, 2020, no profit share payments or product sales were recorded between Amgen and BeiGene. In connection with this collaboration, we acquired an ownership interest in BeiGene. See Note 6, Investments.

6. Investments

Available-for-sale investments

The amortized cost, gross unrealized gains, gross unrealized losses and fair values of interest-bearing securities, which are considered available-for-sale, by type of security were as follows (in millions):

Types of securities as of March 31, 2020	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair values
U.S. Treasury notes	$ 173	$ 3	$ —	$ 176
U.S. Treasury bills	900	—	—	900
Corporate debt securities:				
Financial	12	—	—	12
Industrial	12	—	—	12
Other	—	—	—	—
Residential-mortgage-backed securities	—	—	—	—
Money market mutual funds	5,762	—	—	5,762
Other short-term interest-bearing securities	432	—	—	432
Total interest-bearing securities	$ 7,291	$ 3	$ —	$ 7,294

Types of securities as of December 31, 2019	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair values
U.S. Treasury notes	$ 359	$ 1	$ —	$ 360
U.S. Treasury bills	—	—	—	—
Corporate debt securities:				
Financial	1,108	13	—	1,121
Industrial	824	10	—	834
Other	195	3	—	198
Residential-mortgage-backed securities	181	1	—	182
Money market mutual funds	5,250	—	—	5,250
Other short-term interest-bearing securities	289	—	—	289
Total interest-bearing securities	$ 8,206	$ 28	$ —	$ 8,234

The fair values of interest-bearing securities by location in the Condensed Consolidated Balance Sheets were as follows (in millions):

Condensed Consolidated Balance Sheets locations	March 31, 2020	December 31, 2019
Cash and cash equivalents	$ 6,969	$ 5,360
Marketable securities	325	2,874
Total interest-bearing securities	$ 7,294	$ 8,234

Cash and cash equivalents in the above table excludes bank account cash of $718 million and $677 million as of March 31, 2020 and December 31, 2019, respectively.

The fair values of interest-bearing securities by contractual maturity, except for residential-mortgage-backed securities that do not have a single maturity date, were as follows (in millions):

Contractual maturities	March 31, 2020	December 31, 2019
Maturing in one year or less	$ 7,165	$ 5,629
Maturing after one year through three years	129	2,304
Maturing after three years through five years	—	119
Residential mortgage-backed securities	—	182
Total interest-bearing securities	$ 7,294	$ 8,234

For the three months ended March 31, 2020 and 2019, realized gains on interest-bearing securities were $37 million and $1 million, respectively, and realized losses on interest-bearing securities were $4 million and $5 million, respectively. Realized gains and losses on interest-bearing securities are recorded in Interest and other income, net, in the Condensed Consolidated Statements of Income. The cost of securities sold is based on the specific-identification method.

The primary objective of our investment portfolio is to maintain safety of principal, prudent levels of liquidity and acceptable levels of risk. Our investment policy limits interest-bearing security investments to certain types of debt and money market instruments issued by institutions with primarily investment-grade credit ratings, and it places restrictions on maturities and concentration by asset class and issuer.

As of March 31, 2020 and December 31, 2019, aggregated gross unrealized losses of available-for-sale investments were not material, and accordingly, no allowance for credit losses was recorded as of March 31, 2020.

Equity securities

We held investments in equity securities with readily determinable fair values of $220 million and $303 million as of March 31, 2020 and December 31, 2019, respectively, which are included in Other assets in the Condensed Consolidated Balance Sheets. Gains and losses recognized on equity securities with readily determinable fair values, including gains and losses recognized on sales, were not material for the three months ended March 31, 2020 and 2019.

We held investments of $183 million and $176 million in equity securities without readily determinable fair values as of March 31, 2020 and December 31, 2019, respectively, which are included in Other assets in the Condensed Consolidated Balance Sheets. Adjustments to the carrying values of these securities were not material for the three months ended March 31, 2020 and 2019.

Equity method investments

Limited partnerships

We held limited partnership investments of $331 million and $320 million as of March 31, 2020 and December 31, 2019, respectively, which are included in Other assets in the Condensed Consolidated Balance Sheets. These investments, primarily investment funds of early-stage biotechnology companies, are accounted for by using the equity method of accounting and measured by using our proportionate share of the net asset values of the underlying investments held by the limited partnerships as a practical expedient. These investments are typically redeemable only through distributions upon liquidation of the underlying assets. As of March 31, 2020, unfunded additional commitments to be made for these investments during the next several years were not material. Gains and losses recognized on our limited partnership investments were not material for the three months ended March 31, 2020 and 2019.

BeiGene

On January 2, 2020, we acquired a 20.5% ownership interest in BeiGene for $2.8 billion, of which $2.6 billion was attributed to the fair value of equity securities upon closing, with the remainder attributed to prepaid R&D. Our equity investment in BeiGene is included in Other assets in the Condensed Consolidated Balance Sheets. The fair value of equity securities acquired exceeded our proportionate share of the carrying value of the underlying net assets of BeiGene by approximately $2.4 billion. This investment is accounted for by using the equity method of accounting, which requires us to identify and allocate amounts to the items that give rise to the basis difference and to amortize these items over their useful lives. This amortization, along with our share of the results of operations of BeiGene, will be recognized in Interest and other income, net, in our Condensed Consolidated Statements of Income. Recognition will occur one quarter in arrears, beginning in the second quarter of 2020. The basis difference was allocated to finite-lived intangible assets, indefinite-lived intangible assets, equity-method goodwill and related deferred taxes. The finite-lived intangible assets will be amortized over a period ranging from 8 to 15 years.

As of March 31, 2020, the carrying and fair values of our approximately 20.5% ownership interest in BeiGene totaled $2.6 billion and $2.0 billion, respectively. As of March 31, 2020, we believe the carrying value of our equity investment in BeiGene is fully recoverable. See Note 1, Summary of significant accounting policies, for factors considered in determining our conclusion. For information on a collaboration agreement we entered into with BeiGene in connection with this investment, see Note 5, Collaborations.

7. Inventories

Inventories consisted of the following (in millions):

	March 31, 2020	December 31, 2019
Raw materials	$ 446	$ 358
Work in process	2,192	2,227
Finished goods	1,044	999
Total inventories	$ 3,682	$ 3,584

8. Goodwill and other intangible assets

Goodwill

The change in the carrying amount of goodwill was as follows (in millions):

	Three months ended March 31, 2020
Beginning balance	$ 14,703
Currency translation adjustment	(20)
Ending balance	$ 14,683

Other intangible assets

Other intangible assets consisted of the following (in millions):

	March 31, 2020			December 31, 2019		
	Gross carrying amounts	Accumulated amortization	Other intangible assets, net	Gross carrying amounts	Accumulated amortization	Other intangible assets, net
Finite-lived intangible assets:						
Developed-product-technology rights	$ 25,549	$ (8,876)	$ 16,673	$ 25,575	$ (8,322)	$ 17,253
Licensing rights	3,746	(2,494)	1,252	3,761	(2,398)	1,363
Marketing-related rights	1,375	(979)	396	1,382	(965)	417
Research and development technology rights	1,269	(967)	302	1,273	(947)	326
Total finite-lived intangible assets	31,939	(13,316)	18,623	31,991	(12,632)	19,359
Indefinite-lived intangible assets:						
In-process research and development	30	—	30	54	—	54
Total other intangible assets	$ 31,969	$ (13,316)	$ 18,653	$ 32,045	$ (12,632)	$ 19,413

Developed-product-technology rights consists of rights related to marketed products. Licensing rights consists primarily of contractual rights to receive future milestone, royalty and profit-sharing payments; capitalized payments to third parties for milestones related to regulatory approvals to commercialize products; and up-front payments associated with royalty obligations for marketed products. Marketing-related rights consists primarily of rights related to the sale and distribution of marketed products. R&D technology rights pertains to technologies used in R&D that have alternative future uses.

In-process research and development (IPR&D) consists of R&D projects acquired in a business combination that are not complete at the time of acquisition due to remaining technological risks and/or lack of receipt of required regulatory approvals. We review IPR&D projects for impairment annually, whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable and upon the establishment of technological feasibility or regulatory approval.

During the three months ended March 31, 2020 and 2019, we recognized amortization associated with our finite-lived intangible assets of $709 million and $315 million, respectively. Amortization of intangible assets is included primarily in Cost of sales in the Condensed Consolidated Statements of Income. The total estimated amortization for our finite-lived intangible assets for the remaining nine months ending December 31, 2020, and the years ending December 31, 2021, 2022, 2023, 2024 and 2025, are $2.1 billion, $2.6 billion, $2.5 billion, $2.4 billion, $2.4 billion and $2.2 billion, respectively.

9. Financing arrangements

Our borrowings consisted of the following (in millions):

	March 31, 2020	December 31, 2019
4.50% notes due 2020 (4.50% 2020 Notes)	$ —	$ 300
2.125% notes due 2020 (2.125% 2020 Notes)	750	750
Floating Rate Notes due 2020	300	300
2.20% notes due 2020 (2.20% 2020 Notes)	700	700
3.45% notes due 2020 (3.45% 2020 Notes)	—	900
4.10% notes due 2021 (4.10% 2021 Notes)	—	1,000
1.85% notes due 2021 (1.85% 2021 Notes)	—	750
3.875% notes due 2021 (3.875% 2021 Notes)	1,450	1,750
1.25% €1,250 million notes due 2022 (1.25% 2022 euro Notes)	1,379	1,402
2.70% notes due 2022 (2.70% 2022 Notes)	500	500
2.65% notes due 2022 (2.65% 2022 Notes)	1,500	1,500
3.625% notes due 2022 (3.625% 2022 Notes)	750	750
0.41% CHF700 million bonds due 2023 (0.41% 2023 Swiss franc Bonds)	728	725
2.25% notes due 2023 (2.25% 2023 Notes)	750	750
3.625% notes due 2024 (3.625% 2024 Notes)	1,400	1,400
1.90% notes due 2025 (1.90% 2025 Notes)	500	—
3.125% notes due 2025 (3.125% 2025 Notes)	1,000	1,000
2.00% €750 million notes due 2026 (2.00% 2026 euro Notes)	827	841
2.60% notes due 2026 (2.60% 2026 Notes)	1,250	1,250
5.50% £475 million notes due 2026 (5.50% 2026 pound sterling Notes)	590	630
2.20% notes due 2027 (2.20% 2027 Notes)	750	—
3.20% notes due 2027 (3.20% 2027 Notes)	1,000	1,000
4.00% £700 million notes due 2029 (4.00% 2029 pound sterling Notes)	869	928
2.45% notes due 2030 (2.45% 2030 Notes)	1,250	—
6.375% notes due 2037 (6.375% 2037 Notes)	552	552
6.90% notes due 2038 (6.90% 2038 Notes)	291	291
6.40% notes due 2039 (6.40% 2039 Notes)	466	466
3.15% notes due 2040 (3.15% 2040 Notes)	1,250	—
5.75% notes due 2040 (5.75% 2040 Notes)	412	412
4.95% notes due 2041 (4.95% 2041 Notes)	600	600
5.15% notes due 2041 (5.15% 2041 Notes)	974	974
5.65% notes due 2042 (5.65% 2042 Notes)	487	487
5.375% notes due 2043 (5.375% 2043 Notes)	261	261
4.40% notes due 2045 (4.40% 2045 Notes)	2,250	2,250
4.563% notes due 2048 (4.563% 2048 Notes)	1,415	1,415
3.375% notes due 2050 (3.375% 2050 Notes)	1,250	—
4.663% notes due 2051 (4.663% 2051 Notes)	3,541	3,541
Other notes due 2097	100	100
Unamortized bond discounts, premiums and issuance costs, net	(892)	(868)
Fair value adjustments	648	296
Total carrying value of debt	31,848	29,903
Less current portion	(1,840)	(2,953)
Total long-term debt	$ 30,008	$ 26,950

There are no material differences between the effective interest rates and coupon rates of any of our borrowings, except for the 4.563% 2048 Notes and the 4.663% 2051 Notes, which have effective interest rates of 6.3% and 5.6%, respectively.

Debt issuances and repayments

During the three months ended March 31, 2020, we issued $5.0 billion of debt, consisting of the 1.90% 2025 Notes, the 2.20% 2027 Notes, the 2.45% 2030 Notes, the 3.15% 2040 Notes and the 3.375% 2050 Notes. In the event of a change-in-control triggering event, as defined in the terms of the notes, we may be required to purchase all or a portion of these notes at a price equal to 101% of the principal amount of the notes plus accrued and unpaid interest. In addition, these notes may be redeemed at any time at our option, in whole or in part, at the principal amount of the notes being redeemed plus accrued and unpaid interest and a "make-whole" amount, which are defined by the terms of the notes. The notes may be redeemed without payment of make-whole amounts if redemption occurs during specified periods of time immediately prior to the maturity of the notes. Such time periods range from one month to six months prior to maturity.

A portion of the proceeds from the issuance of these notes were used to redeem the 3.45% 2020 Notes, the 4.10% 2021 Notes, the 1.85% 2021 Notes and $300 million aggregate principal amount of our 3.875% 2021 Notes. In connection with the redemption of these notes, we paid a total of $50 million in make-whole amounts plus associated accrued and unpaid interest, all of which was recognized in Interest expense, net, in the Condensed Consolidated Statements of Income during the three months ended March 31, 2020. In addition to these redemptions, the 4.50% 2020 Notes matured and were repaid during the three months ended March 31, 2020.

Interest rate swaps

In connection with the redemption of certain of the notes discussed above, associated interest rate swap contracts with an aggregate notional value of $2.2 billion were terminated. Additionally, due to historically low interest rates, during the three months ended March 31, 2020, we terminated interest rate swaps with an aggregate notional amount of $5.2 billion that hedged the 3.625% 2024 Notes, 2.60% 2026 Notes, 4.663% 2051 Notes and portions of our 3.625% 2022 Notes and 3.125% 2025 Notes, which resulted in the receipt of $576 million of cash and reduced counterparty credit risk. Immediately following termination of these contracts, we entered into new interest rate swap agreements at then-current interest rates on the same $5.2 billion principal amount of notes. See Note 12, Derivative instruments.

The effective interest rates on notes for which we have entered into interest rate swap contracts and the related notional amounts of these contracts were as follows (dollar amounts in millions):

	March 31, 2020		December 31, 2019	
Notes	**Notional amounts**	**Effective interest rates**	**Notional amounts**	**Effective interest rates**
3.45% 2020 Notes	$ —	LIBOR + 1.1%	$ 900	LIBOR + 1.1%
4.10% 2021 Notes	—	LIBOR + 1.7%	1,000	LIBOR + 1.7%
3.875% 2021 Notes	1,450	LIBOR + 2.0%	1,750	LIBOR + 2.0%
3.625% 2022 Notes	750	LIBOR + 2.7%	750	LIBOR + 1.6%
3.625% 2024 Notes	1,400	LIBOR + 3.2%	1,400	LIBOR + 1.4%
3.125% 2025 Notes	1,000	LIBOR + 1.8%	1,000	LIBOR + 0.9%
2.60% 2026 Notes	1,250	LIBOR + 1.8%	1,250	LIBOR + 0.3%
4.663% 2051 Notes[(1)]	1,500	LIBOR + 2.6%	1,500	LIBOR + 0.0%
Total notional amounts	$ 7,350		$ 9,550	

(1) Excludes an additional 1.5% of interest for the difference between the coupon rate paid to note holders and the fixed rate received under the interest rate swap contracts.

10. Stockholders' equity

Stock repurchase program

Activity under our stock repurchase program, on a trade date basis, was as follows (in millions):

	2020		2019	
	Shares	Dollars	Shares	Dollars
First quarter	4.3	$ 933	15.9	$ 3,031

In December 2019, our Board of Directors increased the amount authorized under our stock repurchase program by an additional $4.0 billion. As of March 31, 2020, $5.5 billion of authorization remained available under our stock repurchase program.

Dividends

In March 2020, the Board of Directors declared a quarterly cash dividend of $1.60 per share, which will be paid in June 2020. In December 2019, the Board of Directors declared a quarterly cash dividend of $1.60 per share, which was paid in March 2020.

Accumulated other comprehensive income (loss)

The components of Accumulated other comprehensive income (loss) (AOCI) were as follows (in millions):

	Foreign currency translation	Cash flow hedges	Available-for-sale securities	Other	AOCI
Balance as of December 31, 2019	$ (718)	$ 175	$ 22	$ (7)	$ (528)
Foreign currency translation adjustments	(52)	—	—	—	(52)
Unrealized (losses) gains	—	(162)	8	—	(154)
Reclassification adjustments to income	—	84	(33)	—	51
Other	—	—	—	(2)	(2)
Income taxes	—	17	6	—	23
Balance as of March 31, 2020	$ (770)	$ 114	$ 3	$ (9)	$ (662)

Reclassifications out of AOCI and into earnings were as follows (in millions):

	Three months ended March 31,		
Components of AOCI	2020	2019	Condensed Consolidated Statements of Income locations
Cash flow hedges:			
Foreign currency contract gains	$ 49	$ 14	Product sales
Cross-currency swap contract losses	(133)	(42)	Interest and other income, net
	(84)	(28)	Income before income taxes
	18	6	Provision for income taxes
	$ (66)	$ (22)	Net income
Available-for-sale securities:			
Net realized gains (losses)	$ 33	$ (4)	Interest and other income, net
	(7)	—	Provision for income taxes
	$ 26	$ (4)	Net income

11. Fair value measurement

To estimate the fair value of our financial assets and liabilities, we use valuation approaches within a hierarchy that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing an asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the inputs that market participants would use in pricing an asset or liability and are developed based on the best information available in the circumstances. The fair value hierarchy is divided into three levels based on the source of inputs as follows:

Level 1 — Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access

Level 2 — Valuations for which all significant inputs are observable either directly or indirectly—other than Level 1 inputs

Level 3 — Valuations based on inputs that are unobservable and significant to the overall fair value measurement

The availability of observable inputs can vary among the various types of financial assets and liabilities. To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. In certain cases, the inputs used for measuring fair value may fall into different levels of the fair value hierarchy. In such cases, for financial statement disclosure purposes, the level in the fair value hierarchy within which the fair value measurement is categorized is based on the lowest level of input used that is significant to the overall fair value measurement.

The fair values of each major class of the Company's financial assets and liabilities measured at fair value on a recurring basis were as follows (in millions):

Fair value measurement as of March 31, 2020, using:	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Assets:				
Available-for-sale securities:				
U.S. Treasury notes	$ 176	$ —	$ —	$ 176
U.S. Treasury bills	900	—	—	900
Corporate debt securities:				
Financial	—	12	—	12
Industrial	—	12	—	12
Other	—	—	—	—
Residential-mortgage-backed securities	—	—	—	—
Money market mutual funds	5,762	—	—	5,762
Other short-term interest-bearing securities	—	432	—	432
Equity securities	220	—	—	220
Derivatives:				
Foreign currency contracts	—	375	—	375
Cross-currency swap contracts	—	10	—	10
Interest rate swap contracts	—	89	—	89
Total assets	$ 7,058	$ 930	$ —	$ 7,988
Liabilities:				
Derivatives:				
Foreign currency contracts	$ —	$ 5	$ —	$ 5
Cross-currency swap contracts	—	657	—	657
Interest rate swap contracts	—	23	—	23
Contingent consideration obligations	—	—	60	60
Total liabilities	$ —	$ 685	$ 60	$ 745

Fair value measurement as of December 31, 2019, using:	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Assets:				
Available-for-sale securities:				
U.S. Treasury notes	$ 360	$ —	$ —	$ 360
U.S. Treasury bills	—	—	—	—
Corporate debt securities:				
Financial	—	1,121	—	1,121
Industrial	—	834	—	834
Other	—	198	—	198
Residential-mortgage-backed securities	—	182	—	182
Money market mutual funds	5,250	—	—	5,250
Other short-term interest-bearing securities	—	289	—	289
Equity securities	303	—	—	303
Derivatives:				
Foreign currency contracts	—	224	—	224
Cross-currency swap contracts	—	66	—	66
Interest rate swap contracts	—	259	—	259
Total assets	$ 5,913	$ 3,173	$ —	$ 9,086
Liabilities:				
Derivatives:				
Foreign currency contracts	$ —	$ 31	$ —	$ 31
Cross-currency swap contracts	—	315	—	315
Interest rate swap contracts	—	—	—	—
Contingent consideration obligations	—	—	61	61
Total liabilities	$ —	$ 346	$ 61	$ 407

Interest-bearing and equity securities

The fair values of our U.S. Treasury securities, money market mutual funds and equity securities are based on quoted market prices in active markets, with no valuation adjustment.

As of March 31, 2020, our corporate debt securities are investment grade and have maturity dates of three years or less from the balance sheet date. Our corporate debt securities portfolio has weighted-average credit ratings of BBB or equivalent by Standard & Poor's Financial Services LLC (S&P), BBB+ by Moody's Investors Service, Inc. (Moody's) and A– by Fitch Ratings, Inc. (Fitch). We estimate the fair values of these securities by taking into consideration valuations obtained from third-party pricing services. The pricing services use industry-standard valuation models, including both income- and market-based approaches, for which all significant inputs are observable either directly or indirectly to estimate fair value. The inputs include reported trades of and broker-dealer quotes on the same or similar securities; issuer credit spreads; benchmark securities; and other observable inputs.

We value our other short-term interest-bearing securities at amortized cost, which approximates fair value given their near-term maturity dates.

Derivatives

All of our foreign currency forward derivative contracts have maturities of three years or less, and all are with counterparties that have minimum credit ratings of A– or equivalent by S&P, Moody's or Fitch. We estimate the fair values of these contracts by taking into consideration valuations obtained from a third-party valuation service that uses an income-based industry-standard valuation model for which all significant inputs are observable either directly or indirectly. These inputs include foreign currency exchange rates, LIBOR, swap rates and obligor credit default swap rates. In addition, inputs for our foreign currency option contracts include implied volatility measures. These inputs, when applicable, are at commonly quoted intervals. See Note 12, Derivative instruments.

Our cross-currency swap contracts are with counterparties that have minimum credit ratings of A– or equivalent by S&P, Moody's or Fitch. We estimate the fair values of these contracts by taking into consideration valuations obtained from a third-party valuation service that uses an income-based industry-standard valuation model for which all significant inputs are observable either directly or indirectly. These inputs include foreign currency exchange rates, LIBOR, swap rates, obligor credit default swap rates and cross-currency-basis swap spreads. See Note 12, Derivative instruments.

Our interest rate swap contracts are with counterparties that have minimum credit ratings of A– or equivalent by S&P, Moody's or Fitch. We estimate the fair values of these contracts by using an income-based industry-standard valuation model for which all significant inputs are observable either directly or indirectly. These inputs include LIBOR, swap rates and obligor credit default swap rates. See Note 12, Derivative instruments.

During the three months ended March 31, 2020 and 2019, there were no material remeasurements to the fair values of assets and liabilities that are not measured at fair value on a recurring basis.

Summary of the fair values of other financial instruments

Cash equivalents

The fair values of cash equivalents approximate their carrying values due to the short-term nature of such financial instruments.

Borrowings

We estimated the fair values of our borrowings by using Level 2 inputs. As of March 31, 2020 and December 31, 2019, the aggregate fair values of our borrowings were $35.8 billion and $33.7 billion, respectively, and the carrying values were $31.8 billion and $29.9 billion, respectively.

12. Derivative instruments

The Company is exposed to foreign currency exchange rate and interest rate risks related to its business operations. To reduce our risks related to such exposures, we use or have used certain derivative instruments, including foreign currency forward, foreign currency option, cross-currency swap, forward interest rate and interest rate swap contracts. We do not use derivatives for speculative trading purposes.

Cash flow hedges

We are exposed to possible changes in the values of certain anticipated foreign currency cash flows resulting from changes in foreign currency exchange rates associated primarily with our euro-denominated international product sales. Increases and decreases in the cash flows associated with our international product sales due to movements in foreign currency exchange rates are offset partially by corresponding increases and decreases in the cash flows from our international operating expenses resulting from these foreign currency exchange rate movements. To further reduce our exposure to foreign currency exchange rate fluctuations with regard to our international product sales, we enter into foreign currency forward contracts to hedge a portion of our projected international product sales primarily over a three-year time horizon, with, at any given point in time, a higher percentage of nearer-term projected product sales being hedged than in successive periods.

As of March 31, 2020 and December 31, 2019, we had outstanding foreign currency forward contracts with aggregate notional amounts of $4.9 billion and $5.0 billion, respectively. We have designated these foreign currency forward contracts, which are primarily euro based, as cash flow hedges. Accordingly, we report the unrealized gains and losses on these contracts in AOCI in the Condensed Consolidated Balance Sheets, and we reclassify them to Product sales in the Condensed Consolidated Statements of Income in the same periods during which the hedged transactions affect earnings.

To hedge our exposure to foreign currency exchange rate risk associated with certain of our long-term debt denominated in foreign currencies, we enter into cross-currency swap contracts. Under the terms of such contracts, we paid euros, pounds sterling and Swiss francs and received U.S. dollars for the notional amounts at the inception of the contracts; and based on these notional amounts, we exchange interest payments at fixed rates over the lives of the contracts by paying U.S. dollars and receiving euros, pounds sterling and Swiss francs. In addition, we will pay U.S. dollars to and receive euros, pounds sterling and Swiss francs from the counterparties at the maturities of the contracts for these same notional amounts. The terms of these contracts correspond to the related hedged debt, thereby effectively converting the interest payments and principal repayment on the debt from euros, pounds sterling and Swiss francs to U.S. dollars. We have designated these cross-currency swap contracts as cash flow hedges. Accordingly, the unrealized gains and losses on these contracts are reported in AOCI in the Condensed Consolidated Balance Sheets and reclassified to Interest and other income, net, in the Condensed Consolidated Statements of Income in the same periods during which the hedged debt affects earnings.

The notional amounts and interest rates of our cross-currency swaps as of March 31, 2020, were as follows (notional amounts in millions):

	Foreign currency			U.S. dollars		
Hedged notes	**Notional amounts**		**Interest rates**	**Notional amounts**		**Interest rates**
1.25% 2022 euro Notes	€	1,250	1.3%	$	1,388	3.2%
0.41% 2023 Swiss franc Bonds	CHF	700	0.4%	$	704	3.4%
2.00% 2026 euro Notes	€	750	2.0%	$	833	3.9%
5.50% 2026 pound sterling Notes	£	475	5.5%	$	747	6.0%
4.00% 2029 pound sterling Notes	£	700	4.0%	$	1,111	4.5%

In connection with the anticipated issuance of long-term fixed-rate debt, we occasionally enter into forward interest rate contracts in order to hedge the variability in cash flows due to changes in the applicable U.S. Treasury rate between the time we enter into these contracts and the time the related debt is issued. Gains and losses on forward interest rate contracts, which are designated as cash flow hedges, are recognized in AOCI in the Condensed Consolidated Balance Sheets and are amortized into Interest expense, net, in the Condensed Consolidated Statements of Income over the lives of the associated debt issuances. Amounts recognized in connection with forward interest rate swaps during the three months ended March 31, 2020, and amounts expected to be recognized during the subsequent 12 months are not material.

The unrealized gains and losses recognized in AOCI for our derivative instruments designated as cash flow hedges were as follows (in millions):

	Three months ended March 31,	
Derivatives in cash flow hedging relationships	**2020**	**2019**
Foreign currency contracts	$ 239	$ 85
Cross-currency swap contracts	(401)	(55)
Total unrealized (losses) gains	$ (162)	$ 30

Fair value hedges

To achieve a desired mix of fixed-rate and floating-rate debt, we entered into interest rate swap contracts that qualified for and were designated as fair value hedges. These interest rate swap contracts effectively convert fixed-rate coupons to floating-rate LIBOR-based coupons over the terms of the related hedge contracts. As of March 31, 2020 and December 31, 2019, we had interest rate swap contracts with aggregate notional amounts of $7.4 billion and $9.6 billion, respectively, that hedge certain portions of our long-term debt issuances.

Interest rate swaps with an aggregate notional value of $2.2 billion were terminated during the three months ended March 31, 2020, in connection with the redemption of certain of our notes. The termination of these interest rate swaps resulted in a gain of $17 million recognized in Interest expense, net, in the Condensed Consolidated Statements of Income. Additionally, we terminated $5.2 billion aggregate notional amount of interest rate swaps, which resulted in the receipt of $576 million from the counterparties that was included in Net cash provided by operating activities in the Condensed Consolidated Statements of Cash Flows for the three months ended March 31, 2020. This amount will be recognized in Interest expense, net, in the Condensed Consolidated Statements of Income over the remaining life of the underlying notes. Immediately following the termination of these interest rate swap contracts, we entered into new interest rate swap agreements at then-current interest rates on the same $5.2 billion principal amount of notes. See Note 9, Financing arrangements, for information on our interest rate swaps.

For interest rate swap contracts that qualify for and are designated as fair value hedges, we recognize in Interest expense, net, in the Condensed Consolidated Statements of Income the unrealized gain or loss on the derivative resulting from the change in fair value during the period, as well as the offsetting unrealized loss or gain of the hedged item resulting from the change in fair value during the period attributable to the hedged risk. If a hedging relationship involving an interest rate swap contract is terminated, the gain or loss realized on contract termination is recorded as an adjustment to the carrying value of the debt and amortized into Interest expense, net, over the remaining life of the previously hedged debt.

The hedged liabilities and related cumulative-basis adjustments for fair value hedges of those liabilities were recorded in the Condensed Consolidated Balance Sheets as follows (in millions):

	Carrying amounts of hedged liabilities[1]		Cumulative amounts of fair value hedging adjustments related to the carrying amounts of the hedged liabilities[2]	
Condensed Consolidated Balance Sheets locations	**March 31, 2020**	**December 31, 2019**	**March 31, 2020**	**December 31, 2019**
Current portion of long-term debt	$ 90	$ 903	$ 90	$ 4
Long-term debt	$ 7,784	$ 8,814	$ 558	$ 292

(1) Current portion of long-term debt includes $90 million of carrying value with discontinued hedging relationships as of March 31, 2020. Long-term debt includes $592 million and $136 million of carrying value with discontinued hedging relationships as of March 31, 2020 and December 31, 2019, respectively.

(2) Current portion of long-term debt includes $90 million of hedging adjustments on discontinued hedging relationships as of March 31, 2020. Long-term debt includes $492 million and $36 million of hedging adjustments on discontinued hedging relationships as of March 31, 2020 and December 31, 2019, respectively.

Impact of hedging transactions

The following tables summarize the amounts recorded in income and expense line items and the effects thereon from fair value and cash flow hedging, including discontinued hedging relationships (in millions):

	Three months ended March 31, 2020		
	Product sales	Interest and other income, net	Interest (expense), net
Total amounts recorded in income and (expense) line items presented in the Condensed Consolidated Statements of Income	$ 5,894	$ 11	$ (346)
The effects of cash flow and fair value hedging:			
Gains (losses) on cash flow hedging relationships reclassified out of AOCI:			
Foreign currency contracts	$ 49	$ —	$ —
Cross-currency swap contracts	$ —	$ (133)	$ —
Gains (losses) on fair value hedging relationships—interest rate swap agreements:			
Hedged items[1]	$ —	$ —	$ 210
Derivatives designated as hedging instruments	$ —	$ —	$ (190)

	Three months ended March 31, 2019		
	Product sales	Interest and other income, net	Interest (expense), net
Total amounts recorded in income and (expense) line items presented in the Condensed Consolidated Statements of Income	$ 5,286	$ 185	$ (343)
The effects of cash flow and fair value hedging:			
Gains (losses) on cash flow hedging relationships reclassified out of AOCI:			
Foreign currency contracts	$ 14	$ —	$ —
Cross-currency swap contracts	$ —	$ (42)	$ —
(Losses) gains on fair value hedging relationships—interest rate swap agreements:			
Hedged items[1]	$ —	$ —	$ (130)
Derivatives designated as hedging instruments	$ —	$ —	$ 133

[1] Gains (losses) on hedged items do not completely offset gains (losses) on the related designated hedging instruments due to amortization of the cumulative amounts of fair value hedging adjustments included in the carrying amount of the hedged debt for discontinued hedging relationships and the recognition of gains on terminated hedges where the corresponding hedged item was paid down in the period.

No portions of our cash flow hedge contracts were excluded from the assessment of hedge effectiveness. As of March 31, 2020, we expected to reclassify $162 million of net gains on our foreign currency and cross-currency swap contracts out of AOCI and into earnings during the next 12 months.

Derivatives not designated as hedges

To reduce our exposure to foreign currency fluctuations in certain assets and liabilities denominated in foreign currencies, we enter into foreign currency forward contracts that are not designated as hedging transactions. Most of these exposures are hedged on a month-to-month basis. As of March 31, 2020 and December 31, 2019, the total notional amounts of these foreign currency forward contracts were $0.8 billion and $1.2 billion, respectively. Gains and losses recognized in earnings for our derivative instruments not designated as hedging instruments were not material for the three months ended March 31, 2020 and 2019.

The fair values of derivatives included in the Condensed Consolidated Balance Sheets were as follows (in millions):

	Derivative assets		Derivative liabilities	
March 31, 2020	Condensed Consolidated Balance Sheets locations	Fair values	Condensed Consolidated Balance Sheets locations	Fair values
Derivatives designated as hedging instruments:				
Foreign currency contracts	Other current assets/ Other assets	$ 375	Accrued liabilities/ Other noncurrent liabilities	$ 5
Cross-currency swap contracts	Other current assets/ Other assets	10	Accrued liabilities/ Other noncurrent liabilities	657
Interest rate swap contracts	Other current assets/ Other assets	89	Accrued liabilities/ Other noncurrent liabilities	23
Total derivatives designated as hedging instruments		474		685
Derivatives not designated as hedging instruments:				
Foreign currency contracts	Other current assets	—	Accrued liabilities	—
Total derivatives not designated as hedging instruments		—		—
Total derivatives		$ 474		$ 685

	Derivative assets		Derivative liabilities	
December 31, 2019	Condensed Consolidated Balance Sheets locations	Fair values	Condensed Consolidated Balance Sheets locations	Fair values
Derivatives designated as hedging instruments:				
Foreign currency contracts	Other current assets/ Other assets	$ 223	Accrued liabilities/ Other noncurrent liabilities	$ 31
Cross-currency swap contracts	Other current assets/ Other assets	66	Accrued liabilities/ Other noncurrent liabilities	315
Interest rate swap contracts	Other current assets/ Other assets	259	Accrued liabilities/ Other noncurrent liabilities	—
Total derivatives designated as hedging instruments		548		346
Derivatives not designated as hedging instruments:				
Foreign currency contracts	Other current assets	1	Accrued liabilities	—
Total derivatives not designated as hedging instruments		1		—
Total derivatives		$ 549		$ 346

Our derivative contracts that were in liability positions as of March 31, 2020, contain certain credit-risk-related contingent provisions that would be triggered if (i) we were to undergo a change in control and (ii) our or the surviving entity's creditworthiness deteriorates, which is generally defined as having either a credit rating that is below investment grade or a materially weaker creditworthiness after the change in control. If these events were to occur, the counterparties would have the right but not the obligation to close the contracts under early-termination provisions. In such circumstances, the counterparties could request immediate settlement of these contracts for amounts that approximate the then current fair values of the contracts. In addition, our derivative contracts are not subject to any type of master netting arrangement, and amounts due either to or from a counterparty under the contracts may be offset against other amounts due either to or from the same counterparty only if an event of default or termination, as defined, were to occur.

The cash flow effects of our derivative contracts in the Condensed Consolidated Statements of Cash Flows are included in Net cash provided by operating activities, except for the settlement of notional amounts of cross-currency swaps, which are included in Net cash used in financing activities.

13. Contingencies and commitments

Contingencies

In the ordinary course of business, we are involved in various legal proceedings, government investigations and other matters that are complex in nature and have outcomes that are difficult to predict. See our Annual Report on Form 10-K for the year ended December 31, 2019, Part I, Item 1A. Risk Factors—*Our business may be affected by litigation and government investigations.* We describe our legal proceedings and other matters that are significant or that we believe could become significant in this footnote.

We record accruals for loss contingencies to the extent that we conclude it is probable that a liability has been incurred and the amount of the related loss can be reasonably estimated. We evaluate, on a quarterly basis, developments in legal proceedings and other matters that could cause an increase or decrease in the amount of the liability that has been accrued previously.

Our legal proceedings involve various aspects of our business and a variety of claims, some of which present novel factual allegations and/or unique legal theories. In each of the matters described in this filing, or in Note 19, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2019, in which we could incur a liability, our opponents seek an award of a not-yet-quantified amount of damages or an amount that is not material. In addition, a number of the matters pending against us are at very early stages of the legal process, which in complex proceedings of the sort we face often extend for several years. As a result, none of the matters described in this filing, or in Note 19, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2019, in which we could incur a liability, have progressed sufficiently through discovery and/or the development of important factual information and legal issues to enable us to estimate a range of possible loss, if any, or such amounts are not material. While it is not possible to accurately predict or determine the eventual outcomes of these matters, an adverse determination in one or more of these matters currently pending could have a material adverse effect on our consolidated results of operations, financial position or cash flows.

Certain recent developments concerning our legal proceedings and other matters are discussed below:

Abbreviated New Drug Application (ANDA) Patent Litigation

KYPROLIS® (carfilzomib) ANDA Patent Litigation

Onyx Therapeutics, Inc. v. Cipla Limited, et al.

On March 30, 2020, the U.S. District Court for the District of Delaware (the Delaware District Court) issued an order advising the parties in the litigation that, due to the recent and current challenges, the court does not anticipate issuing its post-trial opinion until approximately on or before May 8, 2020.

Otezla® (apremilast) ANDA Patent Litigation

Amgen Inc. v. Sandoz Inc., et al.

On February 14, 2020, the U.S. District Court for the District of New Jersey (the New Jersey District Court) granted the motion by Amgen and Celgene Corp. (Celgene) and issued an order substituting Amgen for Celgene as plaintiff in the consolidated action and all related actions, terminating Celgene as plaintiff in the consolidated action and all related actions, and amending the case caption in the consolidated action and all related actions to reflect Amgen as the sole plaintiff.

On March 25, 2020, based on a joint request by Amgen and Unichem Laboratories, Ltd. (Unichem), the New Jersey District Court entered a consent judgment and injunction prohibiting the making, using, selling, offering to sell, or importing of Unichem's apremilast product during the term of the U.S. Patent Nos. 6,962,940 (the '940 Patent); 7,427,638 (the '638 Patent); 7,659,302 (the '302 Patent); 7,893,101 (the '101 Patent); 8,455,536 (the '536 Patent); 9,018,243 (the '243 Patent); 9,724,330 (the '330 Patent); and 10,092,541 (the '541 Patent), unless authorized pursuant to a confidential settlement agreement. On April 3, 2020, based on a joint request by Amgen and Annora Pharma Private Ltd. and Hetero USA Inc. (collectively, Hetero), the New Jersey District Court entered a consent judgment and injunction prohibiting the making, using, selling, offering to sell, or importing of Hetero's apremilast product during the term of the '940 Patent; U.S. Patent No. 7,208,516; the '638 Patent; the '302 Patent; the '101 Patent; the '536 Patent; U.S. Patent No. 8,802,717; the '243 Patent; the '330 Patent; U.S. Patent No. 9,872,854 and the '541 Patent, unless authorized pursuant to a confidential settlement agreement. Trial in the consolidated action is scheduled to commence in May 2021.

Sensipar® (cinacalcet) ANDA Patent Litigation

Amgen Inc. v. Amneal Pharmaceuticals LLC, et al. (formerly, Amgen Inc. v. Aurobindo Pharma Ltd. et al.) Consolidated Case

On February 13, 2020, Amgen petitioned the U.S. Court of Appeals for the Federal Circuit (the Federal Circuit Court) to rehear Amgen's appeal of the judgment of noninfringement with respect to Piramal Healthcare UK Limited, and Amneal Pharmaceuticals LLC and Amneal Pharmaceuticals of New York, LLC (collectively, Amneal) petitioned the Federal Circuit Court for panel rehearing of the court's opinion vacating and remanding the judgment of noninfringement with respect to Amneal. On April 15, 2020, the Federal Circuit Court denied each of Amgen's and Amneal's petitions. On April 22, 2020, the Federal Circuit Court issued a mandate returning the case to the Delaware District Court.

ENBREL (etanercept) Patent Litigation

Immunex Corporation, et al. v. Sandoz Inc., et al.

On March 4, 2020, the Federal Circuit Court heard oral argument on the appeal by Sandoz Inc., Sandoz International GmbH and Sandoz GmbH from final judgment upholding the validity of U.S. Patent Nos. 8,063,182 and 8,163,522.

Repatha® (evolocumab) Patent Litigation

Patent Disputes in the International Region

A two-day hearing before the Technical Board of Appeal of the European Patent Office, which was scheduled to begin on March 24, 2020, has been rescheduled to begin on October 28, 2020.

As previously disclosed, we are also involved in and expect future involvement in additional disputes regarding our proprotein convertase subtilisin/kexin type 9 (PCSK9) patents in other jurisdictions and regions, including matters filed against us and that we have filed in the United Kingdom, Germany, France and Japan.

On April 24, 2020, the Supreme Court of Japan declined to hear Sanofi K.K.'s appeals making final the Japanese High Court's decisions that PRALUENT® infringes Amgen's valid patent rights in Japan.

NEUPOGEN® (filgrastim)/Neulasta® (pegfilgrastim) Patent Litigation

Apotex PTAB Challenge

On March 24, 2020, the Federal Circuit Court vacated the decision by the Patent Trial and Appeal Board (PTAB) of the U.S. Patent and Trademark Office and remanded the case to the PTAB for proceeding consistent with the Federal Circuit Court's decision in *Arthrex Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320 (Fed. Cir. 2019).

Amgen Inc., et al. v. Pfizer Inc. et al.

On February 18, 2020, the Delaware District Court entered an amended scheduling order moving the trial on the infringement of our U.S. Patent No. 9,643,997 to May 17, 2021, to enable Amgen Inc. and its wholly owned subsidiary, Amgen Manufacturing, Limited (collectively Amgen), to seek additional discovery into the defenses of Pfizer Inc. (Pfizer) and Hospira Inc. (Hospira).

On April 24, 2020, Amgen filed a separate lawsuit in the Delaware District Court against Hospira and Pfizer for infringement of U.S. Patent No. 10,577,392 (the '392 Patent) and seeks, among other remedies, damages and injunctive relief to prohibit Hospira and Pfizer from infringing the '392 Patent by the manufacture, import and sale of Pfizer's NIVESTYM™ biosimilar filgrastim product, which was launched in the U.S. in October 2018.

Amgen Inc., et al. v. Hospira Inc. et al.

On March 4, 2020, Hospira and Pfizer filed a motion requesting the Delaware District Court to dismiss the complaint by Amgen Inc. and its wholly owned subsidiary, Amgen Manufacturing, Limited, alleging non-infringement of U.S. Patent No. 8,273,707. The motion has been fully briefed.

Fresenius PTAB Challenge

On March 30, 2020, Amgen filed its preliminary response to a petition to institute inter partes review before the PTAB to challenge the patentability of U.S. Patent No. 9,856,287 filed by Fresenius Kabi USA, LLC and Fresenius Kabi SwissBioSim GmbH, and the PTAB will have 3 months to render a decision on whether to institute trial proceedings.

EPOGEN® (epoetin alfa) Patent Litigation

Amgen Inc., et al. v. Hospira, Inc.

The Federal Circuit Court denied petition for rehearing *en banc* by Hospira and issued the mandate on March 23, 2020 affirming the final judgment of the Delaware District Court that Amgen's U.S. Patent No. 5,856,298 is valid and infringed by Hospira, that Amgen's U.S. Patent No. 5,756,349 is not infringed by Hospira, and awarding Amgen $70 million in damages for Hospira's infringement. On April 17, 2020, Amgen acknowledged satisfaction of judgment upon receipt of $83 million in damages, interest and cost.

Litigation relating to our Biosimilar Products

KANJINTI® (trastuzumab-anns) Patent Litigation

Genentech, Inc. v. Amgen Inc.

On March 6, 2020, the Federal Circuit Court affirmed the District Court's denial of Genentech Inc.'s (Genentech) motion for a preliminary injunction. On March 9, 2020, the Delaware District Court entered a *Markman* order construing a term of U.S. Patent No. 8,574,869 (the '869 Patent). On March 16, 2020, the Delaware District Court signed a joint stipulation and order vacating the April 20, 2020 trial date. On April 17, 2020, the Delaware District Court rescheduled the jury trial to begin on February 22, 2021.

MVASI® (bevacizumab-awwb) Patent Litigation

Genentech, Inc. and City of Hope v. Amgen Inc.

On February 19, 2020, Genentech filed its second amended complaint in the Delaware District Court, adding additional claims for legal and declaratory relief with respect to patents already in suit. On March 4, 2020, Amgen filed its second amended affirmative answer and counterclaims, adding affirmative defenses and counterclaims that the '869 Patent is unenforceable for inequitable conduct and unclean hands. On March 9, 2020, the Delaware District Court entered a *Markman* order construing a term of the '869 Patent.

Genentech, Inc. and City of Hope v. Immunex Rhode Island Corp. and Amgen Inc.

Argument before the Federal Circuit Court on Genentech's appeal of the Delaware District Court's denial of Genentech's motions for injunctive relief has been scheduled for June 3, 2020.

Breach of Contract Action

Cipla Ltd. et al. v. Amgen Inc.

On February 6, 2020, Amgen's motion was transferred to the U.S. Magistrate Judge for the District of Delaware for a recommendation. A hearing on the motion was held on April 28, 2020.

Novartis Pharma AG v. Amgen Inc.

On February 18, 2020, Novartis Pharma AG filed in the U.S. District Court for the Southern District of New York its answer and affirmative defenses to Amgen's second amended counterclaims.

Antitrust Class Action

Sensipar® Antitrust Class Actions

On February 6, 2020, the motions in the class action lawsuits against Amgen and various entities affiliated with Teva Pharmaceutical Industries Limited were transferred to the U.S. Magistrate Judge for the District of Delaware for a recommendation. A hearing on the motions was held on April 28, 2020.

The multidistrict litigation panel certified its conditional transfer order on February 6, 2020 transferring the additional class action lawsuit brought in the U.S. District Court for the Southern District of Florida, captioned *MSP Recovery Claims v. Amgen Inc., et al.*, to the Delaware District Court.

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

The following Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is intended to assist the reader in understanding Amgen's business. MD&A is provided as a supplement to and should be read in conjunction with our Annual Report on Form 10-K for the year ended December 31, 2019. Our results of operations discussed in MD&A are presented in conformity with GAAP. Amgen operates in one business segment: human therapeutics. Therefore, our results of operations are discussed on a consolidated basis.

Forward-looking statements

This report and other documents we file with the Securities and Exchange Commission (SEC) contain forward-looking statements that are based on current expectations, estimates, forecasts and projections about us, our future performance, our business, our beliefs and our management's assumptions. In addition, we, or others on our behalf, may make forward-looking statements in press releases, written statements or our communications and discussions with investors and analysts in the normal course of business through meetings, webcasts, phone calls and conference calls. Such words as "expect," "anticipate," "outlook," "could," "target," "project," "intend," "plan," "believe," "seek," "estimate," "should," "may," "assume" and "continue" as well as variations of such words and similar expressions are intended to identify such forward-looking statements. These statements are not guarantees of future performance and they involve certain risks, uncertainties and assumptions that are difficult to predict. We describe our respective risks, uncertainties and assumptions that could affect the outcome or results of operations in Item 1A. Risk Factors in Part II herein and in Part I, Item 1A. Risk Factors of our Annual Report on Form 10-K for the year ended December 31, 2019. We have based our forward-looking statements on our management's beliefs and assumptions based on information available to our management at the time the statements are made. We caution you that actual outcomes and results may differ materially from what is expressed, implied or forecasted by our forward-looking statements. Reference is made in particular to forward-looking statements regarding product sales, regulatory activities, clinical trial results, reimbursement, expenses, EPS, liquidity and capital resources, trends, planned dividends, stock repurchases, collaborations and effects of pandemics. Except as required under the federal securities laws and the rules and regulations of the SEC, we do not have any intention or obligation to update publicly any forward-looking statements after the distribution of this report, whether as a result of new information, future events, changes in assumptions or otherwise.

Overview

Amgen is a biotechnology company committed to unlocking the potential of biology for patients suffering from serious illnesses. A biotechnology pioneer since 1980, Amgen has grown to be one of the world's leading independent biotechnology companies, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential. In 2020, we are celebrating our 40th anniversary, continuing our history of focusing on innovative medicines that have the potential to be first-in-class molecules and that have a large-effect size on serious diseases.

Our principal products—those with the most significant annual commercial sales—are ENBREL, Prolia®, Neulasta®, XGEVA®, Otezla®, Aranesp®, KYPROLIS® and Repatha®. We also market a number of other products, including Nplate® (romiplostim), Vectibix® (panitumumab), Parsabiv®(etelcalcetide), EPOGEN®, Sensipar®/Mimpara®, KANJINTI®, MVASI®, EVENITY®(romosozumab-aqqg), BLINCYTO®, AMGEVITA™ (adalimumab), Aimovig® (erenumab-aooe), NEUPOGEN®, IMLYGIC® (talimogene laherparepvec) and Corlanor® (ivabradine).

COVID-19 pandemic

A novel strain of coronavirus (COVID-19) was declared a global pandemic by the World Health Organization on March 11, 2020. We have been carefully monitoring the COVID-19 pandemic and its impact on our global operations. We have taken appropriate steps to minimize the risk to our employees. Our employees have been working remotely with the exception of certain essential staff that continue to report to Amgen locations. The essential staff are primarily at our manufacturing sites, working in accordance with applicable government health and safety protocols and guidance issued in response to the COVID-19 pandemic, and are being paid a labor premium during this period. To date, our remote working arrangements have not significantly impacted our ability to maintain critical business operations. Further, we currently do not expect disruptions or shortages of our supply of medicine.

Since the beginning of the COVID-19 pandemic, we have seen changes in demand trends for some of our products, including lower demand for certain products as continuing patient access to those products has been impacted by COVID-19. For example, near the end of March, we began to observe a decline in sales of Prolia®, as elderly patients vulnerable to COVID-19 avoided doctors' offices. To respond to COVID-19, we are managing our clinical development on a case-by-case basis. Patients who are already enrolled in studies continue to receive study drug, including through direct-to-patient shipments. For those studies that have the potential for significant benefit in a serious or life-threatening condition and where site resources allow new patients to be enrolled safely and monitored closely, we are allowing enrollment to continue. For those clinical trials where there is uncertainty with regard to the trial sites' ability to ensure subject safety or data integrity at the present time, we have temporarily paused enrollment. We remain focused on supporting our active clinical sites in providing care for these patients and providing investigational drug supply. In addition, our R&D organization is supporting efforts to combat the pandemic in a number of ways including: (i) conducting a population-based study by our subsidiary deCODE Genetics in partnership with the Icelandic government, (ii) entering into a collaboration with Adaptive Biotechnologies to discover and develop antibody therapies for prevention or treatment options and (iii) joining a public-private partnership between leading companies in our industry and U.S. government health agencies to develop a strategy for a coordinated research response to the COVID-19 pandemic. Further, we anticipate that Otezla® will be investigated as a potential immunomodulatory treatment in adult patients with COVID-19 in upcoming platform trials.

We continue to believe that existing funds, cash generated from operations and existing sources of and access to financing are adequate to satisfy our needs for working capital, capital expenditures and debt service requirements as well as to engage in the capital return and other business initiatives that we plan to strategically pursue. To respond to some of the challenges experienced in the healthcare community as a result of the pandemic, we recently extended credit terms with certain customers for a subset of our products globally. For a discussion of the risks presented by the COVID-19 pandemic to our results, see Risk Factors in Part II, Item 1A of this Form 10-Q.

Significant developments

Following is a summary of selected significant developments affecting our business that have occurred since the filing of our Annual Report on Form 10-K for the year ended December 31, 2019. For additional developments or for a more comprehensive discussion of certain developments discussed below, see our Annual Report on Form 10-K for the year ended December 31, 2019.

Establishment of wholly-owned affiliate in Japan

- In April 2020, we completed our purchase from Astellas of the remaining shares of Amgen Astellas BioPharma K.K. (AABP), a joint venture between Amgen and Astellas established in 2013. AABP, now a wholly-owned Amgen affiliate in Japan and renamed Amgen K.K., has enabled us to build a strong presence in Japan as we continue to advance treatments for serious illnesses.

Selected financial information

The following is an overview of our results of operations (in millions, except percentages and per-share data):

	Three months ended March 31,		
	2020	2019	Change
Product sales			
U.S.	$ 4,279	$ 3,991	7 %
ROW	1,615	1,295	25 %
Total product sales	5,894	5,286	12 %
Other revenues	267	271	(1)%
Total revenues	$ 6,161	$ 5,557	11 %
Operating expenses	$ 3,806	$ 3,085	23 %
Operating income	$ 2,355	$ 2,472	(5)%
Net income	$ 1,825	$ 1,992	(8)%
Diluted EPS	$ 3.07	$ 3.18	(3)%
Diluted shares	594	626	(5)%

In the following discussion of changes in product sales, any reference to unit demand growth or decline refers to changes in the purchases of our products by healthcare providers (such as physicians or their clinics), dialysis centers, hospitals and pharmacies. In addition, any reference to increases or decreases in inventory refers to changes in inventory held by wholesaler customers and end users (such as pharmacies).

Total product sales increased for the three months ended March 31, 2020, driven primarily by sales from Otezla®, acquired in November 2019 and recently launched biosimilar products, offset partially by a decline in net selling price. For the remainder of 2020, we expect net selling price to continue to decline primarily on our legacy products. Further, since the beginning of the COVID-19 pandemic, we have seen changes in demand trends for some of our products, including lower demand for certain products as patient access to those products has been impacted by the pandemic. We expect this trend to continue to some extent through at least the duration of the pandemic. As discussed above, in response to the challenges being experienced by the healthcare community as a result of COVID-19, we have extended credit terms with certain customers for a subset of our products globally. In addition, a number of insurance plans (commercial and governmental) have been required to or have voluntarily covered 90-day prescription fills for a number of medicines including some of our products that are used in chronic conditions. As a result, there is increased uncertainty around the timing and magnitude of our sales during the COVID-19 pandemic.

Other revenues decreased slightly for the three months ended March 31, 2020, driven primarily by lower profit share payments, offset partially by higher royalties.

Operating expenses increased for the three months ended March 31, 2020, driven primarily by acquisition related expenses and the first full quarter of commercial-related support for Otezla®. For the remainder of 2020, we expect to continue to see the effects of our acquisition of Otezla® on our operating expenses, including increases to Cost of sales, R&D and Selling, general and administrative (SG&A) expenses.

Although changes in foreign currency exchange rates result in increases or decreases in our reported international product sales, the benefit or detriment that such movements have on our international product sales is offset partially by corresponding increases or decreases in our international operating expenses and our related foreign currency hedging activities. Our hedging activities seek to offset the impacts, both positive and negative, that foreign currency exchange rate changes may have on our net income by hedging our net foreign currency exposure, primarily with respect to product sales denominated in euros. The net impact from changes in foreign currency exchange rates was not material for the three months ended March 31, 2020 and 2019.

Results of operations

Product sales

Worldwide product sales were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2020	2019	Change
ENBREL	$ 1,153	$ 1,151	— %
Prolia®	654	592	10 %
Neulasta®	609	1,021	(40)%
XGEVA®	481	471	2 %
Otezla®	479	—	*
Aranesp®	422	414	2 %
KYPROLIS®	280	245	14 %
Repatha®	229	141	62 %
Other products	1,587	1,251	27 %
Total product sales	$ 5,894	$ 5,286	12 %

* Change in excess of 100%.

Future sales of our products will depend in part on the factors discussed below and in the following sections of our Annual Report on Form 10-K for the year ended December 31, 2019: (i) Item 1. Business—Marketing, Distribution and Selected Marketed Products, (ii) Item 1A. Risk Factors and (iii) Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Overview, and Results of Operations—Product Sales, as well as in our Quarterly Report on Form 10-Q for the period ended March 31, 2020, in Part II, Item 1A. Risk Factors.

ENBREL

Total ENBREL sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2020	2019	Change
ENBREL — U.S.	$ 1,117	$ 1,106	1 %
ENBREL — Canada	36	45	(20)%
Total ENBREL	$ 1,153	$ 1,151	— %

The slight increase in ENBREL sales for the three months ended March 31, 2020, was driven by favorable changes to estimated sales deductions and inventory, offset by lower unit demand and net selling price. For the remainder of 2020, we expect the trend of lower unit demand to continue.

In April 2019, the U.S. Food and Drug Administration (FDA) approved a second biosimilar version of ENBREL, and we are involved in patent litigations with the two companies seeking to market their FDA-approved biosimilar versions of ENBREL. See Note 13, Contingencies and commitments, to the condensed consolidated financial statements and Note 19, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2019. Other companies are also developing purposed biosimilar versions of ENBREL. Companies with approved biosimilar versions of ENBREL may seek to enter the U.S. market if we are not successful in our litigations, or even earlier.

Prolia®

Total Prolia® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2020	2019	Change
Prolia® — U.S.	$ 422	$ 390	8%
Prolia® — ROW	232	202	15%
Total Prolia®	$ 654	$ 592	10%

The increase in global Prolia® sales for the three months ended March 31, 2020, was driven by higher unit demand. Prolia®, which has a six-month dosing interval, has exhibited a historical sales pattern with the first and third quarters of a year representing lower sales than the second and fourth quarters of a year. However, disruptions in patient visits as a result of the COVID-19 pandemic have begun to impact near-term demand, which may result in changes to the historical sales pattern.

Neulasta®

Total Neulasta® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2020	2019	Change
Neulasta®— U.S.	$ 534	$ 893	(40)%
Neulasta®— ROW	75	128	(41)%
Total Neulasta®	$ 609	$ 1,021	(40)%

The decrease in global Neulasta® sales for the three months ended March 31, 2020, was driven by the impact of biosimilar competition on unit demand and lower net selling price. Neulasta® sales included a $98 million order from the U.S. government in the first quarter of 2019.

We face increased competition in the United States and Europe as a result of launches of biosimilar versions of Neulasta®, which has had and will continue to have a material adverse impact on sales. We also expect other biosimilar versions to be approved in the near future. For a discussion of ongoing patent litigations related to these and other biosimilars, see Note 13, Contingencies and commitments, to the condensed consolidated financial statements and Note 19, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2019.

XGEVA®

Total XGEVA® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2020	2019	Change
XGEVA® — U.S.	$ 355	$ 356	—%
XGEVA® — ROW	126	115	10%
Total XGEVA®	$ 481	$ 471	2%

The increase in global XGEVA® sales for the three months ended March 31, 2020, was driven by higher unit demand and net selling price, offset partially by unfavorable changes to estimated sales deductions and inventory.

Otezla®

Total Otezla® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2020	2019	Change
Otezla® — U.S.	$ 377	$ —	*
Otezla® — ROW	102	—	*
Total XGEVA®	$ 479	$ —	*

* Change in excess of 100%.

Otezla® was acquired on November 21, 2019 and generated $479 million in sales for the three months ended March 31, 2020.

Aranesp®

Total Aranesp® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2020	2019	Change
Aranesp® — U.S.	$ 175	$ 182	(4)%
Aranesp® — ROW	247	232	6 %
Total Aranesp®	$ 422	$ 414	2 %

The increase in global Aranesp® sales for the three months ended March 31, 2020, was driven by higher unit demand and favorable changes in inventory, offset by a decline in net selling price.

Aranesp® faces competition from a long-acting erythropoiesis-stimulating agent (ESA). Aranesp® also faces competition from a biosimilar version of EPOGEN®. Other biosimilar versions of EPOGEN ® may also receive approval in the future. For the remainder of 2020, we expect sales to decline at a faster rate than in 2019 due to short- and long-acting competition.

KYPROLIS®

Total KYPROLIS® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31, 2020		
	2020	2019	Change
KYPROLIS® — U.S.	$ 187	$ 154	21%
KYPROLIS® — ROW	93	91	2%
Total KYPROLIS®	$ 280	$ 245	14%

The increase in global KYPROLIS® sales for the three months ended March 31, 2020, was driven by higher unit demand and to a lesser extent an increase in net selling price.

We are engaged in litigation with two related companies that are challenging our material patents related to KYPROLIS® and that are seeking to market generic carfilzomib products. Separately, we have entered into confidential settlement agreements with other companies developing generic carfilzomib products, and the court has entered consent judgments enjoining those companies from infringing certain of our patents, subject to terms of the confidential settlement agreements. See Note 13, Contingencies and commitments, to the condensed consolidated financial statements and Note 19, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2019. The FDA has reported that it has tentatively approved ANDAs filed by two companies for generic carfilzomib products. The date of final approval of those ANDAs is governed by the Hatch-Waxman Act and any applicable settlement agreements between the parties.

Repatha®

Total Repatha® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31, 2020		
	2020	2019	Change
Repatha® — U.S.	$ 124	$ 83	49%
Repatha® — ROW	105	58	81%
Total Repatha®	$ 229	$ 141	62%

The increase in global Repatha® sales for the three months ended March 31, 2020, was driven primarily by higher unit demand, offset partially by lower net selling price.

Other products

Other product sales by geographic region were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2020	2019	Change
Nplate®— U.S.	$ 127	$ 114	11 %
Nplate®— ROW	91	75	21 %
Vectibix®— U.S.	80	78	3 %
Vectibix®— ROW	122	92	33 %
Parsabiv® — U.S.	146	109	34 %
Parsabiv® — ROW	29	17	71 %
EPOGEN® — U.S.	155	219	(29)%
Sensipar® — U.S.	42	135	(69)%
Sensipar®/Mimpara® — ROW	81	78	4 %
KANJINTI®— U.S.	96	—	*
KANJINTI®— ROW	23	24	(4)%
MVASI®— U.S.	108	—	*
MVASI®— ROW	7	—	*
EVENITY® — U.S.	37	—	*
EVENITY®— ROW	63	17	*
BLINCYTO® — U.S.	57	40	43 %
BLINCYTO® — ROW	37	29	28 %
AMGEVITA™ — ROW	86	31	*
Aimovig® — U.S.	71	59	20 %
NEUPOGEN®— U.S.	45	50	(10)%
NEUPOGEN®— ROW	20	23	(13)%
Other — U.S.	24	23	4 %
Other — ROW	40	38	5 %
Total other products	$ 1,587	$ 1,251	27 %
Total U.S. — other products	$ 988	$ 827	19 %
Total ROW — other products	599	424	41 %
Total other products	$ 1,587	$ 1,251	27 %

* Change in excess of 100%.

Operating expenses

Operating expenses were as follows (dollar amounts in millions):

	Three months ended March 31,		
	2020	2019	Change
Operating expenses:			
Cost of sales	$ 1,513	$ 1,055	43%
% of product sales	25.7%	20.0%	
% of total revenues	24.6%	19.0%	
Research and development	$ 952	$ 879	8%
% of product sales	16.2%	16.6%	
% of total revenues	15.5%	15.8%	
Selling, general and administrative	$ 1,316	$ 1,154	14%
% of product sales	22.3%	21.8%	
% of total revenues	21.4%	20.8%	
Other	$ 25	$ (3)	*

* Change in excess of 100%.

Cost of sales

Cost of sales increased to 24.6% of total revenues for the three months ended March 31, 2020, driven primarily by the amortization of intangible assets as a result of our acquisition of Otezla® and an increase in milestone payments, offset partially by lower manufacturing costs.

Research and development

The increase in R&D expenses for the three months ended March 31, 2020, was driven by higher late-stage program support for our oncology programs, primarily AMG 510 (sotorasib), along with Otezla® and higher marketed-product support for Otezla®, offset partially by recoveries from our collaboration with BeiGene that reduced other expenses in late-stage program support and in research and early pipeline.

Selling, general and administrative

The increase in SG&A expenses for the three months ended March 31, 2020, was driven primarily by the first full quarter of Otezla® commercial-related expenses.

Other

Other operating expenses for the three months ended March 31, 2020, consisted of an impairment charge for an early-stage program. Other operating expenses for the three months ended March 31, 2019, included changes in the fair value of contingent consideration and certain net charges related to our restructuring plan.

See the Overview and Selected financial information sections above for discussion of impacts to operating expenses from the COVID-19 pandemic.

Nonoperating expense/income and income taxes

Nonoperating expense/income and income taxes were as follows (dollar amounts in millions):

	Three months ended March 31,	
	2020	2019
Interest expense, net	$ 346	$ 343
Interest and other income, net	$ 11	$ 185
Provision for income taxes	$ 195	$ 322
Effective tax rate	9.7%	13.9%

Interest expense, net

The increase in Interest expense, net, for the three months ended March 31, 2020, was due primarily to early debt retirement costs, offset partially by realized gains upon the termination of associated interest rate swaps, a reduction in outstanding long-term debt and lower LIBOR rates on floating-rate debt.

Interest and other income, net

The decrease in Interest and other income, net, for the three months ended March 31, 2020 was due primarily to reduced interest income as a result of lower average cash balances and a decline in interest yields.

Income taxes

The decrease in our effective tax rate for the three months ended March 31, 2020, was due primarily to amortization related to the Otezla® acquisition, changes in jurisdictional mix of earnings and certain favorable items in the quarter.

On March 27, 2020, in response to the COVID-19 pandemic, the president of the United States signed the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which provides additional economic stimulus to address the impact of the COVID-19 pandemic. We do not expect there to be any significant benefit to our income tax provision as a result of the CARES Act, and we continue to closely monitor the impact of the COVID-19 pandemic, as well as any effects that may result from the CARES Act or future legislation.

As previously disclosed, we received an RAR from the IRS for the years 2010, 2011 and 2012. The RAR proposes to make significant adjustments that relate primarily to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico. In November 2017, we received a modified RAR that revised the IRS's calculations but continued to propose substantial adjustments. We disagree with the proposed adjustments and calculations and are pursuing resolution with the IRS administrative appeals office, which currently has jurisdiction over the matter. If we deem necessary, we will vigorously contest the proposed adjustments through the judicial process. In addition, in April, we received draft NOPAs from the IRS for the years 2013, 2014 and 2015, which are similar to the proposed adjustments for the years 2010, 2011 and 2012 that relate primarily to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico. We disagree with the proposed adjustments and calculations and intend to contest them. Final resolution of these complex matters is not likely within the next 12 months and could have a material impact on our condensed consolidated financial statements. We believe our accrual for income tax liabilities is appropriate based on past experience, interpretations of tax law and judgments about potential actions by tax authorities; however, due to the complexity of the provision for income taxes, the ultimate resolution of any tax matters may result in payments substantially greater or less than amounts accrued.

See Note 3, Income taxes, to the condensed consolidated financial statements for further discussion.

Financial condition, liquidity and capital resources

Selected financial data was as follows (in millions):

	March 31, 2020	December 31, 2019
Cash, cash equivalents and marketable securities	$ 8,012	$ 8,911
Total assets	$ 61,669	$ 59,707
Current portion of long-term debt	$ 1,840	$ 2,953
Long-term debt	$ 30,008	$ 26,950
Stockholders' equity	$ 9,485	$ 9,673

Cash, cash equivalents and marketable securities

We have global access to our $8.0 billion balance of cash, cash equivalents and marketable securities. The primary objective of our investment portfolio is to maintain safety of principal, prudent levels of liquidity and acceptable levels of risk. Our investment policy limits interest-bearing security investments to certain types of debt and money market instruments issued by institutions with primarily investment-grade credit ratings, and it places restrictions on maturities and concentration by asset class and issuer.

Capital allocation

Consistent with the objective to optimize our capital structure, we deploy our accumulated cash balances in a strategic manner and consider a number of alternatives, including strategic transactions (including those that expand our portfolio of products in areas of therapeutic interest), repayment of debt, payment of dividends and stock repurchases.

We intend to continue to invest in our business while returning capital to stockholders through the payment of cash dividends and stock repurchases, thereby reflecting our confidence in the future cash flows of our business. The timing and amount of future dividends and stock repurchases will vary based on a number of factors, including future capital requirements for strategic transactions, availability of financing on acceptable terms, debt service requirements, our credit rating, changes to applicable tax laws or corporate laws, changes to our business model and periodic determination by our Board of Directors that cash dividends and/or stock repurchases are in the best interests of stockholders and are in compliance with applicable laws and the Company's agreements. In addition, the timing and amount of stock repurchases may also be affected by our overall level of cash, stock price and blackout periods, during which we are restricted from repurchasing stock. The manner of stock repurchases may include private block purchases, tender offers and market transactions.

In December 2019, the Board of Directors declared a quarterly cash dividend of $1.60 per share of common stock, an increase of 10% from the cash dividend paid in each of the previous four quarters, which was paid on March 6, 2020. In March 2020, the Board of Directors declared a quarterly cash dividend of $1.60 per share of common stock, which will be paid on June 8, 2020.

We have also returned capital to stockholders through our stock repurchase program. During the three months ended March 31, 2020, we executed trades to repurchase $933 million of common stock. As of March 31, 2020, $5.5 billion of authorization remained available under our stock repurchase program.

As a result of stock repurchases and quarterly dividend payments, we have an accumulated deficit as of March 31, 2020 and December 31, 2019. Our accumulated deficit is not expected to affect our future ability to operate, repurchase stock, pay dividends or repay our debt given our continuing profitability and strong financial position.

We believe that existing funds, cash generated from operations and existing sources of and access to financing are adequate to satisfy our needs for working capital, capital expenditure and debt service requirements, our plans to pay dividends and repurchase stock and other business initiatives we plan to strategically pursue, including acquisitions and licensing activities. We anticipate that our liquidity needs can be met through a variety of sources, including cash provided by operating activities, sales of marketable securities, borrowings through commercial paper and/or syndicated credit facilities and access to other domestic and foreign debt markets and equity markets. See our Annual Report on Form 10-K for the year ended December 31, 2019, Part I, Item 1A. Risk Factors—*Global economic conditions may negatively affect us and may magnify certain risks that affect our business*.

Certain of our financing arrangements contain nonfinancial covenants. In addition, our revolving credit agreement includes a financial covenant, which requires that we maintain a specified minimum interest coverage ratio of (i) the sum of consolidated net income, interest expense, provision for income taxes, depreciation expense, amortization expense, unusual or nonrecurring charges and other noncash items (Consolidated EBITDA) to (ii) Consolidated Interest Expense, each as defined and described in the credit agreement. We were in compliance with all applicable covenants under these arrangements as of March 31, 2020.

Cash flows

Our summarized cash flow activity was as follows (in millions):

	Three months ended March 31,	
	2020	2019
Net cash provided by operating activities	$ 2,134	$ 1,845
Net cash (used in) provided by investing activities	$ (230)	$ 3,555
Net cash used in financing activities	$ (254)	$ (4,987)

Operating

Cash provided by operating activities is expected to be our primary recurring source of funds. Cash provided by operating activities during the three months ended March 31, 2020, increased compared with the same period in the prior year due primarily to monetization of interest rate swap contracts, a decrease in sales deductions paid to customers and lower corporate partner payments, offset partially due to timing of collections from customers as a result of our recent acquisition of Otezla®.

Investing

Cash used in investing activities during the three months ended March 31, 2020, was due primarily to our $2.6 billion equity investment in BeiGene, offset substantially by net cash inflows related to marketable securities of $2.6 billion. Cash provided by investing activities during the three months ended March 31, 2019, was due primarily to net cash inflows related to marketable securities of $3.7 billion. Capital expenditures for the three months ended March 31, 2020 and 2019, were $142 million and $116 million, respectively. We now estimate reduced 2020 spending on capital projects of approximately $600 million versus our prior projection of $700 million due to a change in timing from the COVID-19 pandemic.

Financing

Cash used in financing activities during the three months ended March 31, 2020, was due primarily to repayment of debt of $3.3 billion, payments to repurchase our common stock of $961 million and payment of dividends of $945 million, offset by net proceeds from the issuance of debt of $5.0 billion. Cash used in financing activities during the three months ended March 31, 2019, was due primarily to payments to repurchase our common stock of $3.0 billion, repayment of debt of $1.0 billion and payment of dividends of $901 million. See Note 9, Financing arrangements, and Note 10, Stockholders' equity, to the condensed consolidated financial statements for further discussion.

Critical accounting policies

The preparation of our condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and the notes to the financial statements. Some of those judgments can be subjective and complex, and therefore, actual results could differ materially from those estimates under different assumptions or conditions. A summary of our critical accounting policies is presented in Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, of our Annual Report on Form 10-K for the year ended December 31, 2019.

During the three months ended March 31, 2020, our critical accounting policies were changed to include our assessment of impairment of equity method investments. We review the carrying value of our equity method investments whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. We record impairment losses on our equity method investments if we deem the impairment to be other-than-temporary. We deem an impairment to be other-than-temporary based on various factors, including but not limited to, the length of time and the extent to which the fair value is below the carrying value, volatility of the security price, the financial condition of the issuer, changes in technology that may impair the earnings potential of the investment and our intent and ability to retain the investment to allow for a recovery in fair value. We believe our judgments used in assessing impairment of equity method investments are based on reasonable assumptions given the facts and circumstances as of the related dates of the assessments.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Information about our market risk is disclosed in Part II, Item 7A. Quantitative and Qualitative Disclosures About Market Risk, of our Annual Report on Form 10-K for the year ended December 31, 2019, and is incorporated herein by reference. Except as noted below, there have been no material changes during the three months ended March 31, 2020, to the information provided in Part II, Item 7A. Quantitative and Qualitative Disclosures About Market Risk, of our Annual Report on Form 10-K for the year ended December 31, 2019.

During the three months ended March 31, 2020, we issued $5.0 billion in long-term debt with a weighted-average maturity of approximately 17 years and redeemed/repaid approximately $3.3 billion of debt, all with maturities of less than two years. These changes increased the sensitivity of fluctuations in fair value of our outstanding long-term debt resulting from changes in market interest rates. A hypothetical 100 basis point decrease in interest rates relative to interest rates at March 31, 2020 and December 31, 2019, would have resulted in increases of $3.7 billion and $3.0 billion, respectively, in the aggregate fair values of our outstanding long-term debt on each of these dates. These amounts do not consider the impact that hypothetical changes in interest rates would have on our associated interest rate swap and cross-currency swap contracts.

During the three months ended March 31, 2020, we terminated interest rate swaps with an aggregate notional amount of $5.2 billion with respect to certain of our long-term debt, which resulted in the receipt of $576 million of cash and reduced counterparty credit risk. Immediately following termination of these contracts, we entered into new interest rate swap agreements at then-current interest rates on the same $5.2 billion principal amount of notes. See Note 9, Financing arrangements, and Note 12, Derivative instruments, to the condensed consolidated financial statements for further discussion.

Item 4. CONTROLS AND PROCEDURES

We maintain “disclosure controls and procedures,” as such term is defined under the Securities Exchange Act Rule 13a-15(e), that are designed to ensure that information required to be disclosed in Amgen’s Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to Amgen’s management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures. In designing and evaluating the disclosure controls and procedures, Amgen’s management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives and, in reaching a reasonable level of assurance, Amgen’s management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. We have carried out an evaluation under the supervision and with the participation of our management, including Amgen’s Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of Amgen’s disclosure controls and procedures. Based upon their evaluation and subject to the foregoing, the Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of March 31, 2020.

Management determined that, as of March 31, 2020, there were no changes in our internal control over financial reporting that occurred during the fiscal quarter then ended that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. LEGAL PROCEEDINGS

See Note 13, Contingencies and commitments, to the condensed consolidated financial statements included in our Quarterly Report on Form 10-Q for the period ended March 31, 2020, for discussions that are limited to certain recent developments concerning our legal proceedings. Those discussions should be read in conjunction with Note 19, Contingencies and commitments, to the consolidated financial statements in Part IV of our Annual Report on Form 10-K for the year ended December 31, 2019.

Item 1A. RISK FACTORS

This report and other documents we file with the SEC contain forward-looking statements that are based on current expectations, estimates, forecasts and projections about us, our future performance, our business, our beliefs and our management's assumptions. These statements are not guarantees of future performance, and involve certain risks, uncertainties and assumptions that are difficult to predict. You should carefully consider the risks and uncertainties our business faces. We have described in our Annual Report on Form 10-K for the year ended December 31, 2019, the primary risks related to our business, and we periodically update those risks for material developments. Those risks are not the only ones we face. Our business is also subject to the risks that affect many other companies, such as employment relations, general economic conditions, geopolitical events, international operations and the effects of pandemics. Further, additional risks not currently known to us or that we currently believe are immaterial may in the future materially and adversely affect our business, operations, liquidity and stock price.

Below, we are providing, in supplemental form, the material changes to our risk factors that occurred during the past quarter. Our risk factors disclosed in Part I, Item 1A, of our Annual Report, on Form 10-K for the year ended December 31, 2019, provide additional disclosure for these supplemental risks and are incorporated herein by reference.

The COVID-19 pandemic, and the public and governmental effort to mitigate against the spread of the disease, have had, and are expected to continue to have, an adverse effect, and may have a material adverse effect, on our clinical trials, operations, supply chains, distribution systems, product development, product sales, business and results of operations.

The novel coronavirus identified in late 2019, SARS-CoV-2, which causes the disease known as COVID-19, is an ongoing global pandemic that has resulted in public and governmental efforts to contain or slow the spread of the disease, including widespread shelter-in-place orders, social distancing interventions, quarantines, travel restrictions and various forms of operational shutdowns. The COVID-19 pandemic and the resulting measures implemented in response to the pandemic is adversely affecting, and is expected to continue to adversely affect, a number of our business activities (including our clinical trials, operations, supply chains, distribution systems, product development and sales) as well as our suppliers, customers, third-party payers and patients. Due to these measures and their effects, we have experienced, and expect to continue to experience, unpredictable reductions in demand for certain of our products, and, in some cases, have experienced, and could continue to experience, unpredictable increases in demand for certain of our products.

Our clinical trials have been, and are expected to continue to be, adversely affected by the COVID-19 pandemic. We have clinical work ongoing at investigational sites across around the globe. An increasing number of clinical trial sites have restricted site visits and have imposed restrictions on the initiation of new clinical trials and patient visits, to protect both site staff and patients from possible COVID-19 exposure. In response to the safety concerns related to COVID-19, we have suspended enrollment and screening in clinical trials where sites are unable to perform clinical trial work due to COVID-19 or there is uncertainty around the ability of sites to ensure subject safety or data integrity. Further, the COVID-19 pandemic is expected to adversely affect our ability to continue enrollment of certain required post-marketing studies, including pediatric studies. The disruption caused by the COVID-19 pandemic to our clinical trials and our clinical trial plans and timelines may have a significant adverse effect on our product development and launches, and, in turn, on future product sales, business and results of operations. For example, we reported a pause in enrollment of our AMG 510 (sotorasib) Phase 1 combination study with Keytruda and Phase 3 confirmatory study to ensure patient safety and that such pause may impact the timelines of these studies. Additionally, while we are investing in research and collaborations to potentially develop treatments for COVID-19, such activities may not result in therapeutic candidates, product approvals and/or significant commercial value being derived from potential COVID-19-related medicines.

We anticipate that the COVID-19 pandemic may result in regulatory delays, including delays in receiving regulatory advice, reviews of applications, or performance of inspections required for approvals. The pandemic may also result in greater regulatory uncertainty. For example, the FDA and the European Medicines Agency have issued guidance to provide biopharmaceutical manufacturers greater flexibility in certain regulatory areas, including protocol deviations and adverse event reporting. However, such flexibility may result in greater uncertainty regarding the expectations of such health authorities in relation to this guidance. Additionally, there may be delays in ongoing or new patent office or court patent proceedings in the U.S. or internationally that may delay the outcome of such proceedings. Such delays and disruptions may have a significant adverse effect on our product development and launches, product sales, business and results of operations.

In response to COVID-19, we have activated our business continuity plans, including suspending all U.S. in-person meetings and interactions with the healthcare community and professionals, all international business travel and the majority of domestic travel within the U.S. and all U.S. employees who are able to work from home have been doing so since mid-March 2020. Our ability to perform critical functions and maintain operations could be adversely affected as a result of such workforce restrictions, and the COVID-19-related support programs we have put into place for our staff, suppliers and customers are increasing our operating expenses and reducing the efficiency of our operations. Additionally, disruptions in public and private infrastructure, including transportation and supply chains, have further adversely affected the efficiency of our business operations. Also, the transition of the majority of our workforce to a remote work environment in response to COVID-19, as have a number of our third-party service providers, may exacerbate certain risks to our business, including an increased demand for information technology resources, increased risk of social engineering and other cybersecurity attacks, and increased risk of unauthorized dissemination of sensitive personal information or proprietary or confidential information about us or our service providers or other third-parties. For example, in April 2020, a vendor that provides information technology services to us experienced a cybersecurity incident that required us to disconnect our systems from this vendor. While we do not believe this cybersecurity incident has had a significant adverse effect on our operations, an extended service outage, particularly where a vendor is the single source from which we obtain services, or where a cybersecurity incident significantly affects the operation of our systems, could have a material adverse effect on our business. We may experience significant adverse effects on our commercial and clinical manufacturing activities, our operations, and our cybersecurity, and our suppliers and vendors may experience significant disruptions to their manufacturing activities and operations, and cybersecurity, as a result of the COVID-19 pandemic.

Federal, state and local, and international governmental policies and initiatives designed to reduce the transmission of COVID-19 also have resulted in the cancellation of diagnostic, elective, specialty and other procedures and appointments to avoid non-essential patient exposure to medical environments and potential infection with COVID-19 and to focus limited resources and personnel capacity toward the treatment of COVID-19. These measures and challenges will likely continue for the duration of the pandemic, which is uncertain, and have significantly reduced patient access to and administration of certain of our drugs. For example, Prolia® is a product requiring administration by a healthcare provider in doctors' offices or other healthcare settings that are affected by COVID-19. The U.S. label for Prolia® instructs healthcare professionals who discontinue Prolia® to transition the patient to an alternative antiresorptive, including oral treatments that do not require administration by a healthcare provider. Further, as a result of COVID-19, oncology patients, in consultation with their doctors, may be selecting less immunosuppressive therapies or therapies that do not require administration in a hospital setting, potentially adversely affecting certain of our products. Our general medicine products have benefited from 90-day supply availability for existing patients but new patients are less likely to be diagnosed and/or to start these therapeutics during the pandemic. Once the pandemic subsides, we anticipate there will be a substantial backlog of patients seeking appointments with physicians relating to a variety of medical conditions, and as a result, patients seeking treatment with certain of our products may have to navigate limited provider capacity and this limited provider capacity could have a continued adverse effect on our sales following the end of the pandemic. Further, the effects of the COVID-19 pandemic may result in long-term shifts in preferences among healthcare professionals and patients toward treatments that do not require administration by healthcare professionals or visits to medical facilities.

The legislative and regulatory environment governing our businesses is dynamic and changing frequently in response to COVID-19. Several states have taken action to help patients maintain access to prescription drugs during the COVID-19 pandemic including requiring state-regulated commercial plans to cover 90-day fills and emergency fills in certain circumstances. At the federal level, legislation has been proposed seeking to incentivize greater drug manufacturing in the United States with the stated goal of improving supply reliability in the United States. One such legislative proposal would prohibit the U.S. Department of Veterans Affairs from purchasing certain drugs that have active pharmaceutical ingredients manufactured outside the United States. While we perform a substantial majority of our commercial manufacturing activities in the U.S., including in the U.S. territory of Puerto Rico, and a substantial majority of our clinical manufacturing activities at our facility in Thousand Oaks, California, the passage of such legislation could result in foreign governments enacting retaliatory legislation or regulatory actions, which may have an adverse effect on our product sales, business and results of operations internationally. The COVID-19 pandemic has also resulted in increased interest in compulsory licenses, march-in rights or other governmental interventions, both in the U.S. and internationally, related to the procurement of drugs. Pursuant to the declaration of a national emergency in March 2020 under the Stafford Act, state and local governments may request access to discounted pricing for certain items related to the COVID-19 response. The CARES Act implements initiatives to provide advanced payments from Medicare to healthcare providers, clinics and physicians and to require Medicare plans to provide up to a 90-day supply of Part D drugs. However, despite such initiatives and government support, there may be adverse effects on the timing and collectability of our customer receivables as a result of the COVID-19 pandemic. The COVID-19 pandemic has also resulted in a significant increase in unemployment in the United States which may continue after the pandemic. Such a significant increase in unemployment is expected to lead to a substantial reduction in disposable income and access to health insurance which could adversely affect our product sales. Further, the substantial pressures placed on governmental and payor budgets as a result of the COVID-19 pandemic and the projected governmental budget shortfalls caused by significantly reduced economic activity during and potentially after the COVID-19 pandemic may result in greater and continued downward price pressure on biopharmaceutical products and increased intensity of stakeholder negotiations across the biopharmaceutical value chain.

In recent weeks, the continued global spread of COVID-19 has also led to disruption and volatility in the global capital markets. We have certain assets, including equity investments, that are exposed to market fluctuations that could, in a sustained market disruption, result in impairments. Further, the economic downturn resulting from this global pandemic may be of an extended duration and precipitate a global recession.

If the pandemic continues and conditions worsen, we expect to experience additional adverse effects on our operational and commercial activities, customer purchases and our collections of accounts receivable, which adverse effects may be material, and it remains uncertain the degree to which these adverse effects would impact our future operational and commercial activities, customer purchases and our collections even if conditions begin to improve. In addition to existing travel restrictions, jurisdictions may continue to close borders, impose prolonged quarantines and further restrict travel and business activity, which could significantly affect our ability to support our operations and customers and the ability of our employees to get to their workplaces to discover, study, develop and produce our product candidates and products, and disrupt the movement of our products through the supply chain. Further, in connection with the global outbreak and spread of COVID-19 and in an effort to increase the wider availability of needed medical products, we or our suppliers may elect to, or governments may require us, or our suppliers to, allocate manufacturing capacity (for example pursuant to the U.S. Defense Production Act) in a way that adversely affects our regular operations, customer relationships, and financial results. In addition, unpredictable increases in demand for certain of our products could exceed our capacity to meet such demand, which could adversely affect our financial results and customer relationships.

The rapid development and fluidity of this situation precludes any prediction as to the ultimate effect on us of COVID-19. The duration of the measures being taken by the authorities to mitigate against the spread of COVID-19, and the extent to which such measures are effective, if at all, remain highly uncertain. We believe the magnitude and degree of COVID-19's adverse effect on our product development, product sales, businesses, operating results, cash flows and financial condition will be driven by the severity and duration of the pandemic, the pandemic's effect on the U.S. and global economies and the timing, scope and effectiveness of federal, state, local and international governmental responses to the pandemic. However, if the spread continues on at or near, its current trajectory or mitigation continues to require similar levels of shelter-in-place and shut-down orders, such effect will grow and our product development, product sales, business, results of operations, cash flows and financial position could be materially adversely affected.

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

During the three months ended March 31, 2020, we had one outstanding stock repurchase program, under which the repurchase activity was as follows:

Period	Total number of shares purchased	Average price paid per share [1]	Total number of shares purchased as part of publicly announced program	Maximum dollar value that may yet be purchased under the program[2]
January 1 - 31	1,362,200	$ 233.67	1,362,200	$ 6,155,729,344
February 1 - 29	1,707,100	$ 220.32	1,707,100	$ 5,779,612,845
March 1 - 31	1,184,327	$ 201.66	1,184,327	$ 5,540,776,983
Total	4,253,627	$ 219.40	4,253,627	

(1) Average price paid per share includes related expenses.

(2) In December 2019, our Board of Directors increased the amount authorized under our stock repurchase program by an additional $4.0 billion.

Item 6. EXHIBITS

Reference is made to the Index to Exhibits included herein.

INDEX TO EXHIBITS

Exhibit No.	Description
2.1	Asset Purchase Agreement, dated August 25, 2019, by and between Amgen Inc. and Celgene Corporation. (Filed as an exhibit to Form 8-K on August 26, 2019 and incorporated herein by reference.)
2.2	Amendment No. 1 to the Asset Purchase Agreement, dated October 17, 2019, by and between Amgen Inc. and Celgene Corporation. (Filed as an exhibit to Form 8-K on October 17, 2019 and incorporated herein by reference.)
2.3	Amendment No. 2 to the Asset Purchase Agreement, dated October 17, 2019, by and between Amgen Inc. and Celgene Corporation. (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
2.4	Letter Agreement, dated November 21, 2019, by and between Amgen Inc. and the parties named therein re: Treatment of Certain Product Inventory in connection with Amgen's acquisition of Otezla®. (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
2.5	Irrevocable Guarantee, dated August 25, 2019, by and between Amgen Inc. and Bristol-Myers Squibb Company. (Filed as an exhibit to Form 8-K on August 26, 2019 and incorporated herein by reference.)
3.1	Restated Certificate of Incorporation of Amgen Inc. (As Restated March 6, 2013.) (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2013 on May 3, 2013 and incorporated herein by reference.)
3.2	Amended and Restated Bylaws of Amgen Inc. (As Amended and Restated February 15, 2016.) (Filed as an exhibit to Form 8-K on February 17, 2016 and incorporated herein by reference.)
4.1	Form of stock certificate for the common stock, par value $.0001 of the Company. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 1997 on May 14, 1997 and incorporated herein by reference.)
4.2	Form of Indenture, dated January 1, 1992. (Filed as an exhibit to Form S-3 Registration Statement filed on December 19, 1991 and incorporated herein by reference.)
4.3	Agreement of Resignation, Appointment and Acceptance dated February 15, 2008. (Filed as an exhibit to Form 10-K for the year ended December 31, 2007 on February 28, 2008 and incorporated herein by reference.)
4.4	First Supplemental Indenture, dated February 26, 1997. (Filed as an exhibit to Form 8-K on March 14, 1997 and incorporated herein by reference.)
4.5	8-1/8% Debentures due April 1, 2097. (Filed as an exhibit to Form 8-K on April 8, 1997 and incorporated herein by reference.)
4.6	Officer's Certificate of Amgen Inc., dated April 8, 1997, establishing a series of securities entitled "8 1/8% Debentures due April 1, 2097." (Filed as an exhibit to Form 8-K on April 8, 1997 and incorporated herein by reference.)
4.7	Indenture, dated August 4, 2003. (Filed as an exhibit to Form S-3 Registration Statement on August 4, 2003 and incorporated herein by reference.)
4.8	Corporate Commercial Paper - Master Note between and among Amgen Inc., as Issuer, Cede & Co., as Nominee of The Depository Trust Company, and Citibank, N.A., as Paying Agent. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 1998 on May 13, 1998 and incorporated herein by reference.)
4.9	Officers' Certificate of Amgen Inc., dated May 30, 2007, including form of the Company's 6.375% Senior Notes due 2037. (Filed as an exhibit to Form 8-K on May 30, 2007 and incorporated herein by reference.)
4.10	Officers' Certificate of Amgen Inc., dated May 23, 2008, including form of the Company's 6.90% Senior Notes due 2038. (Filed as exhibit to Form 8-K on May 23, 2008 and incorporated herein by reference.)
4.11	Officers' Certificate of Amgen Inc., dated January 16, 2009, including form of the Company's 6.40% Senior Notes due 2039. (Filed as exhibit to Form 8-K on January 16, 2009 and incorporated herein by reference.)
4.12	Officers' Certificate of Amgen Inc., dated March 12, 2010, including form of the Company's 5.75% Senior Notes due 2040. (Filed as exhibit to Form 8-K on March 12, 2010 and incorporated herein by reference.)
4.13	Officers' Certificate of Amgen Inc., dated September 16, 2010, including form of the Company's 4.95% Senior Notes due 2041. (Filed as an exhibit to Form 8-K on September 17, 2010 and incorporated herein by reference.)

4.14	Officers' Certificate of Amgen Inc., dated June 30, 2011, including form of the Company's 5.65% Senior Notes due 2042. (Filed as an exhibit to Form 8-K on June 30, 2011 and incorporated herein by reference.)
4.15	Officers' Certificate of Amgen Inc., dated November 10, 2011, including forms of the Company's 3.875% Senior Notes due 2021 and 5.15% Senior Notes due 2041. (Filed as an exhibit to Form 8-K on November 10, 2011 and incorporated herein by reference.)
4.16	Officers' Certificate of Amgen Inc., dated December 5, 2011, including form of the Company's 5.50% Senior Notes due 2026. (Filed as an exhibit to Form 8-K on December 5, 2011 and incorporated herein by reference.)
4.17	Officers' Certificate of Amgen Inc., dated May 15, 2012, including forms of the Company's 3.625% Senior Notes due 2022 and 5.375% Senior Notes due 2043. (Filed as an exhibit to Form 8-K on May 15, 2012 and incorporated herein by reference.)
4.18	Officers' Certificate of Amgen Inc., dated September 13, 2012, including form of the Company's 4.000% Senior Notes due 2029. (Filed as an exhibit to Form 8-K on September 13, 2012 and incorporated herein by reference.)
4.19	Indenture, dated May 22, 2014, between Amgen Inc. and The Bank of New York Mellon Trust Company, N.A., as Trustee. (Filed as an exhibit to Form 8-K on May 22, 2014 and incorporated herein by reference.)
4.20	Officers' Certificate of Amgen Inc., dated May 22, 2014, including form of the Company's 3.625% Senior Notes due 2024. (Filed as an exhibit to Form 8-K on May 22, 2014 and incorporated herein by reference.)
4.21	Officer's Certificate of Amgen Inc., dated May 1, 2015, including forms of the Company's 2.125% Senior Notes due 2020, 2.700% Senior Notes due 2022, 3.125% Senior Notes due 2025 and 4.400% Senior Notes due 2045. (Filed as an exhibit on Form 8-K on May 1, 2015 and incorporated herein by reference.)
4.22	Officer's Certificate of Amgen Inc., dated as of February 25, 2016, including forms of the Company's 1.250% Senior Notes due 2022 and 2.000% Senior Notes due 2026. (Filed as an exhibit on Form 8-K on February 26, 2016 and incorporated herein by reference.)
4.23	Form of Permanent Global Certificate for the Company's 0.410% bonds due 2023. (Filed as an exhibit on Form 8-K on March 8, 2016 and incorporated herein by reference.)
4.24	Terms of the Bonds for the Company's 0.410% bonds due 2023. (Filed as an exhibit on Form 8-K on March 8, 2016 and incorporated herein by reference.)
4.25	Officer's Certificate of Amgen Inc., dated as of June 14, 2016, including forms of the Company's 4.563% Senior Notes due 2048 and 4.663% Senior Notes due 2051. (Filed as an exhibit to Form 8-K on June 14, 2016 and incorporated herein by reference.)
4.26	Officer's Certificate of Amgen Inc., dated as of August 19, 2016, including forms of the Company's 2.250% Senior Notes due 2023 and 2.600% Senior Notes due 2026. (Filed as an exhibit to Form 8-K on August 19, 2016 and incorporated herein by reference.)
4.27	Officer's Certificate of Amgen Inc., dated as of May 11, 2017 including forms of the Company's Senior Floating Rate Notes due 2020, 2.200% Senior Notes due 2020 and 2.650% Senior Notes due 2022. (Filed as an exhibit to Form 8-K on May 11, 2017 and incorporated herein by reference.)
4.28	Officer's Certificate of Amgen Inc., dated as of November 2, 2017, including in the form of the Company's 3.200% Senior Notes due 2027. (Filed as an exhibit to Form 8-K on November 2, 2017 and incorporated herein by reference.)
4.29	Officer's Certificate of Amgen Inc., dated as of February 21, 2020, including in the forms of the Company's 1.900% Senior Notes due 2025, 2.200% Senior Notes due 2027, 2.450% Senior Notes due 2030, 3.150% Senior Notes due 2040 and 3.375% Senior Notes due 2050. (Filed as an exhibit to Form 8-K on February 21, 2020 and incorporated herein by reference.)
10.1+	Amgen Inc. Amended and Restated 2009 Equity Incentive Plan. (Filed as Appendix C to the Definitive Proxy Statement on Schedule 14A on April 8, 2013 and incorporated herein by reference.)
10.2+	First Amendment to Amgen Inc. Amended and Restated 2009 Equity Incentive Plan, effective March 4, 2015. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2015 on April 27, 2015 and incorporated herein by reference.)
10.3+	Second Amendment to Amgen Inc. Amended and Restated 2009 Equity Incentive Plan, effective March 2, 2016. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2016 on May 2, 2016 and incorporated herein by reference.)

10.4+	Form of Grant of Stock Option Agreement for the Amgen Inc. Amended and Restated 2009 Equity Incentive Plan. (As Amended on December 10, 2019.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
10.5+	Form of Restricted Stock Unit Agreement for the Amgen Inc. Amended and Restated 2009 Equity Incentive Plan. (As Amended on December 10, 2019.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
10.6+	Amgen Inc. 2009 Performance Award Program. (As Amended on December 12, 2017.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2017 on February 13, 2018 and incorporated herein by reference.)
10.7+	Form of Performance Unit Agreement for the Amgen Inc. 2009 Performance Award Program. (As Amended on December 10, 2019.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
10.8+	Amgen Inc. 2009 Director Equity Incentive Program. (As Amended on December 11, 2019.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
10.9+	Form of Grant of Non-Qualified Stock Option Agreement for the Amgen Inc. 2009 Director Equity Incentive Program. (Filed as an exhibit to Form 8-K on May 8, 2009 and incorporated herein by reference.)
10.10+	Form of Restricted Stock Unit Agreement for the Amgen Inc. 2009 Director Equity Incentive Program. (As Amended on December 11, 2019.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
10.11+	Form of Cash-Settled Restricted Stock Unit Agreement for the Amgen 2009 Director Equity Incentive Program. (As Amended on December 11, 2019.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
10.12+	Amgen Inc. Supplemental Retirement Plan. (As Amended and Restated effective October 16, 2013.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2013 on February 24, 2014 and incorporated herein by reference.)
10.13+	First Amendment to the Amgen Inc. Supplemental Retirement Plan, effective October 14, 2016. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2016 on October 28, 2016 and incorporated herein by reference.)
10.14+	Second Amendment to the Amgen Inc. Supplemental Retirement Plan (As Amended and Restated effective October 23, 2019.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
10.15+	Amended and Restated Amgen Change of Control Severance Plan. (As Amended and Restated effective December 9, 2010 and subsequently amended effective March 2, 2011.) (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2011 on May 10, 2011 and incorporated herein by reference.)
10.16+	Amgen Inc. Executive Incentive Plan. (As Amended and Restated effective January 1, 2009.) (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2008 on November 7, 2008 and incorporated herein by reference.)
10.17+	First Amendment to the Amgen Inc. Executive Incentive Plan, effective December 13, 2012. (Filed as an exhibit to Form 10-K for the year ended December 31, 2012 on February 27, 2013 and incorporated herein by reference.)
10.18+	Second Amendment to the Amgen Inc. Executive Incentive Plan, effective January 1, 2017. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2017 on April 27, 2017 and incorporated herein by reference.)
10.19+	Amgen Nonqualified Deferred Compensation Plan. (As Amended and Restated effective October 16, 2013.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2013 on February 24, 2014 and incorporated herein by reference.)
10.20+	First Amendment to the Amgen Nonqualified Deferred Compensation Plan, effective October 14, 2016. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2016 on October 28, 2016 and incorporated herein by reference.)
10.21+	Second Amendment to the Amgen Nonqualified Deferred Compensation Plan (As Amended and Restated effective January 1, 2020.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
10.22+	Agreement between Amgen Inc. and David W. Meline, effective July 21, 2014. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2014 on October 29, 2014 and incorporated herein by reference.)

10.23+	Agreement between Amgen Inc. and Jonathan Graham, dated May 11, 2015. (Filed as an exhibit to Form 10-Q/A for the quarter ended June 30, 2015 on August 6, 2015 and incorporated herein by reference.)
10.24+	Agreement between Amgen Inc. and Murdo Gordon, dated July 25, 2018. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2018 on October 31, 2018 and incorporated herein by reference.)
10.25+*†	Agreement between Amgen Inc. and Peter Griffith, dated October 18, 2019.
10.26	Second Amended and Restated Credit Agreement, dated December 12, 2019, among Amgen Inc., the Banks therein named, Citibank, N.A., as administrative agent, and JPMorgan Chase Bank, N.A., as syndication agent. (Filed as an exhibit to Form 8-K on December 12, 2019 and incorporated herein by reference.)
10.27	Collaboration and License Agreement between Amgen Inc. and Celltech R&D Limited dated May 10, 2002 (portions of the exhibit have been omitted pursuant to a request for confidential treatment) and Amendment No. 1, effective June 9, 2003, to Collaboration and License Agreement between Amgen Inc. and Celltech R&D Limited (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-K/A for the year ended December 31, 2012 on July 31, 2013 and incorporated herein by reference.)
10.28	Amendment No. 2 to Collaboration and License Agreement, effective November 14, 2016, between Amgen Inc. and Celltech R&D Limited (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-K for the year ended December 31, 2016 on February 14, 2017 and incorporated herein by reference.)
10.29	Letter Agreement, dated June 25, 2019, by and between Amgen Inc. and UCB Celltech (portions of the exhibit have been omitted because they are both (i) not material and (ii) would be competitively harmful if publicly disclosed). (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2019 on July 31, 2019 and incorporated herein by reference.)
10.30	Collaboration Agreement, dated April 22, 1994, by and between Bayer Corporation (formerly Miles, Inc.) and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2011 by Onyx Pharmaceuticals, Inc. on May 10, 2011 and incorporated herein by reference.)
10.31	Amendment to Collaboration Agreement, dated April 24, 1996, by and between Bayer Corporation and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2006 by Onyx Pharmaceuticals, Inc. on May 10, 2006 and incorporated herein by reference.)
10.32	Amendment to Collaboration Agreement, dated February 1, 1999, by and between Bayer Corporation and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2006 by Onyx Pharmaceuticals, Inc. on May 10, 2006 and incorporated herein by reference.)
10.33	Settlement Agreement and Release, dated October 11, 2011, by and between Bayer Corporation, Bayer AG, Bayer HealthCare LLC and Bayer Pharma AG and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-K for the year ended December 31, 2011 by Onyx Pharmaceuticals, Inc. on February 27, 2012 and incorporated herein by reference.)
10.34	Fourth Amendment to Collaboration Agreement, dated October 11, 2011, by and between Bayer Corporation and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-K for the year ended December 31, 2011 by Onyx Pharmaceuticals, Inc. on February 27, 2012 and incorporated herein by reference.)
10.35	Side Letter Regarding Collaboration Agreement, dated May 29, 2015, by and between Bayer HealthCare LLC and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2015 on August 5, 2015 and incorporated herein by reference.)
10.36*	Side Letter Regarding Collaboration Agreement and Stivarga Agreement, dated February 13, 2020, by and between Onyx Pharmaceuticals, Inc. and Bayer HealthCare LLC.
10.37	Sourcing and Supply Agreement, dated January 6, 2017, by and between Amgen USA Inc., a wholly owned subsidiary of Amgen Inc., and DaVita Inc. (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2017 on April 27, 2017 and incorporated herein by reference.)
10.38	Exclusive License and Collaboration Agreement, dated August 28, 2015, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2017 on July 26, 2017 and incorporated herein by reference.)

10.39	Amendment No. 1 to the Exclusive License and Collaboration Agreement, dated April 21, 2017, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2017 on July 26, 2017 and incorporated herein by reference.)
10.40	Amendment No. 2 to the Exclusive License and Collaboration Agreement, dated April 21, 2017, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2017 on July 26, 2017 and incorporated herein by reference.)
10.41	Collaboration Agreement, dated April 21, 2017, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2017 on July 26, 2017 and incorporated herein by reference.)
10.42	Amendment No. 1 to the Collaboration Agreement, dated March 20, 2018, by and between Novartis Pharma AG and Amgen Inc. (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2018 on April 25, 2018 and incorporated herein by reference.)
10.43	Collaboration Agreement, dated October 31, 2019, by and between Amgen Inc. and BeiGene Switzerland GmbH, a wholly-owned subsidiary of BeiGene, Ltd. (portions of the exhibit have been omitted because they are both (i) not material and (ii) would be competitively harmful if publicly disclosed). (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
10.44	Guarantee, dated as of October 31, 2019, made by and among BeiGene, Ltd. and Amgen Inc. (Filed as an exhibit to Form 10-K for the year ended December 31, 2019 on February 12, 2020 and incorporated herein by reference.)
10.45	Share Purchase Agreement, dated October 31, 2019, by and between Amgen Inc. and BeiGene, Ltd. (portions of the exhibit have been omitted because they are both (i) not material and (ii) would be competitively harmful if publicly disclosed). (Filed as an exhibit to Schedule 13D on January 8, 2020 and incorporated herein by reference.)
10.46	Amendment No. 1 to Share Purchase Agreement, dated December 6, 2019, by and among BeiGene, Ltd. and Amgen Inc. (Filed as an exhibit to Schedule 13D on January 8, 2020 and incorporated herein by reference.)
10.47*	Amendment No. 2 to Share Purchase Agreement, dated March 17, 2020, by and among BeiGene, Ltd. and Amgen Inc.
31*	Rule 13a-14(a) Certifications.
32**	Section 1350 Certifications.
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 (formatted as Inline XBRL and contained in Exhibit 101).

(* = filed herewith)

(** = furnished herewith and not “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended)

(+ = management contract or compensatory plan or arrangement)

(† = Peter Griffith became Executive Vice President and Chief Financial Officer of Amgen Inc. on January 1, 2020)

SIGNATURES

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

Amgen Inc.
(Registrant)

Date: April 30, 2020

By: /s/ PETER H. GRIFFITH

Peter H. Griffith
Executive Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

Amgen
One Amgen Center Drive
Thousand Oaks, CA 91320-1799
805.447.1000

October 18, 2019

Mr. Peter Griffith
XXXXXXXX
XXXXXXXX

Dear Peter:

Congratulations! You have made an excellent impression on Amgen and I am excited to present you with the attached offer package. As an organization dedicated to improving the lives of patients around the world, Amgen welcomes you to join the environment of *diverse*, ethical, committed and highly accomplished people who respect each other while competing intensely to win. Together, we live the Amgen *values* as we continue advancing science to serve patients.

On behalf of Amgen, I am pleased to offer you the position of Executive Vice President Finance Level 11, reporting to Robert A. Bradway. This offer and the compensation listed are subject to your appointment by our Board of Directors (the Board) and the Compensation and Management Development Committee (the Compensation Committee) providing final approval of the compensation listed in this letter.

Your annual salary will be **$970,000.20** paid out bi-weekly and over 26 pay periods in one year.

This position is located in Thousand Oaks, CA.

Provided that you sign a "Sign-On/Retention Bonus Agreement for New Hire Staff Members" in the form provided by Amgen, you will be eligible to earn a bonus of **$500,000.00**, less federal and state tax deductions and other applicable deductions and withholdings, subject to the terms of that Agreement. Please review that Agreement for information regarding timing and other payment details.

Subject to the approval of the Compensation and Management Development Committee of the Board of Directors or the Equity Award Committee of Amgen Inc. (the "Committee"), and subject to the vesting rules, you will be granted restricted stock units (RSU) with a USD value of **$4,000,000**. The actual number of RSUs to be awarded shall be determined by dividing the grant value by the Amgen common stock closing price on the applicable grant date. Upon each applicable vesting date, you will receive a number of shares of Amgen common stock equal to the number of restricted stock units that vest, less any shares that are withheld to satisfy applicable taxes. This grant will vest beginning with the second anniversary of the grant date through the fourth

anniversary at a rate of 33%, 33% and 34% each year, respectively, contingent upon your being actively employed with Amgen through each vesting date.

Restricted stock units will be subject to the terms and conditions set forth in the applicable grant agreement.

As an Amgen executive you are required to hold Amgen common stock in accordance with the Amgen Stock Ownership Guidelines. Your holding requirement is based on your Amgen GCF level and as a Executive Vice President Finance you are required to hold Amgen common stock in the amount equal to 3x base salary. You must meet your holding requirement by December 31st of the fifth calendar year following the date on which you became an Officer of Amgen. To help you meet your holding requirement, the Amgen Stock Ownership Guidelines prohibit you from selling stock that you receive as part of your Amgen LTI awards (including shares that you receive as a result of option exercise, special, promotional, and annual grants) until you have met your required stock ownership level.

Providing your start date is in 2019, you will be eligible for additional grants as part of Amgen's Long Term Incentive (LTI) program. Your projected 2020 annual grant value is $4,000,000 and will be allocated between performance units, stock options and restricted stock units consistent with other senior executive grants. Grants under the LTI program are discretionary as approved by the Committee.

You will be eligible to participate in Amgen's Global Management Incentive Plan (the "GMIP") pursuant to the terms of the GMIP. Your annual target incentive opportunity will be **100%** of your base salary earnings during the plan year. Awards under the GMIP are discretionary. Your actual GMIP bonus may be more or less than this target amount, and may vary based on Company performance, any other criteria selected by the Company, and management's assessment of your individual performance and contribution. You must be actively employed through the last regularly scheduled Amgen business day of the plan year to be eligible for that year's GMIP bonus.

You are also eligible to participate in the Amgen Nonqualified Deferred Compensation Plan (the "DCP") to voluntarily defer, on a pre-tax basis, a portion of your annual earnings, including base salary, sales incentive plan, and/or Executive Incentive Plan/Global Management Incentive Plan (GMIP) bonus. Shortly after commencing your employment at Amgen, you will receive an enrollment notice via e-mail regarding the Amgen's DCP plan. A Q&A regarding the DCP is enclosed.

In addition, your position makes you eligible to participate in the Amgen Inc. Change of Control Severance Plan, as amended from time to time (the "COC"). COC eligibility and benefit levels are determined immediately prior to a "Change of Control" as defined in the COC. If, upon your termination, you are eligible to receive severance benefits under the COC and you are also eligible to receive severance benefits from another plan agreement or other source, you will be paid the greater of the amount from that plan or the amount provided in the COC, but not both amounts. A copy of the COC is enclosed.

If, within the first three (3) years of your employment with Amgen, Amgen terminates your employment without "Cause," as defined below, you will be entitled to the benefits described in this paragraph (the "Termination Paragraph), provided that you sign a general release in the form furnished to you by Amgen and do not timely revoke it. The following are such benefits: two (2) years of your annual base salary, then in effect, and target cash incentive opportunity (i.e., GMIP or successor bonus plan target, which is currently 100%), then in effect, paid in a lump sum as soon as administratively practicable, but in no event later than March 15 of the year following the year in which Amgen terminates your employment and (2) if you elect continuation coverage under the Amgen group medical and dental plans for yourself and your qualified beneficiaries under the Consolidated Omnibus Budget Reconciliation Act of 1985 ("COBRA"), Amgen will pay the cost of such coverage until the earlier to occur of the following: (A) eighteen (18) months following your termination of employment or (B) the date on which you are no longer eligible for such COBRA coverage. Please note that this Termination Paragraph does not alter the at-will nature of your employment at Amgen.

For purposes of the Termination Paragraph, “Cause” means (i) unfitness for service, inattention to or neglect of duties, or incompetence; (ii) dishonesty; (iii) disregard or violation of the policies or procedures of Amgen; (iv) refusal or failure to follow lawful directions of the Company; (v) illegal, unethical or immoral conduct; or (vi) breach of the attached Amgen Proprietary Information and Inventions Agreement.

As an executive at Amgen, you will be eligible for the following: an annual physical examination provided by Amgen; and, reimbursement for up to **$15,000.00**, tax assisted, per year for financial counseling, tax preparation and related services.

You will also have the opportunity to participate in our comprehensive benefits program. Amgen’s excellent health care plan currently includes medical, dental, and vision coverage for you and your eligible dependents. Amgen covers the majority of the health care plan’s cost while staff members contribute towards the balance through payroll deductions. Please be advised that in order for you and your dependents to be eligible for Amgen’s benefits program you must:

1. Report to work at Amgen or another location to which you are required to travel and perform the regular duties of your employment.
2. Contact the Amgen Benefits Center at 1-800-97AMGEN, to enroll within 31 days of your hire date.
3. Meet all other eligibility requirements under the plan.

The Amgen Retirement and Savings Plan, our 401(k) plan, provides an opportunity for you to save a percentage of your pay on a tax-deferred basis, within Internal Revenue Service limits. Amgen will also contribute to your 401(k) account to help you save for your future financial goals. These benefits, services, and programs are summarized in the enclosed brochure called “A Guide to Total Rewards at Amgen.”

Amgen is a Military Friendly Employer and proudly offers a generous military leave policy for Military Active Duty and Reservists.

This offer of employment is contingent upon confirmation by Amgen of information listed on your employment application, and the receipt by Amgen of satisfactory results from a background verification and pre-employment drug test.

You will be eligible for a merit increase in March 2020, under Amgen’s regular and customary performance and merit review cycle.

Enclosed and included as part of this offer (Attachment 1) is information regarding Amgen's Proprietary Information and Inventions Agreement, and a packet of materials entitled "Arbitration of Disputes" which includes a Mutual Agreement to Arbitrate Claims. Also enclosed and included as part of this offer in Attachment 1 is information regarding Amgen's New Staff Member Letter and Certification. This offer is contingent upon you truthfully and accurately completing the Certification, and returning it to the Company before your first day of employment.

This offer of employment is also contingent upon your completing the items described in Attachment 1, and upon your ability to perform for Amgen all of the duties of your position without restriction from, or violation of, any enforceable contractual obligations owed to any former employer or entity for whom you worked or provided service(s).

By signing this letter, you understand and agree that your employment with Amgen is at-will. This means that your employment can terminate, with or without cause, and with or without notice, at any time, at your option or Amgen's option, and Amgen can terminate or change all other terms and conditions of your employment, with or without cause, and with or without notice, at any time. This at-will relationship will remain in effect

throughout your employment with either Amgen Inc. or any of its subsidiaries or affiliates. This letter, and its enclosures, constitutes the entire agreement, arrangement and understanding between you and Amgen on the nature and terms of your employment with Amgen, including, but not limited to, the kind, character, and existence of your proposed job duties, the length of time your employment will last, and the compensation you will receive. This letter, its enclosures, supersedes any prior or contemporaneous agreement, arrangement, or understanding on this subject matter. By executing this letter as provided below, you expressly acknowledge the termination of any such prior agreement, arrangement, or understanding, except as referenced in this letter and/or its enclosures. Also, by your execution of this letter, you affirm that no one has made any written or oral statement that contradicts the provisions of this letter or its enclosures. The at-will nature of your employment, as set forth in this paragraph, can be modified only by a written agreement signed by both Amgen's Senior Vice President of Human Resources and you which expressly alters it. This at-will relationship may not be modified by any oral or implied agreement or by any Company policies, practices, or patterns of conduct.

The complete terms of the plans, programs, and policies referenced in this letter are set forth in their respective documents, which are maintained by the Company. The Company reserves the right to amend or terminate any of these plans, programs, or policies at any time, in its sole discretion. In the event of any difference between this offer letter and the provisions of the respective plan, program, or policy document, the respective document will govern.

You have made an excellent impression on the staff at Amgen. We are enthusiastic about the contribution you can make, and we believe that Amgen can provide you with attractive opportunities for personal achievement and growth. I look forward to your favorable reply by **October 28, 2019**. If you accept our offer, please sign and date the copy of the letter and return it to our Talent Acquisition Department along with the completed and signed Proprietary Information and Inventions Agreement and the Mutual Agreement to Arbitrate Claims. Please retain the original offer letter for your records. If you have any questions regarding this offer, please contact Greg Comeaux at (805) 447-8035.

Sincerely,

/s/ Robert A. Bradway

Robert A. Bradway
Chairman of the Board, President & Chief Executive Officer

JD:tb
Enclosures

/s/ Peter H. Griffith	10-19-2019
Signature of Acceptance	Date

XXXX

Last 4 Digits of Social Security Number (For Identification Purposes)
Last 4 Digits of Government ID (If No Social Security Number)

October 23, 2019

Anticipated Start Date

ATTACHMENT 1

In order to accept our offer you will be required to:

A) Complete, date and sign the Amgen New Staff Member Letter and Certification and return it with your signed offer letter.

B) Complete, date and sign the Amgen Proprietary Information and Inventions Agreement and return it with your signed offer letter.

C) Date and sign the enclosed Mutual Agreement to Arbitrate Claims and return it with your signed offer letter.

D) You will be required to provide Amgen with proof of your identity and eligibility for employment per requirements of the Immigration Reform and Control Act of 1986 within 3 (three) days of hire.

E) For California non-exempt staff only, sign and date the Notice To Employee, Labor Code 2810.5

NEW STAFF MEMBER LETTER AND CERTIFICATION

Welcome to Amgen (the "Company"). The Company has no need to learn and does not want any proprietary, confidential or trade secret information or other property that belongs to any prior employers, entities or other persons you have worked for (collectively, "Prior Employers"). Please review and comply with the following instructions and policies, and execute the Certification below.

- Carefully read the Company's Proprietary Information and Inventions Agreement ("PIIA") that you have executed, and make sure that you understand your obligations under the terms of the PIIA. If you have any questions, please contact Amgen Human Resources.

- You may not bring any material to the Company from third parties in hard copy, in electronic format or in any other form. Nor should you use any such material in your work for the Company.

- Prior to commencing any work for the Company, conduct a search of your personal computer(s), email accounts, and any other electronic storage devices you possess, as well as any files you maintain in hard copy, for information or materials belonging to your Prior Employers. You are instructed to make appropriate arrangements to return any such information or materials belonging to your Prior Employers, consistent with any obligations you have to the Prior Employers.

- Do not disclose to or provide the Company with any customer lists you obtained from or during your employment with your Prior Employers. When interacting with doctors or other members of the healthcare industry with whom you may have had contact while working for your Prior Employers, clearly indicate to such persons that you are an Amgen staff member, and focus on the Company's products rather than using or discussing information related to your prior employment.

- If you have any doubts regarding whether you may take, disclose, upload, access, or use any information in your possession, you must err on the side of not taking, disclosing, uploading, accessing or using the information.

- Do not begin any work for the Company before your employment with your Prior Employers has officially ended.

- After commencing work for the Company, do not request that any employee of your Prior Employers provide you with, or take any other steps to obtain, any information or property of your Prior Employers.

- Under no circumstances are you permitted to connect to a Company computer any electronic storage device containing information or property relating to your Prior Employers. Likewise, in performing work for the Company, you are not permitted to use, disclose, access or upload any such information or property. If you discover that any confidential, proprietary, or trade secret information or property of your Prior Employers has been uploaded to any Company computer or email system(s), immediately inform Amgen Human Resources.

- The Company may monitor and/or conduct an audit of your use of Company computer systems, and you should not have any expectation of privacy in data sent, stored or received on any Company systems. See the Company's Use of Company Systems and Internet Conduct Policy for further details.

- Disclose and identify below all agreements relating to your Prior Employers that may affect your eligibility to become employed by and/or to perform work for the Company, including any non-competition agreement(s), agreements relating to the solicitation of employees or customers, or other restrictive agreements (collectively, "Restrictive Agreements"), regardless of whether you believe these agreements are enforceable, apply to your potential employment with the Company, or have expired, and provide a copy to Amgen Human Resources. If "none," please so indicate. **Do not leave blank.**

- If your position at the Company will involve manufacturing or process development; chemical, biologic, pharmaceutical, medical device, or diagnostic research; or development of therapeutic molecules, medical devices, or diagnostic assays or agents, please review your agreements with Prior Employers to determine whether you are required to assign intellectual property rights to any Prior Employer even after that employment has ended. If you do find such an agreement or if you are unsure, please send such agreement to Amgen Human Resources. If "none," please so indicate. **Do not leave blank.**

Name of Agreement	Employer	Date Signed
None	EY	
None	Sherwood Canyon Group, LLC	

(Attach additional sheets, if necessary)

- If you are subject to an agreement not to solicit employees of your Prior Employers, you should refrain from doing so. You should specifically inform Human Resources if you are subject to such an agreement. If you are subject to such an agreement and a former colleague contacts you about employment opportunities with the Company, please contact Human Resources for assistance.

- Do not use any email account (including Company email accounts), text messages, Instant Messaging, or any other method of written communication to store or discuss any proprietary, confidential or trade secret information or other property belonging to your Prior Employers.

- Immediately inform Human Resources if you are contacted in any manner by any former employer regarding your work for Amgen and/or any non-competition agreements, agreements that relate to the solicitation of employees or customers, or any other restrictive agreements you entered into in connection with any Prior Employers.

CERTIFICATION

I understand that the above list is only a summary and does not purport to include all of my continuing obligations to the Company. By signing below I certify that I have and will continue to comply with the above instructions and policies.

I hereby agree that the Company may, at its sole option and discretion contact my Prior Employer(s) to determine whether any Restrictive Agreements exist and, if so, their applicable terms. I acknowledge that the Company may revoke its offer or terminate my employment if it determines in its reasonable business judgment that I have failed to disclose or am otherwise subject to an enforceable Restrictive Agreement or my failure to abide by the certifications contained herein.

Nothing in this Letter and Certification is intended to alter, or shall have any impact on, my status as an at-will employee of the Company. In addition to its right to terminate my employment, the Company shall have the right to suspend me from work without pay during its investigation into (1) the existence and/or enforceability of any restrictions on my ability to perform work for the Company should I fail to disclose a Restrictive Agreement, or (2) the failure to abide by the certifications contained herein.

I agree:

/s/ Peter H. Griffith

Signature of Staff Member

Peter H. Griffith

Print Name of Staff Member

XXXX

Last 4 Digits of Social Security Number (For Identification Purposes)
Last 4 Digits of Government ID (If No Social Security Number)

October 19, 2019

Date

AMGEN SIGN-ON/RETENTION BONUS AGREEMENT
FOR NEW HIRE STAFF MEMBERS

I, Peter H. Griffith , agree to accept my sign-on/retention bonus payment ("Bonus") from Amgen on the following terms.

1. The amount of the Bonus is described in the offer letter (as may be amended) that was provided separately to me.

2. The Bonus will generally be paid to me as an advance after thirty (30) days following my start date with Amgen, and will be earned only after I complete two years of employment with Amgen. The Bonus is intended to facilitate my acceptance of employment with Amgen and my continued employment with Amgen for a period of at least two years. Amgen is providing me the Bonus with the expectation that I will not resign my employment during this two-year period.

3. I understand and agree that I am an at-will employee and that I am free to resign at any time and Amgen is free to terminate my employment, with or without cause, at any time. Nevertheless, I understand that if I resign my employment with Amgen or are terminated for cause before I complete two years of employment, I have not earned any portion of the Bonus amount. Therefore, I agree to repay Amgen for the gross amount of my Bonus if I resign my employment for any reason or are terminated for cause within 24 months from my hire date at Amgen. I also agree that in the event of such a resignation, the amount to be reimbursed shall be due in full and payable by me immediately in cash (i.e., by check, wire transfer, or similar immediate payment) without further notice or demand by Amgen.

4. Generally, a sign-on/retention bonus is considered ordinary wage income to the recipient. I understand that Amgen will report to appropriate federal and state taxing authorities all income that Amgen considers to be subject to taxation and will withhold appropriate taxes in accordance with federal and state regulations. I understand that it is my obligation to declare all income and pay all taxes owed on such income, if any.

5. I understand that this agreement shall be governed by the law of the State of California.

6. Nothing in this Agreement will be construed as an employment contract or to guarantee me employment at Amgen for any fixed term. I understand that my employment at Amgen is at will.

7. The provisions of this agreement are severable. If any part is found to be unenforceable, all other provisions shall remain fully valid and enforceable.

I agree:	Amgen Inc.:
/s/ Peter H. Griffith	/s/ NHMiller
Signature of Staff Member	Signature of Authorized Representative
Peter H. Griffith	Global Head, Talent Acquisition
Print Name of Staff Member	Title of Representative
XXXX	10/18/2019
Last 4 Digits of Social Security Number (For Identification Purposes) Last 4 Digits of Government ID (If No Social Security Number)	Date
October 19, 2019	
Date	

Execution Copy

February 13, 2020

Bayer Healthcare LLC
100 Bayer Boulevard
PO Box 915
Whippany, NJ 07981
Attention: Global Head of Oncology

Re: ***Side Letter Regarding Collaboration Agreement and Stivarga Agreement***

Dear Sir or Madam:

Reference is hereby made to the Collaboration Agreement, dated April 22, 1994, as amended on April 24, 1996 (the "***First Amendment***"), on February 1, 1999 (the "***Second Amendment***"), on March 6, 2006 (the "***Co-Promotion Agreement***"), on January 1, 2009 (the "***Co-Development Costs Side Letter***"),on October 11, 2011 (the "***Fourth Amendment***"), and on May 29, 2015 (the "***2015 Side Letter Regarding Collaboration Agreement***") (such agreement as amended by the First Amendment, Second Amendment, the Co-Promotion Agreement, the Co-Development Costs Side Letter, Fourth Amendment and 2015 Side Letter Regarding Collaboration Agreement being referred to herein as the "***Collaboration Agreement***") by and between Onyx Pharmaceuticals, Inc., a Delaware corporation having its principal place of business in South San Francisco, California ("***Onyx***"), and Bayer HealthCare LLC, a Delaware company having its principal place of business in Whippany, New Jersey and the successor-in-interest to Bayer Corporation ("***Bayer***" and, together with Onyx, the "***Parties***"). Capitalized terms used but not otherwise defined in this letter shall have the meanings assigned to such terms in the Collaboration Agreement.

Reference is hereby also made to (i) the Agreement Regarding Regorafenib dated October 11, 2011 by and between Onyx and Bayer (the "***Stivarga Agreement***"), (ii) the Combination Development Agreement dated October 11, 2011, as amended on March 21, 2014 (as amended, the "***Combination Development Agreement***"), and (iii) the Letter of Agreement Regarding Pharmacovigilance Between Bayer HealthCare LLC and Amgen, Inc. Concerning Nexavar Worldwide" dated November 30, 2017 (the "***Pharmacovigilance Agreement***").

Pursuant to Section 17.2 of the Collaboration Agreement and Section 4.7 of the Stivarga Agreement, Onyx retained KPMG LLP ("***KPMG***") to review records related to the correctness of reports or payments made pursuant to the Collaboration Agreement and the Stivarga Agreement for the period January 1, 2013 through December 31, 2015 and, in connection therewith, KPMG prepared a draft report dated April 2018 pursuant to which KPMG made certain observations regarding the calculation of Marketing Profit or Loss made pursuant to the Collaboration Agreement for such period (the "***KPMG Observations***") with which the Parties reasonably disagree.

The Parties have agreed to resolve their differences with respect to the KPMG Observations and to convert the financial arrangement set forth in the Collaboration Agreement with respect to the Ex-U.S. Territory (as hereafter defined) to a royalty arrangement.

In furtherance of the foregoing, and in order to operationalize the collaboration more efficiently, the Parties desire to modify certain terms of the Collaboration Agreement and the Stivarga Agreement as set forth in this letter.

In consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

1. Resolution of KPMG Review.

a. In consideration of and effective upon receipt of the payment made by Bayer to Onyx pursuant to paragraph 1.b below, the sufficiency of which is acknowledged by Onyx, Onyx agrees on behalf of itself and its Affiliates that (a) no payment, repayment or refund shall be due from Bayer to Onyx *as a result of the KPMG Observations* and Onyx agrees not to make any additional Claims against Bayer with respect to (i) the correctness of any report or payment made under the Collaboration Agreement with respect to Marketing Profit or Loss or Co-Development Costs through December 31, 2015 or (ii) the correctness of any report or payment made under the Stivarga Agreement through December 31, 2015 and (b) it waives its rights pursuant to (i) Section 17.2 of the Collaboration Agreement to examine those records as may be necessary or reasonably useful to determine, with respect to the period from January 1, 2016 through December 31, 2019, the correctness of any report or payment made under the Collaboration Agreement with respect to Marketing Profit or Loss or Co-Development Costs for the period from January 1, 2016 through December 31, 2019 and (ii) Section 4.7 of the Stivarga Agreement to examine those records as may be necessary or reasonably useful to determine, with respect to the period from January 1, 2016 through December 31, 2019, accuracy of all reports and payments made pursuant to the Stivarga Agreement for the period from January 1, 2016 through December 31, 2019. Notwithstanding the foregoing, the Parties acknowledge that, pursuant to a letter dated October 1, 2018 (the "Stivarga Royalty Letter"), Onyx disputes the royalty reports and payments delivered by Bayer to Onyx under the Stivarga Agreement and demands revised royalty reports that cover "Net Sales" of all "Products" (as such terms are defined in the Stivarga Agreement) worldwide, and Onyx expressly reserves all of its rights with respect to such dispute, and the Parties agree that nothing herein shall be construed to waive, limit or adversely affect such rights, including (i) the right to make additional Claims against Bayer with respect to the correctness of any report or payment made under the Stivarga Agreement

dating to the third fiscal quarter of 2018 and (ii) the right to examine those records as may be necessary or reasonably useful to determine the accuracy of all reports and payments made pursuant to the Stivarga Agreement dating to the third fiscal quarter of 2018.

b. Provided Onyx has submitted an invoice to the address set forth in paragraph 2.f., Bayer agrees to make to Onyx a non-refundable, non-creditable payment in the amount of six million U.S. dollars (US$6,000,000.00).

c. The Parties hereby agree that, notwithstanding anything to the contrary in the Collaboration Agreement, during the Ex-U.S. Royalty Term (as defined below), Bayer shall have exclusive authority and control over the development of Collaboration Products in all countries of the world and commercialization of the Collaboration Products in the Ex-U.S. Territory (including control over when and how to discontinue commercialization of the Collaboration Products in the Ex-U.S. Territory). In exercising such authority and control, Bayer shall use the level of efforts and resources (including the promptness with which such efforts and resources would be applied) commonly used in the pharmaceutical industry with respect to a product of commercial potential similar to the Collaboration Products at a similar stage in its development or product life, taking into consideration its safety and efficacy, its cost to develop, the competitiveness of alternative products of Third Parties, the patent and other proprietary position of such product, its profitability and all other relevant factors.

d. Additionally and in furtherance of Bayer's exclusive authority and control set forth in Paragraph 1.c above, from and after January 1, 2020 and continuing throughout the Ex- U.S. Royalty Term, Bayer shall control, and be solely responsible for all costs and expenses relating to, development and commercialization of the Collaboration Products in all countries of the world, including, without limitation: (i) marketing and promotion, (ii) pricing and access and (iii) medical affairs.

e. The Parties hereby agree that, for purposes of the Parties' prospective arrangements set forth in this letter, the "***Ex-U.S. Territory***" shall refer to all countries of the world except (i) as has been the agreed-upon practice of the Parties under the Collaboration Agreement, the fifty (50) states of the United States of America and the District of Columbia (but shall include territories and possessions thereof) and (ii) Japan. For clarity, the Ex-U.S. Territory includes the United States territories and possessions other than the fifty (50) states and the District of Columbia.

2. Ex-U.S. Royalties. The Parties hereby agree that, notwithstanding anything in the Collaboration Agreement to the contrary, the allocation of Marketing Profits or Losses set forth in Section 16.1 of the Collaboration Agreement (including, without limitation, the allocation and/or reimbursement of Allowable Expenses) shall not apply with respect to the sale of Collaboration Products in the Ex-U.S. Territory during the Ex-U.S. Royalty Term. The Parties hereby agree that, during the Ex- U.S. Royalty Term, the exclusive compensation for sales of Collaboration Products in the Ex-U.S. Territory shall be as follows:

a. *Royalty*. Bayer shall pay to Onyx non-refundable, non-creditable royalties equal to thirty- two percent (32%) of Net Sales of all Collaboration Products in the Ex-U.S. Territory during the Ex- U.S. Royalty Term. Any sales of Collaboration Products in the Ex-U.S. Territory by or on behalf of Bayer, its Affiliates, licensees and/or sublicensees shall be treated hereunder as if such sales were made by Bayer. If Bayer grants licenses to its Affiliates or Third Parties to make or sell Collaboration Products in any country, possession or territory of the Ex-U.S. Territory, it shall include an obligation for such parties to account for and report Net Sales of Collaboration Products on the same basis as if such sales were made by Bayer, and Bayer shall pay royalties to Onyx under this letter as if the Net Sales of such Collaboration Products by such Affiliates and Third Parties were Net Sales of Bayer. For the purposes of applying the definition of "Net Sales" to Net Sales from a country in the Ex-U.S. Territory, a licensee or sublicensee of Bayer or its Affiliates or any of their licensees or sublicensees who is granted such license or sublicense as a result of a settlement by Bayer of any action taken in a court or Governmental or Regulatory Authority, a compulsory license granted pursuant to Applicable Law or any action taken by a court or Governmental or Regulatory Authority shall not be considered a licensee or sublicensee of Bayer or its Affiliates or any of their licensees or sublicensees and, accordingly, gross receipts received by such licensee or sublicensees on account of sales of Collaboration Products shall not be taken into account for determining Net Sales. For clarity, however, amounts received by Bayer from such licensees or sublicensees in the form of license fees or royalties shall be treated as Net Sales, and Bayer shall pay royalties to Onyx under this letter as , amounts received by Bayer from such licensees or sublicensees in the form of license fees or royalties were Net Sales of Bayer. Notwithstanding the foregoing, on a country-by-country basis, if during the Ex-U.S. Royalty Term, a Third Party receives marketing authorization for and commences commercial sale of a Generic Product (as defined below) in a country, possession, or territory of the Ex-U.S. Territory set forth on Appendix A hereto (such countries, possessions or territories, the "***Tier One Ex-U.S. Countries***"), then royalties payable to Onyx with respect to Net Sales of the applicable Collaboration Product in such country, possession or territory shall be reduced to sixteen percent (16%) beginning on the first day of the first full calendar quarter following the date of first sale of the Generic Product in which Net Sales of the applicable Collaboration Product in such country, possession or territory in such calendar quarter decrease by more than fifty percent (50%) from the Net Sales of such Collaboration Product in such country, possession or territory in the calendar quarter immediately preceding the first sale of such Generic Product in such country, possession or territory. For the purposes of this provision, a "***Generic Product***" shall mean, with respect to a Collaboration Product, any pharmaceutical product in such Tier One Ex-U.S. Country that: (i) contains the same active pharmaceutical ingredient (irrespective of its solvate, hydrate, salt, pro-drug or polymorphic form) as the Collaboration Product; (ii) is approved by the applicable Governmental or Regulatory Authority in such jurisdiction in reliance, in whole or in part, on the prior Drug Approval of such Collaboration Product; (iii) is bioequivalent to such Collaboration Product; and (iv) is sold in such jurisdiction by a Third Party that (a) is not a licensee or sublicensee of Bayer or its Affiliates or any of their licensees or sublicensees, (b) has not obtained such product from a chain of distribution including Bayer, its Affiliates or any of their licensees or sublicensees, and (c) is not otherwise authorized by Bayer or any of its Affiliates, licensees, sublicensees or distributors to sell such product (provided that a licensee or sublicensee of Bayer or its Affiliates or any of their licensees or sublicensees who is granted such license or sublicense as a result of a settlement by Bayer of any action taken in a court or Governmental or Regulatory Authority, a compulsory license granted pursuant to Applicable Law or any action taken by a court or Governmental or Regulatory Authority shall not be considered as having been authorized by Bayer or any of its Affiliates, licensees, sublicensees or distributors to sell such product for the purposes of this Paragraph 2.a.). Notwithstanding the foregoing, on a country-by country basis, from and after the calendar quarter in which Loss of Exclusivity (as defined below) occurs in any country, possession or territory of the Ex-U.S. Territory

other than the Tier One Ex-U.S. Countries, then royalties payable to Onyx with respect to Net Sales of the applicable Collaboration Product in such country, possession or territory of the Ex-U.S. Territory shall be reduced to sixteen percent (16%).

For the purposes of this provision, "***Loss of Exclusivity***" shall mean, on a country-by-country basis, the expiration of the last-to-expire Bayer Patent that includes a Valid Claim that covers a Collaboration Product sold in such country, possession or territory and, additionally, shall be deemed to have occurred (a) as of the Effective Date on a country-by-country basis in such countries where no Bayer Patent that includes a Valid Claim that covers the Collaboration Product sold in such country exists or (b) in the event a Third Party is granted (i) a license or sublicense as a result of a settlement by Bayer of any action taken in a court or Governmental or Regulatory Authority, or (ii) a compulsory license granted pursuant to Applicable Law or any action taken by a court or Governmental or Regulatory Authority; and "***Valid Claim***" shall mean a claim of a pending patent application or an issued and unexpired patent, which has not been held invalid or unenforceable by a patent office, court or other governmental agency of competent jurisdiction, which holding is unappealable. For purposes of this Agreement, "Loss of Exclusivity" shall be deemed to have occurred as of the date on a country-by-country basis in such countries where no Bayer Patent that includes a Valid Claim that covers the Collaboration Product sold in such country, possession or territory exists. "***Bayer Patent***" means the patents listed in Appendix B hereto.

b. *Ex- U.S. Royalty Term*. Royalties shall be paid under this Paragraph 2 on a country-by-country basis during the period from January 1, 2020 until the date of the termination or expiration, as the case may be, of the Collaboration Agreement in accordance with its terms (such period, the "***Ex- U.S. Royalty Term***").

c. *Royalty Reports and Payments*. Within thirty (30) days following the end of each calendar quarter during the Ex- U.S. Royalty Term, Bayer shall provide Onyx with a report containing the following information for such calendar quarter on a country-by-country basis: (i) the amount of gross sales of Collaboration Products in such country (in Euros), (ii) Net Sales in such country (in Euros), (iii) the conversion of such Net Sales from Euros into Dollars, and (iv) the calculation of the royalty payment due on such sales pursuant to Paragraph 2.a hereof. Bayer shall pay to Onyx all amounts due to Onyx pursuant to this Paragraph 2 following the receipt of an invoice pursuant to Paragraph 2.f.

d. *Books and Records*. During the Ex- U.S. Royalty Term, Bayer shall, and shall cause its Affiliates, licensees and sublicensees to, keep complete and accurate books and records that disclose, on a country-by-country basis, the total Ex-U.S. Territory sales and Net Sales of Collaboration Products in such country in the Ex-U.S. Territory, the number of units of Collaboration Products sold in such country in the Ex-U.S. Territory, and all matters relating to those sales that are relevant for the purposes of determining the royalties due to Onyx hereunder. During the Ex- U.S. Royalty Term, Bayer shall, and shall cause its Affiliates to, (i) maintain such books and records in sufficient detail to calculate all amounts payable hereunder and to verify compliance with Bayer's obligations under this letter, and (ii) retain such books and records until five (5) years after the end of the period to which such books and records pertain.

e. *Other Royalty Terms*. The Parties hereby acknowledge and agree that the terms of Sections 4.4 (Mode of Payment), 4.5 (Taxes), 4.6 (Interest on Late Payments), 4.7 (Audit), 4.8 (Audit Dispute) and 4.9 (Confidentiality) of the Stivarga Agreement, are incorporated into the Collaboration Agreement *mutatis mutantis* such that these provisions apply to sales of Collaboration Products in the Ex-U.S. Territory during the Ex- U.S. Royalty Term and the royalties payable to Onyx under this Paragraph 2 in connection therewith.

f. *Invoices*. Payments due to Onyx under paragraph 1.b. and 2.c. shall be made thirty (30) days after receipt of invoice which shall be sent to by electronic mail to invoice.bhc.usa@bayer.com.

3. Taxes. The "Tax Partnership," as defined in Section 23.1 of the Collaboration Agreement, shall, effective January 1, 2020, be considered terminated and liquidated pursuant to Section 23.9 of the Collaboration Agreement. Article 23 of the Collaboration Agreement shall continue to govern any tax matters arising out of the Tax Partnership which relate to an event or transaction occurring before January 1, 2020. Without limiting the generality of the foregoing, royalties paid under Paragraph 2.a hereof shall not be deemed to be distributive shares of income from the Tax Partnership referred to in Section 23 of the Collaboration Agreement.

4. Collaboration Agreement.

a. *Governance*. Article 3 of the Collaboration Agreement, from and after January 1, 2020 shall no longer have force or effect. Accordingly, any decision to be made by a committee to be constituted by Article 3 of the Collaboration is from and after January 1, 2020, reserved for Bayer in its sole discretion consistent with the terms of the Collaboration Agreement. No less than twice each calendar year (no later than July 1 and December 1 of each calendar year), Bayer shall provide the following information to the Amgen Alliance Manager: (a)for the Tier One Ex-U.S. Countries: (i) sales forecast for the following calendar year, (ii) any product-specific marketing programs anticipated to be implemented during the following calendar year (to the extent such information is available as of July 1 and December 1) and (iii) any known or anticipated entry of a Generic Product and (b) for the Ex-U.S. Territory, the total sales forecast for the following calendar year. Within sixty (60) days of the receipt of such information, the Amgen Alliance Manger may request a meeting (which can occur by means of telephone conference, videoconference or other means of communications) with knowledgeable representatives of Bayer to address any reasonable questions Amgen may have with respect to such information.

b. *Disputes and Escalation.* Each Party shall nominate (or maintain) a representative to act as its alliance manager (the "***Alliance Manager***"). The Alliance Managers shall, inter alia, serve as the key contact point between the Parties, facilitate interactions between the Parties and facilitate the escalation process described in Section 25.1 of the Collaboration Agreement. A Party may replace its Alliance Manager at any time by providing written notice to the other Party. Notwithstanding Section 25.1 of the Collaboration Agreement, any disputes among the Parties that cannot be resolved by good faith negotiation shall be referred to the Parties' respective Alliance Managers. Any disputes which cannot be resolved by the Alliance Managers that cannot be resolved by good faith negotiations shall be referred to the Executive Officers, who shall meet as soon as possible, and not less than sixty (60) days after a dispute is referred to the Executive Officers. In the event that the Executive Officers are not able to

resolve such dispute during such sixty (60) day period, either party may submit such dispute to arbitration in accordance with the terms of Section 25.1, which shall apply *mutatis mutandis* to disputes which are not resolved by the Executive Officers. "***Executive Officers***" means the Head of the Oncology Strategic Business Unit of Bayer and the Global Marketing Oncology Headof Amgen, or to such other senior officer of similar authority and standing as each Party may from time to time designate.

c. *Global Development*. Except as expressly set forth in this letter, nothing in this letter is intended to modify or otherwise alter the provisions of the Collaboration Agreement with respect to ongoing and / or future global clinical development of the Collaboration Compounds.

d. *Effect on Other Agreements.* This letter agreement shall have no effect on the Pharmacovigilance Agreement or the Stivarga Agreement (except that paragraph 1.a shall serve as a waiver of Onyx's rights under the Stivarga Agreement as described, and only to the extent described, therein) which each shall continue in full force and effect according to their respective terms.

c. *Notice*. The addresses to which notices to Bayer pursuant to Section 28.7 of the Collaboration Agreement shall be addressed shall be:

If to Bayer, addressed to:

Bayer HealthCare LLC
100 Bayer Boulevard
Whippany, New Jersey 09781
Attention: Global Head of Oncology

With a copy to:

Bayer HealthCare LLC
100 Bayer Boulevard
Whippany, New Jersey 09781
Attention: Head, Law, Patents and Compliance (Pharmaceuticals)

If to Onyx, addressed to:

Onyx Pharmaceuticals, Inc.
c/o Amgen Inc.
One Amgen Center Drive
Thousand Oaks, CA 91320
Attention: General Counsel
Facsimile: (805) 499-4531

5. 2015 Side Letter Regarding Collaboration Agreement.

a. The proviso set forth in the first sentence of Paragraph 1.a. of the 2015 Side Letter Regarding Collaboration Agreement is hereby amended (new language is underlined).

"***provided, however***, that, if Bayer elects to discontinue commercialization of the Collaboration Products in the United States <u>prior to later of (a) the expiration of the last-to-expire Bayer Patent that includes a Valid Claim that covers Collaboration Products sold in the United States, or (b) the expiration of regulatory exclusivity of the Collaboration Products in the United States</u>, Onyx shall have the right to assume exclusive authority and control over the commercialization of the Collaboration Products in the United States and, in such event, the Parties would promptly agree upon a transition plan <u>and agreement which addresses, *inter alia*, indemnification of Bayer for actions and activities undertaken by Onyx (and its Affiliates), a royalty payable to Bayer in recognition of its contributions to the Collaboration Product commensurate with the royalty payable hereunder and such other terms as the Parties may agree upon</u>."

b. The last sentence of Paragraph 2 of the 2015 Side Letter Regarding Collaboration Agreement is hereby amended as follows (new language is underlined):

"Notwithstanding the foregoing, the Parties hereby acknowledge and agree that each and every product that Bayer commercializes in the United States as of the date hereof (including, without limitation, Stivarga® (regorafenib)), <u>and combinations with such products</u>, shall not be considered a Competing Product for the purposes hereof."

c. Paragraph 3.a. of the 2015 Side Letter Regarding Collaboration Agreement is hereby amended to include the following sentence:

"Notwithstanding the foregoing, a licensee or sublicensee of Bayer or its Affiliates or any of their licensees or sublicensees who is granted such license or sublicense as a result of a settlement by Bayer of any action taken in a court or Governmental or Regulatory Authority or any action taken by a court or Governmental or Regulatory Authority shall not be considered a licensee or sublicensee of Bayer or its Affiliates or any of their licensees or sublicensees. Gross receipts received by such licensee or sublicensees on account of sales of Collaboration Products shall not be taken into account for determining Net Sales. For clarity, however, amounts received by Bayer from such licensees or sublicensees in the form of license fees or

royalties shall be treated as Net Sales, and Bayer shall pay royalties to Onyx under this letter as , amounts received by Bayer from such licensees or sublicensees in the form of license fees or royalties were Net Sales of Bayer."

6. Combination Development Agreement. The Parties hereby acknowledge and agree that effective immediately, the Combination Development Agreement shall be terminated and shall have no further force or effect.

7. Full Force and Effect. Except as expressly set forth in this letter, the Collaboration Agreement remains in full force and effect.

8. Miscellaneous. Each Party shall bear its own costs and expenses required to implement the terms of this letter agreement and any such costs and expenses shall not be shared by the Parties. This letter, together with the Collaboration Agreement, as modified hereby, contains all of the terms agreed to by the Parties regarding the subject matter of this letter and supersedes any prior oral or written agreements, understandings or arrangements between the Parties as to the subject matter hereof. This letter may not be amended, modified, altered or supplemented except by means of a written agreement or other instrument executed by both Parties. This letter may be executed in one or more counterparts, each of which shall be deemed an original, but both of which together shall constitute one and the same instrument. Each Party may execute this letter by facsimile transmission or in PDF format sent by electronic mail. Facsimile or PDF signatures of authorized signatories of the Parties will be deemed to be original signatures, will be valid and binding upon the Parties and, upon delivery, will constitute due execution of this letter. This letter shall be deemed to have been entered into and shall be construed and enforced in accordance with the laws of the State of California without giving effect to any choice or conflict of laws provision.

[signature page follows]

Please confirm that the foregoing is in accordance with your understanding of our agreement by signing and returning to us a copy of this letter.

Sincerely,

ONYX PHARMACEUTICALS, INC.

/s/ David A. Piacquad
Name: David A. Piacquad
Title: Senior Vice President, Business Development

ACKNOWLEDGED AND AGREED:

BAYER HEALTHCARE LLC

/s/ Robert LaCaze
Name: Robert LaCaze
Title: EVP and Head of the Oncology Business Unit

Cc:

Bayer HealthCare Pharmaceuticals Inc.
100 Bayer Boulevard
PO Box 915
Whippany, NJ 07981-0915
Attention: Head, Law Patents and Compliance
Facsimile: 862-404-3053

Appendix Omitted from Side Letter

Pursuant to Regulation S-K, Item 601(a)(5), the appendices to the Side Letter, as listed below, have not been filed. The Registrant agrees to furnish supplementally a copy of any omitted appendices to the Securities and Exchange Commission upon request; provided, however, that the Registrant may request confidential treatment of omitted items.

Appendix

Appendix A Tier One Ex-U.S. Countries
Appendix B Bayer Patents

BEIGENE, LTD.

AMENDMENT NO. 2 TO SHARE PURCHASE AGREEMENT

THIS AMENDMENT NO. 2 (this "**Amendment**") to the SHARE PURCHASE AGREEMENT, dated as of October 31, 2019, as amended on December 6, 2019 (the "**Agreement**"), is made and entered into as of March 17, 2020, by and among BeiGene, Ltd., an exempted company incorporated in the Cayman Islands (the "**Company**"), and Amgen Inc., a Delaware corporation (the "**Investor**"). Capitalized terms used but not defined herein shall have the meanings ascribed to them in the Agreement.

RECITALS

WHEREAS, pursuant to the Agreement, the Investor purchased and subscribed for Two Hundred Six Million Six Hundred Thirty-Five Thousand Thirteen (206,635,013) Ordinary Shares in the form of Fifteen Million Eight Hundred Ninety-Five Thousand One (15,895,001) American Depositary Shares of the Company at a purchase price of $13.45 per share, or $174.85 per American Depositary Share, at the Closing, which represented approximately twenty point five percent (20.5%) of the Company's outstanding share capital as of that date;

WHEREAS, in order to account for periodic dilution from the issuance of the Company's shares under its equity incentive plans, the Company and the Investor would like to provide for the option to purchase by the Investor of such supplemental amount of Ordinary Shares in the form of American Depositary Shares on a monthly basis such that the Investor will hold approximately twenty point six percent (20.6%) of the Company's outstanding share capital immediately following each such purchase in order to maintain the Investor's equity method accounting treatment for its investment in the Company;

WHEREAS, pursuant to Section 8.9 of the Agreement, no provision in the Agreement may be supplemented, deleted or amended except in a writing executed by an authorized representative of each of the Investor and the Company; and

WHEREAS, the Company will seek all approvals of the Company's shareholders required for the Company to (i) enter into this Amendment and (ii) issue the Monthly Firm Shares (as defined below), in each case in accordance with the HK Listing Rules.

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. **Addition of Section 2.4.** The following shall be inserted as a new Section 2.4 of the Agreement:

"**2.4 Monthly Sale of Additional Shares.**

(a) Subject to the Subsequent Shareholder Approval, purchases and sales under this Section 2.4 shall commence on the first (1st) day of the month following the Subsequent

Shareholder Approval (or if the Company's American Depositary Shares are not trading on NASDAQ on such day, the next trading day) (the "**Commencement Date**") and shall continue until the earliest of (i) the date on which the Investor and its Affiliates collectively own less than twenty percent (20%) of the outstanding share capital of the Company as a result of the Investor's sale of Shares, (ii) written notice from either the Investor or the Company that such party wishes to terminate such monthly purchases and sales, which notice shall be provided at least sixty (60) days in advance of the termination of such monthly purchases and sales or such longer period as reasonably required, upon advice of Investor's counsel, to permit the Investor to commence market purchases under a trading plan in accordance with Rule 10b5-1 under the Exchange Act, and (iii) the third anniversary of the Commencement Date (the "**Monthly Sale Period**"). Upon mutual agreement by the parties and subject to approval by the Company's shareholders if required by the HK Listing Rules, this Amendment shall be extended for additional three-year terms upon expiration of the then current term.

(b) During the Monthly Sale Period, on the first (1st) day of each month (or if the Company's American Depositary Shares are not trading on NASDAQ on such day, the next trading day), the Company shall send or cause to be sent via e-mail to the Investor the following information (such notice, the "**Monthly Firm Shares Notice**"): (i) the number of ADSs Outstanding as of the applicable Reference Date, (ii) the Amgen Percentage as of such Reference Date based on the latest information provided by the Investor (which shall be confirmed by the Investor and revised if inaccurate), (iii) the volume weighted average price of one Company American Depositary Share on NASDAQ for the ninety (90) calendar days preceding such Reference Date, as reported by Bloomberg (each, a "**Monthly Firm Shares Purchase Price**") and (iv) an updated Company Disclosure Schedule as of the applicable Reference Date in accordance with Section 2.4(d), if any. If the Amgen Percentage is less than the Trigger Percentage as of such Reference Date, then, upon the Investor's written request (the "**Investor Request**") delivered within two (2) Business Days following Investor's receipt of the Monthly Firm Shares Notice, the Company hereby agrees to sell to the Investor and the Investor agrees to subscribe for such additional number of Ordinary Shares in the form of American Depositary Shares (the "**Monthly Firm Shares**") equal to: (x) the number of ADSs Outstanding *multiplied by* (y) a percentage equal to the Target Percentage minus the Amgen Percentage, based on the Monthly Firm Shares Notice, at a purchase price per Monthly Firm Share equal to the Monthly Firm Shares Purchase Price; *provided, however*, that in no event shall the aggregate number of Monthly Firm Shares issued during the Monthly Sale Period, exceed Seventy-Five Million (75,000,000) Ordinary Shares (subject to appropriate adjustment in the event of any share dividend, share split, combination or other similar recapitalization with respect to the Ordinary Shares). If the Amgen Percentage in any such Monthly Firm Shares Notice is equal to or greater than the Trigger Percentage, then the Company shall not issue, and the Investor shall not have the option to subscribe for, any Monthly Firm Shares for such month. The Monthly Firm Shares shall be in the form of American Depositary Shares, unless the Investor requests in writing that the Monthly Firm Shares be delivered in the form of Ordinary Shares, in which case the number of shares and purchase price shall be adjusted accordingly based on the ADS to Ordinary Share ratio. Any Monthly Firm Shares purchased hereunder shall be "Shares" or "Deposit Shares" as the context shall so require for purposes of Article 1, Article 3, Article 4, Article 5 and Article 8 of the Agreement. Until such time as the Investor elects to cease equity method accounting for its investment in the Company, the Investor and Company acknowledge and agree that the Investor's direct purchase of

Ordinary Shares in the form of American Depositary Shares from the Company on a monthly basis hereunder shall be the primary means for the Investor to purchase shares in order to maintain such equity method accounting treatment.

(c) Subject to the terms and conditions hereof, the closing of the purchase and sale of Monthly Firm Shares, if any, shall take place each month within seven (7) Business Days following the Reference Date, or at such other time as mutually agreed by the Company and the Investor (the "**Monthly Closing**"). At each Monthly Closing, the Company will instruct the Transfer Agent to deliver to the Investor, via book entry to the applicable balance account registered in the name of the Investor, the Monthly Firm Shares for such month, against payment of the aggregate Monthly Firm Share Purchase Price for such Monthly Firm Shares in U.S. dollars by wire transfer of immediately available funds to the order of the Company.

(d) For purposes of Article 3 and Article 4 of the Agreement, the representations and warranties contained therein shall be deemed made as of the date of the applicable Monthly Closing, as supplemented by, in the case of Article 3, (i) the Company's most recent Form 10-K (including any information incorporated by reference therein from the Company's definitive proxy statement on Schedule 14A) and any subsequent Form 10-Q and Form 8-K filed with or furnished to the SEC and made publicly available prior to the date of delivery of the Monthly Firm Shares Notice (other than (x) any information that is contained in the "Risk Factors" or "Note Regarding Forward-Looking Statements" or similar sections of such Company SEC Documents and (y) any forward-looking statements, or other statements that are similarly predictive or forward-looking in nature, contained in such Company SEC Documents), and (ii) any update to the Company Disclosure Schedule as of the applicable Reference Date provided by the Company to Investor in accordance with Section 2.4(b); provided that the Company shall not be required to provide any updates to (x) Section 3.2 (Subsidiaries) to list any newly formed subsidiaries since the most recent disclosures in the Form 10-K or any Form 10-Q, or (y) Section 3.3 (Capitalization) other than the updated number of outstanding shares included in the Monthly Firm Shares Notice, which shall constitute a representation and warranty of the Company under the Agreement; and provided, further, that if there are any material updates to the Company Disclosure Schedule following delivery of the Investor Request, the Investor Request may be revoked prior to the issuance of the shares in the Investor's sole discretion.

(e) For purposes of this Section 2.4:

(i) "ADSs Outstanding" means the total number of the Company's Ordinary Shares outstanding prior to NASDAQ market opening on the Reference Date, expressed in terms of American Depositary Shares.

(ii) "Amgen Percentage" means the percentage of the ADSs Outstanding held by the Investor as of the latest Reference Date.

(iii) "Reference Date" means the day on which the Company's ADSs are trading on NASDAQ immediately preceding the first (1st) day of each calendar month during the Monthly Sale Period.

(iv) "Subsequent Shareholder Approval" means all approvals of the Company's shareholders required for the Company to (i) enter into Amendment No. 2 to the Share Purchase Agreement and (ii) issue the Monthly Firm Shares, in each case in accordance with the HK Listing Rules.

(v) "Target Percentage" means 20.6% of the Company's outstanding share capital after giving effect to the issuance of the Monthly Firm Shares hereunder."

(vi) "Trigger Percentage" means 20.4% of the Company's outstanding share capital.

2. **Amendment to Section 5.16(a).** The first sentence of Section 5.16(a) is deleted in its entirety and replaced with:

"If the Company proposes to offer or sell any Ordinary Shares, American Depositary Shares or Ordinary Share Equivalents after the Closing Date, other than pursuant to the Plans ("**New Securities**"), and at the time immediately prior to such offer or sale the Investor holds no more than twenty one percent (21.0%) of the Company's outstanding share capital, the Company shall use reasonable best efforts to provide the Investor with an opportunity to participate in such offering or sale and purchase upon the same terms and conditions as other purchasers in the offering or sale of the New Securities, up to that portion of such New Securities as is necessary to allow the Investor to hold approximately twenty point six percent (20.6%) of the Company's share capital after the sale of New Securities, so long as the Investor's ownership percentage prior to such sale has not decreased as a result of the Investor's sale of Shares or the Investor's failure to participate in future offerings or sales of New Securities in which Investor is given the opportunity to participate pursuant to this Section 5.16(a), subject to applicable Law, HK Listing Rules and any waiver therefrom granted by the HK Stock Exchange."

3. **Addition of Section 5.21.** The following shall be inserted as a new Section 5.21 of the Agreement:

"5.21 Preparation of Proxy; Shareholders Meeting; Board Recommendation.

(a) As promptly as reasonably practicable after the execution of this Amendment, the Company shall prepare and cause to be filed with the SEC and the HK Stock Exchange a proxy circular relating to the Subsequent Shareholder Approval (such proxy circular, and any amendments or supplements thereto, the "**Supplemental Proxy Statement**"). The Investor shall assist and cooperate with the Company in the preparation of the Supplemental Proxy Statement and the resolution of any comments to the Supplemental Proxy Statement received from the SEC or HK Stock Exchange. The Company shall promptly correct any information in the Supplemental Proxy Statement if and to the extent such information becomes false or misleading in any material respect. The Company shall notify the Investor upon the receipt of any comments from the SEC or HK Stock Exchange, as applicable, and of any request by the SEC or HK Stock Exchange, as applicable, for amendments or supplements to the Supplemental Proxy Statement. The Company shall use its reasonable best efforts to (i) respond as promptly as reasonably practicable to any comments received from the SEC or HK Stock Exchange, as applicable, concerning the Supplemental Proxy Statement

and to resolve such comments with the SEC or HK Stock Exchange, as applicable, and (ii) to cause the Supplemental Proxy Statement to be disseminated to its shareholders as promptly as reasonably practicable after the resolution of any such comments.

(b) The Company shall take all necessary actions in accordance with applicable Law, the governing documents of the Company and the rules of NASDAQ and the HK Stock Exchange, as applicable, to duly call, give notice of, convene and hold a special shareholders meeting (the "**Supplemental Meeting**") for the purpose of obtaining the Subsequent Shareholder Approval, as soon as reasonably practicable after the SEC or HK Stock Exchange, as applicable, confirms that it has no further comments on the Supplemental Proxy Statement. Notwithstanding any provision of this Agreement to the contrary, the Company may adjourn, recess or postpone the Supplemental Meeting (i) to the extent necessary to ensure that any required supplement or amendment to the Supplemental Proxy Statement is provided to the shareholders of the Company within a reasonable amount of time in advance of the Supplemental Meeting, (ii) if as of the time for which the Supplemental Meeting is originally scheduled (as set forth in the Supplemental Proxy Statement) there are insufficient shares of capital stock of the Company represented (either in person or by proxy) to constitute a quorum necessary to conduct the business of the Supplemental Meeting or (iii) as may be required by applicable Law."

4. General

A. Except as expressly modified by this Amendment, the terms and provisions of the Agreement shall remain unchanged and in full force and effect in accordance with its terms.

B. Each of the parties hereto shall bear its respective costs, including legal fees, and expenses incurred in connection with the preparation of this Amendment and the activities incurred in connection therewith.

C. This Amendment may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which shall constitute one and the same agreement.

D. This Amendment shall be governed by and construed in accordance with the Laws of the State of New York, without regard to the conflict of laws principles thereof that would require the application of the Law of any other jurisdiction.

E. The Agreement and this Amendment constitute the full and entire understanding and agreement between the Company and the Investor with regard to the subject matter hereof and neither the Company nor the Investor shall be liable or bound to any other in any manner by any representations, warranties, covenants and agreements except as specifically set forth herein and therein.

F. This Amendment shall become effective immediately upon execution by the Company and the Investor.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date first written above.

THE COMPANY:

BEIGENE, LTD.

By: /s/ Scott A. Samuels
Name: Scott A. Samuels
Title: Senior Vice President, General Counsel

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date first written above.

INVESTOR:

AMGEN INC.

By: /s/ Robert A. Bradway
Name: Robert A. Bradway
Title: Chairman of the Board, President & CEO

Exhibit 31

CERTIFICATIONS

I, Robert A. Bradway, Chairman of the Board, Chief Executive Officer and President of Amgen Inc., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Amgen Inc.;

2. Based on my knowledge, this quarterly 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 quarterly report;

3. Based on my knowledge, the financial statements, and other financial information included in this quarterly 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 quarterly 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 quarterly 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 quarterly report based on such evaluation; and

   (d) Disclosed in this quarterly 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: April 30, 2020

/s/ ROBERT A. BRADWAY

Robert A. Bradway
Chairman of the Board,
Chief Executive Officer and President

CERTIFICATIONS

I, Peter H. Griffith, Executive Vice President and Chief Financial Officer of Amgen Inc., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Amgen Inc.;

2. Based on my knowledge, this quarterly 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 quarterly report;

3. Based on my knowledge, the financial statements, and other financial information included in this quarterly 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 quarterly 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 quarterly 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 quarterly report based on such evaluation; and

   (d) Disclosed in this quarterly 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: April 30, 2020

/s/ PETER H. GRIFFITH

Peter H. Griffith

Executive Vice President and Chief Financial Officer

Exhibit 32

Certification of Chief Executive Officer

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Amgen Inc. (the "Company") hereby certifies that:

(i) the accompanying Quarterly Report on Form 10-Q of the Company for the period ended March 31, 2020 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 30, 2020

/s/ ROBERT A. BRADWAY

Robert A. Bradway
Chairman of the Board,
Chief Executive Officer and President

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 ("Section 906"), or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Amgen Inc. and will be retained by Amgen Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Certification of Chief Financial Officer

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Amgen Inc. (the "Company") hereby certifies that:

(i) the accompanying Quarterly Report on Form 10-Q of the Company for the period ended March 31, 2020 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 30, 2020

/s/ PETER H. GRIFFITH

Peter H. Griffith

Executive Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 ("Section 906"), or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Amgen Inc. and will be retained by Amgen Inc. and furnished to the Securities and Exchange Commission or its staff upon request.