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, 2023

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 Stock Market LLC**
2.00% Senior Notes due 2026	**AMGN26**	**The Nasdaq Stock Market LLC**

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a 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 24, 2023, the registrant had 534,326,594 shares of common stock, $0.0001 par value, outstanding.

AMGEN INC.

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Defined Terms and Products

Defined terms

We use several terms in this Form 10-Q, including but not limited to those that are finance, regulation and disease-state related as well as names of other companies, which are given below.

Term	Description
ANDA	Abbreviated New Drug Application
AOCI	accumulated other comprehensive income (loss)
BeiGene	BeiGene, Ltd.
Bergamo	Laboratorio Quimico Farmaceutico Bergamo Ltda
ChemoCentryx	ChemoCentryx, Inc.
CMS	Centers for Medicare & Medicaid Services
COVID-19	coronavirus disease 2019
Eczacıbaşı	EIS Eczacıbaşı İlaç, Sınai ve Finansal Yatırımlar Sanayi ve Ticaret A.Ş.
EPS	earnings per share
ESG	environmental, social and governance
FDA	U.S. Food and Drug Administration
Fitch	Fitch Ratings, Inc.
FTC	Federal Trade Commission
GAAP	U.S. generally accepted accounting principles
Gensenta	Gensenta İlaç Sanayi ve Ticaret A.Ş.
HHS	U.S. Department of Health & Human Services
Horizon	Horizon Therapeutics plc
IPR&D	in-process research and development
IRA	Inflation Reduction Act of 2022
IRS	Internal Revenue Service
LIBOR	London Interbank Offered Rate
MD&A	management's discussion and analysis
Moody's	Moody's Investors Service, Inc.
Neumora	Neumora Therapeutics, Inc.
OECD	Organisation for Economic Co-operation and Development
PBM	pharmacy benefit manager
R&D	research and development
RAR	Revenue Agent Report
ROW	rest of world
S&P	Standard & Poor's Financial Services LLC
SEC	U.S. Securities and Exchange Commission
SG&A	selling, general and administrative
SOFR	Secured Overnight Financing Rate
U.S. Treasury	U.S. Department of Treasury
UTB	unrecognized tax benefit

Products

The brand names of our products, our delivery devices and certain of our product candidates and their associated generic names are given below.

Term	Description
Aimovig	Aimovig® (erenumab-aooe)
AMJEVITA/AMGEVITA	AMJEVITA® (adalimumab-atto) /AMGEVITA™ (adalimumab)
Aranesp	Aranesp® (darbepoetin alfa)
AVSOLA	AVSOLA® (infliximab-axxq)
BLINCYTO	BLINCYTO® (blinatumomab)
Corlanor	Corlanor® (ivabradine)
ENBREL	Enbrel® (etanercept)
EPOGEN	EPOGEN® (epoetin alfa)
EVENITY	EVENITY® (romosozumab-aqqg)
IMLYGIC	IMLYGIC® (talimogene laherparepvec)
KANJINTI	KANJINTI® (trastuzumab-anns)
KYPROLIS	KYPROLIS® (carfilzomib)
LUMAKRAS/LUMYKRAS	LUMAKRAS®/LUMYKRAS™ (sotorasib)
MVASI	MVASI® (bevacizumab-awwb)
Neulasta	Neulasta® (pegfilgrastim)
NEUPOGEN	NEUPOGEN® (filgrastim)
Nplate	Nplate® (romiplostim)
Otezla	Otezla® (apremilast)
Parsabiv	Parsabiv® (etelcalcetide)
Prolia	Prolia® (denosumab)
Repatha	Repatha® (evolocumab)
RIABNI	RIABNI® (rituximab-arrx)
Sensipar/Mimpara	Sensipar®/Mimpara™ (cinacalcet)
TAVNEOS	TAVNEOS® (avacopan)
TEZSPIRE	TEZSPIRE® (tezepelumab-ekko)
Vectibix	Vectibix® (panitumumab)
XGEVA	XGEVA® (denosumab)

Item 1. FINANCIAL STATEMENTS

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

	Three months ended March 31,	
	2023	2022
Revenues:		
Product sales	$ 5,846	$ 5,731
Other revenues	259	507
Total revenues	6,105	6,238
Operating expenses:		
Cost of sales	1,720	1,561
Research and development	1,058	959
Selling, general and administrative	1,258	1,228
Other	148	(10)
Total operating expenses	4,184	3,738
Operating income	1,921	2,500
Other income (expense):		
Interest expense, net	(543)	(295)
Other income (expense), net	2,064	(530)
Income before income taxes	3,442	1,675
Provision for income taxes	601	199
Net income	$ 2,841	$ 1,476
Earnings per share:		
Basic	$ 5.32	$ 2.69
Diluted	$ 5.28	$ 2.68
Shares used in calculation of earnings per share:		
Basic	534	548
Diluted	538	551

See accompanying notes.

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

	Three months ended March 31,	
	2023	2022
Net income	$ 2,841	$ 1,476
Other comprehensive (loss) income, net of reclassification adjustments and taxes:		
Foreign currency translation	28	(51)
Cash flow hedges	(86)	84
Other	21	—
Other comprehensive (loss) income, net of reclassification adjustments and taxes	(37)	33
Comprehensive income	$ 2,804	$ 1,509

See accompanying notes.

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

	March 31, 2023 (Unaudited)	December 31, 2022
ASSETS		
Current assets:		
Cash and cash equivalents	$ 31,560	$ 7,629
Marketable securities	1	1,676
Trade receivables, net	5,736	5,563
Inventories	5,011	4,930
Other current assets	2,395	2,388
Total current assets	44,703	22,186
Property, plant and equipment, net	5,460	5,427
Intangible assets, net	15,393	16,080
Goodwill	15,531	15,529
Other noncurrent assets	7,633	5,899
Total assets	$ 88,720	$ 65,121
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,320	$ 1,572
Accrued liabilities	12,061	12,524
Current portion of long-term debt	834	1,591
Total current liabilities	14,215	15,687
Long-term debt	60,761	37,354
Long-term tax liabilities	5,864	5,757
Other noncurrent liabilities	2,532	2,662
Contingencies and commitments		
Stockholders' equity:		
Common stock and additional paid-in capital; $0.0001 par value; 2,750.0 shares authorized; outstanding—534.3 shares in 2023 and 534.0 shares in 2022	32,535	32,514
Accumulated deficit	(26,919)	(28,622)
Accumulated other comprehensive loss	(268)	(231)
Total stockholders' equity	5,348	3,661
Total liabilities and stockholders' equity	$ 88,720	$ 65,121

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, 2022	534.0	$ 32,514	$ (28,622)	$ (231)	$ 3,661
Net income	—	—	2,841	—	2,841
Other comprehensive loss, net of taxes	—	—	—	(37)	(37)
Dividends declared on common stock ($2.13 per share)	—	—	(1,138)	—	(1,138)
Issuance of common stock in connection with the Company's equity award programs	0.3	11	—	—	11
Stock-based compensation expense	—	47	—	—	47
Tax impact related to employee stock-based compensation expense	—	(37)	—	—	(37)
Balance as of March 31, 2023	534.3	$ 32,535	$ (26,919)	$ (268)	$ 5,348

	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, 2021	558.3	$ 32,096	$ (24,600)	$ (796)	$ 6,700
Net income	—	—	1,476	—	1,476
Other comprehensive income, net of taxes	—	—	—	33	33
Dividends declared on common stock ($1.94 per share)	—	—	(1,034)	—	(1,034)
Issuance of common stock in connection with the Company's equity award programs	0.5	18	—	—	18
Stock-based compensation expense	—	78	—	—	78
Tax impact related to employee stock-based compensation expense	—	(45)	—	—	(45)
Repurchases of common stock	(24.6)	(900)	(5,410)	—	(6,310)
Balance as of March 31, 2022	534.2	$ 31,247	$ (29,568)	$ (763)	$ 916

See accompanying notes.

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

	Three months ended March 31,	
	2023	**2022**
Cash flows from operating activities:		
Net income	$ 2,841	$ 1,476
Depreciation, amortization and other	900	841
Deferred income taxes	(49)	(251)
Adjustments for equity method investments	(31)	305
(Gains) losses on equity securities	(1,830)	211
Other items, net	(13)	29
Changes in operating assets and liabilities, net of acquisitions:		
Trade receivables, net	(144)	(195)
Inventories	(58)	(230)
Other assets	(139)	(43)
Accounts payable	(253)	42
Accrued income taxes, net	443	318
Long-term tax liabilities	107	57
Other liabilities	(710)	(396)
Net cash provided by operating activities	1,064	2,164
Cash flows from investing activities:		
Proceeds from sales of marketable securities	1,124	—
Proceeds from maturities of marketable securities	550	32
Purchases of property, plant and equipment	(344)	(190)
Other	28	47
Net cash provided by (used in) investing activities	1,358	(111)
Cash flows from financing activities:		
Net proceeds from issuance of debt	23,798	3,952
Extinguishment of debt	(420)	—
Repayment of debt	(704)	—
Repurchases of common stock	—	(6,360)
Dividends paid	(1,137)	(1,080)
Other	(28)	(26)
Net cash provided by (used in) financing activities	21,509	(3,514)
Increase (decrease) in cash and cash equivalents	23,931	(1,461)
Cash and cash equivalents at beginning of period	7,629	7,989
Cash and cash equivalents at end of period	$ 31,560	$ 6,528

See accompanying notes.

AMGEN INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
March 31, 2023
(Unaudited)

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, 2023 and 2022, 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, 2022.

Principles of consolidation

The condensed consolidated financial statements include the accounts of Amgen as well as its majority-owned subsidiaries. In determining whether we are the primary beneficiary of a variable interest entity, we consider whether we have both the power to direct activities of the entity that most significantly impact the entity's economic performance and the obligation to absorb losses of, or the right to receive benefits from, the entity that could potentially be significant to that entity. We do not have any significant interests in any variable interest entities of which we are the primary beneficiary. All material intercompany transactions and balances have been eliminated in consolidation.

Use of estimates

The preparation of condensed consolidated financial statements in conformity with 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 $9.4 billion and $9.3 billion as of March 31, 2023 and December 31, 2022, respectively.

Recent accounting pronouncements

No new accounting pronouncements were issued or adopted for the three months ended March 31, 2023, that materially impacted the Company.

2. Restructuring

In the first quarter of 2023, we initiated a restructuring plan to enhance continued innovation, including investments in first-in-class medicines, while improving our cost structure. As part of the plan, we are reallocating resources to the areas of the business that will enable long-term growth.

We estimate that we will incur $300 million to $400 million of pretax charges in 2023 in connection with our restructuring plan, including (i) separation and other headcount-related costs with respect to staff reductions and (ii) asset-related charges that consist primarily of asset impairments, accelerated depreciation and other related costs resulting from the rationalization of our geographic footprint. During the three months ended March 31, 2023, we incurred total separation and other headcount-related costs of $141 million recorded in Other operating expenses in the Condensed Consolidated Statements of Income and asset-related and other charges of $38 million, consisting primarily of asset-related impairments recorded in Cost of sales in the Condensed Consolidated Statements of Income.

As of March 31, 2023, the total restructuring liability of $132 million was included in Accrued liabilities in the Condensed Consolidated Balance Sheets.

3. Acquisitions and divestitures

Proposed acquisition of Horizon Therapeutics plc

On December 12, 2022, we announced that we had entered into a transaction agreement under which Amgen will acquire all shares of Horizon for $116.50 per share in cash for a transaction equity value of approximately $27.8 billion. Horizon is a global biotechnology company headquartered in Dublin, Ireland and is focused on the discovery, development and commercialization of medicines that address critical needs for people impacted by rare, autoimmune and severe inflammatory diseases. Horizon has 12 marketed medicines and a pipeline with more than 20 development programs. The closing of this transaction is contingent upon satisfaction of certain regulatory (including FTC review) and other customary closing conditions.

On January 30, 2023, the Company and Horizon each received a request for additional information and documentary materials (Second Request) from the FTC in connection with the FTC's review of the Company's proposed acquisition of Horizon. We and Horizon have been working cooperatively with the FTC and will continue to do so. Additionally, the Irish High Court set a court hearing date of May 22, 2023, to consider the application to sanction our proposed acquisition of Horizon. The Irish High Court will be informed in advance if the hearing date needs to be adjourned to a later date as a result of a condition to closing, including required regulatory clearances, not having been satisfied by the scheduled hearing date.

In connection with our proposed acquisition of Horizon, we entered into several debt and financing arrangements. See Note 10, Financing arrangements.

Acquisition of ChemoCentryx, Inc.

On October 20, 2022, we acquired all the outstanding stock of ChemoCentryx, a publicly traded biotechnology company focused on orally-administered therapeutics to treat autoimmune diseases, inflammatory disorders and cancer, for $52.00 per share in cash, representing a total consideration of $3.9 billion. The acquisition, which was accounted for as a business combination, includes TAVNEOS, an orally administered selective complement 5a receptor inhibitor that was approved by the FDA in October 2021 as an adjunctive therapy for adults with severe active anti-neutrophil cytoplasmic autoantibody-associated vasculitis (ANCA-associated vasculitis). TAVNEOS is commercialized by us in the United States; for markets outside the United States, TAVNEOS is commercialized by a collaboration partner, and Amgen is entitled to royalties and milestones based off future sales of the product. Upon its acquisition, ChemoCentryx became a wholly owned subsidiary of Amgen, and its operations have been included in our consolidated financial statements commencing on the acquisition date.

Measurement period adjustments during the three months ended March 31, 2023, included changes to the purchase price allocation and total consideration, resulting in a net decrease of approximately $4 million to goodwill. The measurement period adjustments resulted primarily from valuation inputs pertaining to the TAVNEOS intangible assets and adjustments to vendor payables based on facts and circumstances that existed as of the acquisition date and did not result from events subsequent to the acquisition date. The adjustments did not have a significant impact on Amgen's results of operations during the three months ended March 31, 2023, and would not have had a significant impact on prior-period results if the adjustments had been made as of the acquisition date.

The following table summarizes the total consideration and allocated acquisition date fair values of assets acquired and liabilities assumed, inclusive of measurement period adjustments (in millions):

	Amounts
Cash and cash equivalents	$ 86
Marketable securities	235
Inventories	41
Finite-lived intangible assets – developed-product-technology rights	3,499
Goodwill	663
Other liabilities, net	(83)
Deferred tax liability, net	(516)
Total assets acquired, net	$ 3,925

The $3.9 billion total consideration consisted of (i) a $3.7 billion cash payment to outstanding common stockholders of ChemoCentryx and (ii) a $181 million cash payment to equity award holders of ChemoCentryx for services rendered prior to the acquisition date of October 20, 2022, under the ChemoCentryx equity award plans.

The developed-product-technology rights acquired relates to TAVNEOS, which is approved in the United States and European Union for ANCA-associated vasculitis. The estimated fair values of $3.5 billion were determined by using a multi-period excess earnings income approach that discounts expected future cash flows to present value by applying a discount rate that represents the estimated rate that market participants would use to value the intangible assets. The developed-product-technology rights are being amortized on a straight-line basis over a weighted-average period of approximately 11 years using the straight-line method.

The estimated fair value of the acquired inventory of $41 million was determined using the comparative sales method, which uses actual or expected selling prices of inventory as the base amount to which adjustments for selling effort and a profit on the buyer's effort are applied. The inventory fair value adjustment is being amortized as inventory turns over, which we estimate to be approximately 13 months.

A net deferred tax liability of $516 million was recognized on the temporary differences related to the book bases and tax bases of the acquired identifiable assets and assumed liabilities, primarily driven by the intangible assets acquired.

The excess of the acquisition date consideration over the fair values assigned to the assets acquired and the liabilities assumed of $663 million was recorded as goodwill, which is not deductible for tax purposes. The goodwill value is primarily attributable to the expected synergies from the TAVNEOS asset.

Our accounting for this acquisition is preliminary and will be finalized upon completion of our analysis to determine the acquisition date fair values of certain assets acquired, liabilities assumed and tax-related items as we obtain additional information during the measurement period of up to one year from the acquisition date.

Divestiture of Gensenta İlaç Sanayi ve Ticaret A.Ş.

On November 2, 2022, we sold our shares in Gensenta, a subsidiary in Turkey, to Eczacıbaşı for net cash proceeds of approximately $130 million. The transaction was accounted for as a sale of a business and did not meet the criteria to be classified as discontinued operations. Upon closing of this transaction, net assets related to Gensenta of $86 million were divested, and during the year ended December 31, 2022, we recognized a loss on divestiture of $567 million, recorded in Other operating expenses in the Consolidated Statements of Income, primarily due to the reclassification of $615 million of cumulative foreign currency translation losses from AOCI into earnings.

4. 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. The majority of ROW revenues relates to products sold in Europe.

Revenues were as follows (in millions):

	Three months ended March 31,					
	2023			2022		
	U.S.	ROW	Total	U.S.	ROW	Total
Prolia	$ 623	$ 304	$ 927	$ 582	$ 270	$ 852
ENBREL	564	15	579	843	19	862
XGEVA	384	152	536	368	134	502
Otezla	294	98	392	350	101	451
Repatha	197	191	388	165	164	329
Nplate	246	116	362	156	110	266
KYPROLIS	234	124	358	196	91	287
Aranesp	115	240	355	137	221	358
EVENITY	164	90	254	110	60	170
Other products[1]	1,154	541	1,695	1,130	524	1,654
Total product sales[2]	$ 3,975	$ 1,871	5,846	$ 4,037	$ 1,694	5,731
Other revenues			259			507
Total revenues			$ 6,105			$ 6,238

[1] Consists of product sales of our non-principal products, as well as our Bergamo and Gensenta subsidiaries.

[2] Hedging gains and losses, which are included in product sales, were not material for the three months ended March 31, 2023 and 2022.

5. Income taxes

The effective tax rates for the three months ended March 31, 2023 and 2022, were 17.5% and 11.9%, respectively.

The increase in our effective tax rate for the three months ended March 31, 2023, was primarily due to the new Puerto Rico income tax beginning in 2023 and an increase in interest expense on tax reserves. 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 treated as a foreign jurisdiction for U.S. tax purposes, that are currently subject to a tax incentive grant through 2050. In addition, the Company's operations conducted in Singapore are subject to a tax incentive grant through 2034. These foreign earnings are also subject to U.S. tax at a reduced rate of 10.5%.

We are no longer subject to a 4% excise tax in the U.S. territory of Puerto Rico on the gross intercompany purchase price of goods and services from our manufacturer in Puerto Rico. As of January 1, 2023, we qualify for the alternative income tax rate on industrial development income of our Puerto Rico affiliate. In the United States, this income tax qualifies for foreign tax credits. Both this income tax and the associated foreign tax credits are generally recognized in our provision for income taxes. We account for the 2022 excise tax that was capitalized in Inventories as an expense in Cost of sales when the related products are sold in 2023, and a foreign tax credit will not be recognized in 2023 with respect to the excise tax.

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 can and have arisen 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. Tax authorities, including the IRS, are becoming more aggressive and are particularly focused on such matters.

In 2017, we received an RAR and a modified RAR from the IRS for the years 2010–2012, proposing significant adjustments that primarily relate to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico. We disagreed with the proposed adjustments and calculations and pursued resolution with the IRS appeals office but were unable to reach resolution. In July 2021, we filed a petition in the U.S. Tax Court to contest two duplicate Statutory Notices of Deficiency (Notices) for the years 2010–2012 that we received in May and July 2021, which seek to increase our U.S. taxable income for the years 2010–2012 by an amount that would result in additional federal tax of approximately $3.6 billion plus interest. Any additional tax that could be imposed for the years 2010–2012 would be reduced by up to approximately $900 million of repatriation tax previously accrued on our foreign earnings.

In 2020, we received an RAR and a modified RAR from the IRS for the years 2013–2015, also proposing significant adjustments that primarily relate to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico similar to those proposed for the years 2010–2012. We disagreed with the proposed adjustments and calculations and pursued resolution with the IRS appeals office but were unable to reach resolution. In July 2022, we filed a petition in the U.S. Tax Court to contest a Notice for the years 2013–2015 that we previously reported receiving in April 2022 that seeks to increase our U.S. taxable income for the years 2013–2015 by an amount that would result in additional federal tax of approximately $5.1 billion, plus interest. In addition, the Notice asserts penalties of approximately $2.0 billion. Any additional tax that could be imposed for the years 2013–2015 would be reduced by up to approximately $2.2 billion of repatriation tax previously accrued on our foreign earnings.

We firmly believe that the IRS positions set forth in the 2010–2012 and 2013–2015 Notices are without merit. We are contesting the 2010–2012 and 2013–2015 Notices through the judicial process. The two cases were consolidated in the U.S. Tax Court on December 19, 2022. On February 10, 2023, the U.S. Tax Court entered an order setting a trial date of November 4, 2024.

We are currently under examination by the IRS for the years 2016–2018 with respect to issues similar to those for the 2010 through 2015 period. In addition, we are under examination by a number of state and foreign tax jurisdictions.

Final resolution of these complex matters is not likely within the next 12 months. We continue to believe our accrual for income tax liabilities is appropriate based on past experience, interpretations of tax law, application of the tax law to our facts and judgments about potential actions by tax authorities; however, due to the complexity of the provision for income taxes and uncertain resolution of these matters, the ultimate outcome of any tax matters may result in payments substantially greater than amounts accrued and could have a material adverse impact on our condensed consolidated financial statements.

We are no longer subject to U.S. federal income tax examinations for years ended on or before December 31, 2009.

See our Annual Report on Form 10-K for the year ended December 31, 2022, Part I, Item 1A, Risk Factors—*The adoption and interpretation of new tax legislation or exposure to additional tax liabilities could affect our profitability*, for further discussion.

During the three months ended March 31, 2023, the gross amounts of our UTBs increased by $60 million as a result of tax positions taken during the current year. Substantially all of the UTBs as of March 31, 2023, if recognized, would affect our effective tax rate.

6. Earnings per share

The computation of basic 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 primarily include 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,	
	2023	2022
Income (Numerator):		
Net income for basic and diluted EPS	$ 2,841	$ 1,476
Shares (Denominator):		
Weighted-average shares for basic EPS	534	548
Effect of dilutive securities	4	3
Weighted-average shares for diluted EPS	538	551
Basic EPS	$ 5.32	$ 2.69
Diluted EPS	$ 5.28	$ 2.68

For the three months ended March 31, 2023 and 2022, the number of antidilutive employee stock-based awards excluded from the computation of diluted EPS was not significant.

7. 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, 2023	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair values
U.S. Treasury bills	$ —	$ —	$ —	$ —
Money market mutual funds	31,064	—	—	31,064
Other short-term interest-bearing securities	1	—	—	1
Total interest-bearing securities	$ 31,065	$ —	$ —	$ 31,065

Types of securities as of December 31, 2022	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair values
U.S. Treasury bills	$ 1,676	$ —	$ —	$ 1,676
Money market mutual funds	2,659	—	—	2,659
Other short-term interest-bearing securities	—	—	—	—
Total interest-bearing securities	$ 4,335	$ —	$ —	$ 4,335

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, 2023	December 31, 2022
Cash and cash equivalents	$ 31,064	$ 2,659
Marketable securities	1	1,676
Total interest-bearing securities	$ 31,065	$ 4,335

Cash and cash equivalents in the above table excludes bank account cash of $496 million and $4,970 million as of March 31, 2023 and December 31, 2022, respectively.

Cash and cash equivalents as of March 31, 2023 was $31.6 billion, of which $27.8 billion is anticipated to be used for the proposed acquisition of Horizon. See Note 3, Acquisitions and divestitures.

All interest-bearing securities as of March 31, 2023 and December 31, 2022, mature in one year or less.

For the three months ended March 31, 2023 and 2022, realized gains and losses on interest-bearing securities were not material. Realized gains and losses on interest-bearing securities are recorded in Other income (expense), 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 investment-grade credit ratings, and it places restrictions on maturities and concentration by asset class and issuer.

Equity securities

BeiGene, Ltd.

Effective January 30, 2023, we relinquished our right to appoint a director to BeiGene's Board of Directors. We no longer have the ability to exert significant influence over BeiGene. As a result, in the first quarter of 2023, we began to account for our ownership interest as an equity security with a readily determinable fair value, with changes in fair value recorded in Other income (expense), net. See Note 12, Fair value measurement. During the three months ended March 31, 2023, we recognized a net unrealized gain of $1.9 billion recorded to Other income (expense), net, in our Condensed Consolidated Statements of Income. As of March 31, 2023, the carrying and fair value of our investment in BeiGene was $4.1 billion and was included in Other noncurrent assets in the Condensed Consolidated Balance Sheets.

As of December 31, 2022, under the equity method of accounting, the carrying value of our investment in BeiGene was $2.2 billion and was included in Other noncurrent assets in the Condensed Consolidated Balance Sheets, and our ownership percentage was 18.2%. During the three months ended March 31, 2022, under the equity method of accounting, our carrying value in BeiGene was adjusted by our share of BeiGene's net losses of $108 million and amortization of the basis difference of $47 million.

Other equity securities

Excluding our equity investment in BeiGene, we held investments in other equity securities with readily determinable fair values (publicly traded securities) of $462 million and $480 million as of March 31, 2023 and December 31, 2022, respectively, which are included in Other noncurrent assets in the Condensed Consolidated Balance Sheets. During the three months ended March 31, 2023 and 2022, net unrealized gains and losses on these publicly traded securities were a gain of $5 million and a loss of $170 million, respectively. Realized gains and losses on sales of publicly traded securities for the three months ended March 31, 2023 and 2022, were not material.

We held investments of $250 million and $233 million in equity securities without readily determinable fair values as of March 31, 2023 and December 31, 2022, respectively, which are included in Other noncurrent assets in the Condensed Consolidated Balance Sheets. During the three months ended March 31, 2023 and 2022, upward and downward adjustments on these securities were not material. Adjustments were based on observable price transactions.

Equity method investments

Neumora Therapeutics, Inc.

On September 30, 2021, we acquired an approximately 25.9% ownership interest in Neumora, a privately held company, for $257 million, which is included in Other noncurrent assets in the Condensed Consolidated Balance Sheets, in exchange for a $100 million cash payment and $157 million in noncash consideration primarily related to future services. Although our equity investment provides us with the ability to exercise significant influence over Neumora, we have elected the fair value option to account for our equity investment. Under the fair value option, changes in the fair value of the investment are recognized through earnings each reporting period. We believe the fair value option best reflects the economics of the underlying transaction. As of March 31, 2023 and December 31, 2022, our ownership interest in Neumora was approximately 24.5% and 24.9%, respectively, and the fair values of our investment were $288 million and $335 million, respectively. Accordingly, during the three months ended March 31, 2023 and 2022, we recognized a loss of $47 million and $50 million, respectively, in Other income (expense), net, in the Condensed Consolidated Statements of Income. For information on determination of fair values, see Note 12, Fair value measurement.

Limited partnerships

We held limited partnership investments of $268 million and $249 million as of March 31, 2023 and December 31, 2022, respectively, which are included in Other noncurrent 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 are 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, 2023, unfunded additional commitments to be made for these investments during the next several years were $160 million. For the three months ended March 31, 2023 and 2022, we recognized net gains of $20 million and net losses of $160 million, respectively, in Other income (expense), net, in the Condensed Consolidated Statements of Income on these investments.

8. Inventories

Inventories consisted of the following (in millions):

	March 31, 2023	December 31, 2022
Raw materials	$ 903	$ 828
Work in process	2,978	3,098
Finished goods	1,130	1,004
Total inventories	$ 5,011	$ 4,930

9. Goodwill and other intangible assets

Goodwill

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

	Three months ended March 31, 2023
Beginning balance	$ 15,529
Adjustments to goodwill resulting from acquisitions and divestitures, net[(1)]	(4)
Currency translation adjustment	6
Ending balance	$ 15,531

[(1)] For the three months ended March 31, 2023, adjustments to goodwill consisted of a measurement period adjustment related to our acquisition of ChemoCentryx. See Note 3, Acquisitions and divestitures.

Other intangible assets

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

	March 31, 2023			December 31, 2022		
	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	$ 29,038	$ (15,679)	$ 13,359	$ 29,028	$ (15,045)	$ 13,983
Licensing rights	3,864	(3,160)	704	3,864	(3,123)	741
Marketing-related rights	1,326	(1,188)	138	1,326	(1,167)	159
Research and development technology rights	1,387	(1,204)	183	1,378	(1,190)	188
Total finite-lived intangible assets	35,615	(21,231)	14,384	35,596	(20,525)	15,071
Indefinite-lived intangible assets:						
In-process research and development	1,009	—	1,009	1,009	—	1,009
Total other intangible assets	$ 36,624	$ (21,231)	$ 15,393	$ 36,605	$ (20,525)	$ 16,080

Developed-product-technology rights consists of rights related to marketed products. Licensing rights primarily consists 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 upfront payments associated with royalty obligations for marketed products. Marketing-related rights primarily consists 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.

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, 2023 and 2022, we recognized amortization associated with our finite-lived intangible assets of $693 million and $637 million, respectively. Amortization of intangible assets is primarily included in Cost of sales in the Condensed Consolidated Statements of Income. The total estimated amortization of our finite-lived intangible assets for the remaining nine months ending December 31, 2023, and the years ending December 31, 2024, 2025, 2026, 2027 and 2028, are $2.1 billion, $2.7 billion, $2.5 billion, $2.2 billion, $2.1 billion and $1.1 billion, respectively.

10. Financing arrangements

Our borrowings consisted of the following (in millions):

	March 31, 2023	December 31, 2022
0.41% CHF700 million bonds due 2023 (0.41% 2023 Swiss franc Bonds)	$ —	$ 757
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	500
5.25% notes due 2025 (5.25% 2025 Notes)	2,000	—
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)	813	803
5.507% notes due 2026 (5.507% 2026 Notes)	1,500	—
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)	586	574
2.20% notes due 2027 (2.20% 2027 Notes)	1,724	1,724
3.20% notes due 2027 (3.20% 2027 Notes)	1,000	1,000
5.15% notes due 2028 (5.15% 2028 Notes)	3,750	—
1.65% notes due 2028 (1.65% 2028 Notes)	1,234	1,234
3.00% notes due 2029 (3.00% 2029 Notes)	750	750
4.05% notes due 2029 (4.05% 2029 Notes)	1,250	1,250
4.00% £700 million notes due 2029 (4.00% 2029 pound sterling Notes)	864	846
2.45% notes due 2030 (2.45% 2030 Notes)	1,250	1,250
5.25% notes due 2030 (5.25% 2030 Notes)	2,750	—
2.30% notes due 2031 (2.30% 2031 Notes)	1,250	1,250
2.00% notes due 2032 (2.00% 2032 Notes)	1,001	1,051
3.35% notes due 2032 (3.35% 2032 Notes)	1,000	1,000
4.20% notes due 2033 (4.20% 2033 Notes)	750	750
5.25% notes due 2033 (5.25% 2033 Notes)	4,250	—
6.375% notes due 2037 (6.375% 2037 Notes)	478	478
6.90% notes due 2038 (6.90% 2038 Notes)	254	254
6.40% notes due 2039 (6.40% 2039 Notes)	333	333
3.15% notes due 2040 (3.15% 2040 Notes)	1,803	2,000
5.75% notes due 2040 (5.75% 2040 Notes)	373	373
2.80% notes due 2041 (2.80% 2041 Notes)	1,091	1,110
4.95% notes due 2041 (4.95% 2041 Notes)	600	600
5.15% notes due 2041 (5.15% 2041 Notes)	729	729
5.65% notes due 2042 (5.65% 2042 Notes)	415	415
5.60% notes due 2043 (5.60% 2043 Notes)	2,750	—
5.375% notes due 2043 (5.375% 2043 Notes)	185	185
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)	2,132	2,250
4.663% notes due 2051 (4.663% 2051 Notes)	3,541	3,541
3.00% notes due 2052 (3.00% 2052 Notes)	1,199	1,254
4.20% notes due 2052 (4.20% 2052 Notes)	950	1,000
4.875% notes due 2053 (4.875% 2053 Notes)	1,000	1,000
5.65% notes due 2053 (5.65% 2053 Notes)	4,250	—
2.77% notes due 2053 (2.77% 2053 Notes)	940	940
4.40% notes due 2062 (4.40% 2062 Notes)	1,200	1,250

	March 31, 2023	December 31, 2022
5.75% notes due 2063 (5.75% 2063 Notes)	2,750	—
Other notes due 2097	100	100
Unamortized bond discounts, premiums and issuance costs, net	(1,434)	(1,246)
Fair value adjustments	(343)	(437)
Other	12	12
Total carrying value of debt	61,595	38,945
Less current portion	(834)	(1,591)
Total long-term debt	$ 60,761	$ 37,354

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, the 4.663% 2051 Notes and the 2.77% 2053 Notes, which have effective interest rates of 6.3%, 5.6% and 5.2%, respectively.

Debt issuances and acquisition-related financing

During the three months ended March 31, 2023, in connection with the proposed acquisition of Horizon (see Note 3, Acquisitions and divestitures—*Proposed acquisition of Horizon Therapeutics plc*), we issued the following series of notes (in millions):

	Principal Amount
5.25% 2025 Notes	$ 2,000
5.507% 2026 Notes	1,500
5.15% 2028 Notes	3,750
5.25% 2030 Notes	2,750
5.25% 2033 Notes	4,250
5.60% 2043 Notes	2,750
5.65% 2053 Notes	4,250
5.75% 2063 Notes	2,750
Total	$ 24,000

If the consummation of the proposed acquisition of Horizon does not occur on or before the later of: (i) January 31, 2024, or such later date to which the agreement to acquire Horizon (Transaction Agreement) may be extended in accordance with its terms, (ii) the Transaction Agreement is terminated, or (iii) we otherwise notify the trustee of the notes that consummation of the acquisition will not be pursued, we will be required to redeem each series of notes, other than the 5.75% 2063 Notes, at a price equal to 101% of the principal amount of the notes plus accrued and unpaid interest. 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. Except with respect to the 5.25% 2025 Notes, the notes may be redeemed without payment of make-whole amounts if redemption occurs during a specified period of time immediately prior to the maturing of the notes. Such time periods range from two months to six months prior to maturity, except for the 5.507% 2026 Notes, which may be redeemed without payment of the make-whole amount if redemption occurs after two years prior to maturity.

In December 2022, in connection with the proposed acquisition of Horizon, we entered into a bridge credit agreement, which provided for borrowings with an aggregate principal amount of $24.5 billion as of December 31, 2022. Subsequent to our March 2023 debt issuance described above, we terminated the bridge credit agreement. Accordingly, during the three months ended March 31, 2023, we recognized $98 million of financing cost associated with the bridge credit agreement, primarily in Other income (expense), net, in the Condensed Consolidated Statements of Income.

Also in connection with the proposed acquisition of Horizon, we entered into a $4.0 billion term loan credit agreement in December 2022. No amounts under this agreement were outstanding as of March 31, 2023 and December 31, 2022.

Debt extinguishment

During the three months ended March 31, 2023, we repurchased portions of the 2.00% 2032 Notes, 3.15% 2040 Notes, 2.80% 2041 Notes, 3.375% 2050 Notes, 3.00% 2052 Notes, 4.20% 2052 Notes and 4.40% 2062 Notes for an aggregate cost of $420 million, which resulted in the recognition of a $113 million gain on extinguishment of debt recorded in Other income (expense), net, in the Condensed Consolidated Statements of Income.

Debt repayments

During the three months ended March 31, 2023, we repaid the CHF700 million aggregate principal amount ($704 million upon settlement of the related cross-currency swap) of the 0.41% 2023 Swiss franc Bonds.

Shelf registration statement and other facilities

In February 2023, we filed a shelf registration statement with the SEC that allows us to issue unspecified amounts of debt securities; common stock; preferred stock; warrants to purchase debt securities, common stock, preferred stock or depositary shares; rights to purchase common stock or preferred stock; securities purchase contracts; securities purchase units; and depositary shares. Under this shelf registration statement, all of the securities available for issuance may be offered from time to time with terms to be determined at the time of issuance. This shelf registration statement expires in February 2026.

During the three months ended March 31, 2023, we amended and restated our syndicated, unsecured, revolving credit agreement under which we may borrow up to $4.0 billion (increased from $2.5 billion prior to the amendment) for general corporate purposes, including as a liquidity backstop for our commercial paper program. The commitments under the revolving credit agreement may be increased by up to $1.25 billion with the agreement of the banks (increased from $750 million prior to the amendment). Each bank that is a party to the agreement has an initial commitment term of five years. This term may be extended for up to two additional one-year periods with the agreement of the banks. Annual commitment fees for this agreement are 0.09% of the unused portion of the facility based on our current credit rating. Generally, we would be charged interest for any amounts borrowed under this facility, based on our current credit rating, at (i) SOFR plus 1.01% or (ii) the highest of (A) the administrative agent bank base commercial lending rate, (B) the overnight federal funds rate plus 0.50% or (C) one-month SOFR plus 1.1%. As of March 31, 2023 and December 31, 2022, no amounts were outstanding under this facility.

11. Stockholders' equity

Stock repurchase program

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

	2023		2022	
	Shares	Dollars	Shares	Dollars
First quarter	—	$ —	24.6	$ 5,410

As of March 31, 2023, $7.0 billion of authorization remained available under our stock repurchase program.

Dividends

In March 2023, the Board of Directors declared a quarterly cash dividend of $2.13 per share, which will be paid in June 2023. In December 2022, the Board of Directors declared a quarterly cash dividend of $2.13 per share, which was paid in March 2023.

Accumulated other comprehensive income (loss)

The components of AOCI were as follows (in millions):

	Foreign currency translation	Cash flow hedges	Other	AOCI
Balance as of December 31, 2022	$ (348)	$ 128	$ (11)	$ (231)
Foreign currency translation adjustments	28	—	—	28
Unrealized losses	—	(71)	—	(71)
Reclassification adjustments to income	—	(30)	—	(30)
Other	—	—	21	21
Income taxes	—	15	—	15
Balance as of March 31, 2023	$ (320)	$ 42	$ 10	$ (268)

Reclassifications out of AOCI and into earnings, including related income tax expenses, were as follows (in millions):

	Three months ended March 31,		
Components of AOCI	2023	2022	Condensed Consolidated Statements of Income locations
Cash flow hedges:			
Foreign currency contract gains	$ 52	$ 27	Product sales
Cross-currency swap contract losses	(22)	(78)	Other income (expense), net
	30	(51)	Income before income taxes
	(6)	11	Provision for income taxes
	$ 24	$ (40)	Net income

12. 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 sources 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 different 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, 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, 2023, 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 bills	$ —	$ —	$ —	$ —
Money market mutual funds	31,064	—	—	31,064
Other short-term interest-bearing securities	—	1	—	1
Other investments	—	131	—	131
Equity securities	4,545	—	288	4,833
Derivatives:				
Foreign currency forward contracts	—	252	—	252
Cross-currency swap contracts	—	—	—	—
Total assets	$ 35,609	$ 384	$ 288	$ 36,281
Liabilities:				
Derivatives:				
Foreign currency forward contracts	$ —	$ 73	$ —	$ 73
Cross-currency swap contracts	—	517	—	517
Interest rate swap contracts	—	662	—	662
Forward interest rate contracts	—	—	—	—
Contingent consideration obligations	—	—	273	273
Total liabilities	$ —	$ 1,252	$ 273	$ 1,525

Fair value measurement as of December 31, 2022, 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 bills	$ 1,676	$ —	$ —	$ 1,676
Money market mutual funds	2,659	—	—	2,659
Other short-term interest-bearing securities	—	—	—	—
Other investments	—	130	—	130
Equity securities	480	—	335	815
Derivatives:				
Foreign currency forward contracts	—	287	—	287
Cross-currency swap contracts	—	54	—	54
Total assets	$ 4,815	$ 471	$ 335	$ 5,621
Liabilities:				
Derivatives:				
Foreign currency forward contracts	$ —	$ 76	$ —	$ 76
Cross-currency swap contracts	—	541	—	541
Interest rate swap contracts	—	776	—	776
Forward interest rate contracts	—	5	—	5
Contingent consideration obligations	—	—	270	270
Total liabilities	$ —	$ 1,398	$ 270	$ 1,668

Interest-bearing and equity securities

The fair values of our U.S. Treasury securities, money market mutual funds and equity investments in publicly traded securities, including our equity investment in BeiGene as of March 31, 2023, are based on quoted market prices in active markets, with no valuation adjustment. Other investments consist of interest-bearing deposits that are valued at amortized cost, which approximates fair value given their near term maturity. The fair value of equity securities without readily determinable fair values is initially valued at the transaction price and subsequently valued based on a combination of observable price transactions when available, market performance and publicly available market information for similar companies that have actively traded equity securities. See Note 7, Investments—*Neumora Therapeutics, Inc.*

As of the first quarter of 2023, we no longer account for our equity investment in BeiGene under the equity method of accounting. As of December 31, 2022, the fair value and carrying value were $4.2 billion and $2.2 billion, respectively. The fair value of our investment in BeiGene was estimated by using Level 1 inputs. See Note 7, Investments—*BeiGene, Ltd.*

Derivatives

All of our foreign currency forward contracts, cross-currency swap contracts and 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 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, as applicable, include foreign currency exchange rates, LIBOR, swap rates, obligor credit default swap rates and cross-currency basis swap spreads. Certain inputs, when applicable, are at commonly quoted intervals. See Note 13, Derivative instruments.

Contingent consideration obligations

As a result of our business acquisitions, we have incurred contingent consideration obligations as discussed below. The contingent consideration obligations are recorded at their fair values by using probability-adjusted discounted cash flows, and we revalue these obligations each reporting period until the related contingencies have been resolved. The fair value measurements of these obligations are based on significant unobservable inputs related to licensing rights and product candidates acquired in business combinations, and they are reviewed quarterly by management in our R&D and commercial sales organizations. The inputs include, as applicable, estimated probabilities and the timing of achieving specified development, regulatory and commercial milestones as well as estimated annual sales. Significant changes that increase or decrease the probabilities of achieving the related development, regulatory and commercial events or that shorten or lengthen the time required to achieve such events or that increase or decrease estimated annual sales would result in corresponding increases or decreases in the fair values of the obligations, as applicable. Changes in the fair values of contingent consideration obligations are recognized in Other operating expenses in the Condensed Consolidated Statements of Income.

Changes in the carrying amounts of contingent consideration obligations were as follows (in millions):

	Three months ended March 31,	
	2023	2022
Beginning balance	$ 270	$ 342
Payments	(2)	(2)
Net changes in valuations	5	(10)
Ending balance	$ 273	$ 330

As of March 31, 2023 and December 31, 2022, our contingent consideration obligations are primarily the result of our acquisition of Teneobio, Inc., in October 2021, which obligates us to pay the former shareholders up to $1.6 billion upon achieving separate development and regulatory milestones with regard to various R&D programs.

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, 2023 and December 31, 2022, the aggregate fair values of our borrowings were $59.8 billion and $35.0 billion, respectively, and the carrying values were $61.6 billion and $38.9 billion, respectively.

During the three months ended March 31, 2023 and 2022, there were no transfers of assets or liabilities between fair value measurement levels, and there were no material remeasurements to the fair values of assets and liabilities that are not measured at fair value on a recurring basis.

13. 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 have designated certain of our derivatives as cash flow and fair value hedges; we also have derivatives not designated as hedges. 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 primarily associated with our euro-denominated international product sales. The foreign currency exchange rate fluctuation exposure associated with cash inflows from our international product sales is partially offset by corresponding cash outflows from our international operating expenses. To further reduce our exposure, we enter into foreign currency forward contracts to hedge a portion of our projected international product sales up to a maximum of three years into the future; and at any given point in time, a higher percentage of nearer-term projected product sales is being hedged than in successive periods.

As of March 31, 2023 and December 31, 2022, we had outstanding foreign currency forward contracts with aggregate notional amounts of $6.1 billion and $6.0 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 Other income (expense), 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, 2023, were as follows (notional amounts in millions):

	Foreign currency			U.S. dollars	
Hedged notes	**Notional amounts**		**Interest rates**	**Notional amounts**	**Interest rates**
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	4.6 %

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 contracts during the three months ended March 31, 2023, and amounts expected to be recognized during the subsequent 12 months, are not material.

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	**2023**	**2022**
Foreign currency forward contracts	$ —	$ 78
Cross-currency swap contracts	(40)	(22)
Forward interest rate contracts	(31)	—
Total unrealized (losses) gains	$ (71)	$ 56

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, 2023 and December 31, 2022, we had interest rate swap contracts with aggregate notional amounts of $6.7 billion that hedge certain portions of our long-term debt issuances.

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, 2023**	**December 31, 2022**	**March 31, 2023**	**December 31, 2022**
Current portion of long-term debt	$ 82	$ 82	$ 82	$ 82
Long-term debt	$ 6,112	$ 6,017	$ (425)	$ (519)

[1] Current portion of long-term debt includes $82 million of carrying value with discontinued hedging relationships as of both March 31, 2023 and December 31, 2022. Long-term debt includes $337 million and $357 million of carrying value with discontinued hedging relationships as of March 31, 2023 and December 31, 2022, respectively.

[2] Current portion of long-term debt includes $82 million of hedging adjustments on discontinued hedging relationships as of both March 31, 2023 and December 31, 2022. Long-term debt includes $237 million and $257 million of hedging adjustments on discontinued hedging relationships as of March 31, 2023 and December 31, 2022, 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, 2023		
	Product sales	Other income (expense), net	Interest expense, net
Total amounts recorded in income and (expense) line items presented in the Condensed Consolidated Statements of Income	$ 5,846	$ 2,064	$ (543)
The effects of cash flow and fair value hedging:			
Gains (losses) on cash flow hedging relationships reclassified out of AOCI:			
Foreign currency forward contracts	$ 52	$ —	$ —
Cross-currency swap contracts	$ —	$ (22)	$ —
(Losses) gains on fair value hedging relationships—interest rate swap agreements:			
Hedged items[1]	$ —	$ —	$ (88)
Derivatives designated as hedging instruments	$ —	$ —	$ 114

	Three months ended March 31, 2022		
	Product sales	Other income (expense), net	Interest expense, net
Total amounts recorded in income and (expense) line items presented in the Condensed Consolidated Statements of Income	$ 5,731	$ (530)	$ (295)
The effects of cash flow and fair value hedging:			
Gains (losses) on cash flow hedging relationships reclassified out of AOCI:			
Foreign currency forward contracts	$ 27	$ —	$ —
Cross-currency swap contracts	$ —	$ (78)	$ —
Gains (losses) on fair value hedging relationships—interest rate swap agreements:			
Hedged items[1]	$ —	$ —	$ 337
Derivatives designated as hedging instruments	$ —	$ —	$ (315)

[1] Gains on hedged items do not exactly offset 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 when 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, 2023, we expected to reclassify $97 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, 2023 and December 31, 2022, the total notional amounts of these foreign currency forward contracts were $582 million and $517 million, 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, 2023 and 2022.

Fair values of derivatives

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

	Derivative assets		Derivative liabilities	
March 31, 2023	**Condensed Consolidated Balance Sheets locations**	**Fair values**	**Condensed Consolidated Balance Sheets locations**	**Fair values**
Derivatives designated as hedging instruments:				
Foreign currency forward contracts	Other current assets/ Other noncurrent assets	$ 252	Accrued liabilities/ Other noncurrent liabilities	$ 73
Cross-currency swap contracts	Other current assets/ Other noncurrent assets	—	Accrued liabilities/ Other noncurrent liabilities	517
Interest rate swap contracts	Other current assets/ Other noncurrent assets	—	Accrued liabilities/ Other noncurrent liabilities	662
Forward interest rate contracts	Other current assets/ Other noncurrent assets	—	Accrued liabilities/ Other noncurrent liabilities	—
Total derivatives designated as hedging instruments		252		1,252
Total derivatives		$ 252		$ 1,252

	Derivative assets		Derivative liabilities	
December 31, 2022	**Condensed Consolidated Balance Sheets locations**	**Fair values**	**Condensed Consolidated Balance Sheets locations**	**Fair values**
Derivatives designated as hedging instruments:				
Foreign currency forward contracts	Other current assets/ Other noncurrent assets	$ 287	Accrued liabilities/ Other noncurrent liabilities	$ 76
Cross-currency swap contracts	Other current assets/ Other noncurrent assets	54	Accrued liabilities/ Other noncurrent liabilities	541
Interest rate swap contracts	Other current assets/ Other noncurrent assets	—	Accrued liabilities/ Other noncurrent liabilities	776
Forward interest rate contracts	Other current assets/ Other noncurrent assets	—	Accrued liabilities/ Other noncurrent liabilities	5
Total derivatives designated as hedging instruments		341		1,398
Total derivatives		$ 341		$ 1,398

For additional information, see Note 12, Fair value measurement.

Our derivative contracts that were in liability positions as of March 31, 2023, 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 provided by (used in) financing activities.

14. 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, 2022, 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; and 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, 2022.

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; and 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, 2022, 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; and 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, 2022, 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:

ANDA Patent Litigation

Otezla ANDA Patent Litigation

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

On April 19, 2023, the U.S. Court of Appeals for the Federal Circuit affirmed the permanent injunction entered by the U.S. District Court for the District of New Jersey prohibiting Sandoz and Zydus Pharmaceuticals (USA) Inc. from making, using, selling, offering to sell, or importing each of the generic versions of Otezla until February 2028.

Repatha Patent Litigation

Amgen Inc., et al. v. Sanofi, et al.

Oral argument before the U.S. Supreme Court took place on March 27, 2023.

Patent Disputes in the International Region

In Amgen's counterclaim litigation alleging that PRALUENT® infringes Amgen's European Patent No. 2,641,917 (the '917 Patent), on February 27, 2023, Amgen filed a notice of appeal of the European Patent Office's Opposition Division order invalidating the claims of the '917 Patent.

On March 13, 2023, Amgen appealed to the Japanese Supreme Court the High Court's decision that Amgen's Japanese patent claims relating to PCSK9 were invalid for lacking adequate support. On April 24, 2023, Amgen filed its Grounds for Acceptance of Appeal and Grounds for Appeal with the Japanese Supreme Court.

ABP 654 (ustekinumab) Patent Litigation

Janssen Biotech, Inc. v. Amgen Inc.

On February 21, 2023, Janssen filed a first amended complaint adding, among other things, a request for declaratory judgment that four additional patents, together with the two patents it previously asserted, would be infringed by Amgen's submission of an application for FDA licensure of ABP 654, Amgen's biosimilar version of Janssen's STELARA® (ustekinumab). On March 5, 2023, Janssen filed a motion for preliminary injunction based on the alleged infringement of the two patents it had originally asserted, specifically U.S. Patent Nos. 9,217,168 and 9,475,858, seeking to enjoin Amgen from manufacturing or using in commercial quantities, offering to sell, or selling within the United States, or importing for commercial purposes into the United States, ABP 654. On March 23, 2023, the District Court Judge issued a scheduling order for this preliminary injunction proceedings, setting such hearing for August 4, 2023.

Janssen Biotech Inc. v. Amgen Technology (Ireland) Unlimited Company

On March 22, 2023, Janssen initiated an action in the Irish High Court alleging infringement of Irish Supplementary Protection Certificate No. 2009/015, indicating intent to seek an interlocutory injunction restraining ABP 654 manufacturing activities in Ireland. The trial date for preliminary Supplementary Protection Certificate issues, potentially followed by a hearing with respect to interlocutory injunction, has been set to begin on July 4, 2023.

Antitrust Actions

Sensipar Antitrust Class Actions

On February 16, 2023, the U.S. District Court for the District of Delaware (the Delaware District Court) denied Amgen's motion for interlocutory appeal. On March 2, 2023, Amgen filed a motion for reargument, which the Delaware District Court denied while also certifying a question regarding whether the current judge has the authority to certify a question decided by a predecessor judge. On April 17, 2023, Amgen filed a petition with the U.S. Court of Appeals for the Third Circuit, seeking a grant of our request for interlocutory appeal of the certified question as well as the Delaware District Court's denial of our motion to dismiss the reverse payment claim. Amgen's response to the class action complaints are due 30 days after resolution or denial of the interlocutory appeal.

Regeneron Pharmaceuticals, Inc. Antitrust Action

On February 10, 2023, the Delaware District Court denied Amgen's motion to stay this action but left open the possibility of Amgen re-raising the motion if the U.S. Supreme Court rules in Amgen's favor in its patent infringement cases against Sanofi and Regeneron Pharmaceuticals, Inc. On March 21, 2023, the Delaware District Court denied Amgen's motion to dismiss the complaint.

U.S. Tax Litigation

Amgen Inc. & Subsidiaries v. Commissioner of Internal Revenue

See Note 5, Income taxes, for discussion of the IRS tax dispute and the Company's petitions in the U.S. Tax Court.

Securities Class Action Litigation

On March 13, 2023, Roofers Local No. 149 Pension Fund filed a purported class action against Amgen, Robert Bradway and Peter Griffith. The action was brought on behalf of an alleged class of Amgen shareholders who owned stock between July 29, 2020 and April 27, 2022 (the alleged class period). Plaintiffs allege that the defendants made a series of materially false and misleading statements and omissions during the alleged class period regarding the failure to timely disclose the potential tax liability claimed by the IRS. Plaintiffs further allege that they and other purported class members suffered losses and damages resulting from declines in the market value of Amgen's common stock after the potential tax liability claimed by the IRS was disclosed. On April 4, 2023, the U.S. District Court for the Southern District of New York entered an order setting May 12, 2023 as the deadline for filing motions for appointment of lead counsel.

ChemoCentryx, Inc. Securities Class Action Litigation

In May 2022, ChemoCentryx, which was acquired by Amgen in October 2022 and is now a subsidiary of Amgen, filed a motion to dismiss the shareholder class action claims. On February 23, 2023, the U.S. District Court for the Northern District of California (Northern District Court of California) substantially denied ChemoCentryx's motion to dismiss the matter in its entirety, while granting the motion to dismiss with respect to certain allegations of the plaintiffs. On April 4, 2023, the parties submitted a case management statement to the Northern District Court of California, and on April 10, 2023, the Northern District Court of California entered an order setting dates for amendment of pleadings and briefing on class certification. On April 27, 2023, ChemoCentryx submitted its answer to the complaint.

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

The following 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, 2022. 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 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, 2022. 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.

Our principal products are Prolia, ENBREL, XGEVA, Otezla, Repatha, Nplate, KYPROLIS, Aranesp and EVENITY. We also market a number of other products, including Neulasta, Vectibix, MVASI, BLINCYTO, AMJEVITA/AMGEVITA, TEZSPIRE, Parsabiv, LUMAKRAS/LUMYKRAS, Aimovig, EPOGEN, KANJINTI and TAVNEOS.

Macroeconomic challenges, including effects from the COVID-19 pandemic

Uncertain macroeconomic conditions, including higher inflation, rising interest rates and instability in the financial system, geopolitical conflicts and rising healthcare costs continue to pose challenges to our business. As a result of public and private healthcare-provider focus, the industry continues to be subject to cost containment measures and significant pricing pressures, including net price declines. Moreover, legislation enacted to reduce healthcare expenditures, including provisions of the IRA, have affected, and are likely to continue to affect, our business. See Part II, Item 1A. Risk Factors—*Global economic conditions may negatively affect us and may magnify certain risks that affect our business.*

Since the onset of the pandemic in 2020, we have been closely monitoring the pandemic's effects on our global operations. To date, we have been able to effectively serve physicians and patients as we have avoided disruptions to delivery and shortages of our supply of medicines. With regard to our clinical trial activities, we are continuously monitoring COVID-19 infection rates, including changes from new variants; we are working to mitigate effects on future study enrollment in our clinical trials; and we are evaluating the impact in all relevant countries. We remain focused on supporting our active clinical sites in their providing care for patients and in our providing investigational drug supply. Given the evolution of COVID-19 since its onset, including the proliferation of variants, we cannot predict the impact of future virus surges on our business and will continue to closely monitor the impact of COVID-19 on our business and on the healthcare sector more generally.

Significant developments

Following is a summary of selected significant developments affecting our business that occurred since the filing of our Annual Report on Form 10-K for the year ended December 31, 2022. 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, 2022.

Proposed acquisition of Horizon Therapeutics plc

The Irish High Court set a court hearing date of May 22, 2023, to consider the application to sanction our proposed acquisition of Horizon. The Irish High Court will be informed in advance if the hearing date needs to be adjourned to a later date as a result of a condition to closing, including required regulatory clearances, not having been satisfied by the scheduled hearing date.

In connection with our proposed acquisition of Horizon, in March 2023 we issued $24.0 billion of senior notes and subsequently terminated our bridge credit agreement.

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,		
	2023	2022	Change
Product sales			
U.S.	$ 3,975	$ 4,037	(2)%
ROW	1,871	1,694	10 %
Total product sales	5,846	5,731	2 %
Other revenues	259	507	(49)%
Total revenues	$ 6,105	$ 6,238	(2)%
Operating expenses	$ 4,184	$ 3,738	12 %
Operating income	$ 1,921	$ 2,500	(23)%
Net income	$ 2,841	$ 1,476	92 %
Diluted EPS	$ 5.28	$ 2.68	97 %
Diluted shares	538	551	(2)%

In the following discussion of changes in product sales, any reference to unit demand growth or decline refers to changes in 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, 2023, driven by volume growth for certain brands, including Nplate, Repatha, EVENITY, TEZSPIRE, Prolia, BLINCYTO and KYPROLIS, partially offset by declines in net selling prices of certain products, including ENBREL, Neulasta and MVASI, unfavorable changes to estimated sales deductions, higher inventory drawdowns compared to the prior year and unfavorable changes to foreign currency exchange rates. For the remainder of 2023, we expect that net selling price will continue to decline year-over-year at a portfolio level, driven by increased competition.

As a result of uncertain macroeconomic conditions, we expect volatility around foreign currency exchange rates to continue. The impact of unfavorable changes to foreign currency exchange rates will be partially offset by corresponding decreases in our international operating expenses. While not designed to completely address foreign currency changes, our hedging activities also seek to offset, in part, such effects on our net income by hedging our net foreign currency exposure, primarily with respect to product sales denominated in euros.

Our product sales have been affected by reduced demand as a result of the COVID-19 pandemic. In general, the dynamics of the pandemic were most significant on our product sales in the early months of the pandemic. Further, the cumulative decrease in diagnoses over the course of the pandemic suppressed the volume of new patients starting treatment, which continues to impact the business. Given the unpredictable nature of the pandemic, there could be future intermittent disruptions in physician–patient interactions, and as a result, we may again experience quarter-to-quarter variability. In addition, other

disruptions, including changes in the healthcare ecosystem, uncertain macroeconomic conditions and geopolitical conflicts, have the potential to introduce variability into product sales. For example, growth in numbers of Medicaid enrollees and uninsured individuals, provisions of the IRA and actions by governments and other entities to curb high inflation may have a negative impact on product sales. See Part II, Item 1A. Risk Factors, of this Quarterly Report on Form 10-Q.

Other revenues decreased for the three months ended March 31, 2023, due to lower revenue from our COVID-19 manufacturing collaboration.

Operating expenses increased for the three months ended March 31, 2023, primarily due to expenses related to our restructuring plan, higher research and development spend, changes in our product mix and higher amortization expense from acquisition-related assets. See Note 2, Restructuring, to the condensed consolidated financial statements.

Results of operations

Product sales

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

	Three months ended March 31,		
	2023	2022	Change
Prolia	$ 927	$ 852	9 %
ENBREL	579	862	(33)%
XGEVA	536	502	7 %
Otezla	392	451	(13)%
Repatha	388	329	18 %
Nplate	362	266	36 %
KYPROLIS	358	287	25 %
Aranesp	355	358	(1)%
EVENITY	254	170	49 %
Other products[(1)]	1,695	1,654	2 %
Total product sales	$ 5,846	$ 5,731	2 %

[(1)] Consists of product sales of our non-principal products, as well as our Bergamo and Gensenta subsidiaries.

Future sales of our products will depend in part on the factors discussed below and in the following sections of this report: (i) Part I, Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations—Overview, and Selected financial information; and (ii) Part II, Item 1A. Risk Factors, and in the following sections of our Annual Report on Form 10-K for the year ended December 31, 2022: (i) Part I, Item 1. Business—Marketing, Distribution and Selected Marketed Products; (ii) Part I, Item 1A. Risk Factors; and (iii) Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Overview, and Results of operations—Product sales.

Prolia

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

	Three months ended March 31,		
	2023	2022	Change
Prolia — U.S.	$ 623	$ 582	7 %
Prolia — ROW	304	270	13 %
Total Prolia	$ 927	$ 852	9 %

The increase in global Prolia sales for the three months ended March 31, 2023, was driven by volume growth.

ENBREL

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

	Three months ended March 31,		
	2023	2022	Change
ENBREL — U.S.	$ 564	$ 843	(33)%
ENBREL — Canada	15	19	(21)%
Total ENBREL	$ 579	$ 862	(33)%

The decrease in ENBREL sales for the three months ended March 31, 2023, was driven by lower net selling price and inventory and unfavorable changes to estimated sales deductions. ENBREL followed the historical pattern of lower first quarter sales relative to the remainder of the year due to the impact of benefit plan changes, insurance reverifications and increased co-pay expenses as U.S. patients worked through deductibles. For the remainder of 2023, we expect reduced year-over-year declines in net selling price.

XGEVA

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

	Three months ended March 31,		
	2023	2022	Change
XGEVA — U.S.	$ 384	$ 368	4 %
XGEVA — ROW	152	134	13 %
Total XGEVA	$ 536	$ 502	7 %

The increase in global XGEVA sales for the three months ended March 31, 2023, was driven by higher net selling price and volume growth.

Otezla

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

	Three months ended March 31,		
	2023	2022	Change
Otezla — U.S.	$ 294	$ 350	(16)%
Otezla — ROW	98	101	(3)%
Total Otezla	$ 392	$ 451	(13)%

The decrease in global Otezla sales for the three months ended March 31, 2023, was driven by lower inventory and net selling price, partially offset by volume growth. Otezla followed the historical pattern of lower first quarter sales relative to the remainder of the year due to the impact of benefit plan changes, insurance reverifications and increased co-pay expenses as U.S. patients worked through deductibles.

For a discussion of litigation related to Otezla, see Part IV—Note 19, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2022, and Note 14, Contingencies and commitments, to the condensed consolidated financial statements.

Repatha

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

	Three months ended March 31,		
	2023	2022	Change
Repatha — U.S.	$ 197	$ 165	19 %
Repatha — ROW	191	164	16 %
Total Repatha	$ 388	$ 329	18 %

The increase in global Repatha sales for the three months ended March 31, 2023, was driven by volume growth, partially offset by lower net selling price.

For a discussion of ongoing litigation related to Repatha, see Part IV—Note 19, Contingencies and commitments, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2022, and Note 14, Contingencies and commitments, to the condensed consolidated financial statements.

Nplate

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

	Three months ended March 31,		
	2023	2022	Change
Nplate — U.S.	$ 246	$ 156	58 %
Nplate — ROW	116	110	5 %
Total Nplate	$ 362	$ 266	36 %

The increase in global Nplate sales for the three months ended March 31, 2023, was driven by volume growth. Nplate sales for the first quarter of 2023 included an $82 million order from the U.S. government.

KYPROLIS

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

	Three months ended March 31,		
	2023	2022	Change
KYPROLIS — U.S.	$ 234	$ 196	19 %
KYPROLIS — ROW	124	91	36 %
Total KYPROLIS	$ 358	$ 287	25 %

The increase in global KYPROLIS sales for the three months ended March 31, 2023, was driven by volume growth and higher net selling price.

The FDA has reported that it has granted tentative or final approval of ANDAs for generic carfilzomib products filed by a number of companies. The date of approval of those ANDAs for generic carfilzomib products is governed by the Hatch–Waxman Act and any applicable settlement agreements between us and certain companies that seek to develop generic carfilzomib products.

Aranesp

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

	Three months ended March 31,		
	2023	2022	Change
Aranesp — U.S.	$ 115	$ 137	(16)%
Aranesp — ROW	240	221	9 %
Total Aranesp	$ 355	$ 358	(1)%

The decrease in global Aranesp sales for the three months ended March 31, 2023, was driven by lower net selling price and unfavorable changes to foreign currency exchange rates, partially offset by volume growth. ROW Aranesp sales for the three months ended March 31, 2023, were favorably impacted by the timing of orders in certain markets outside the United States. U.S. Aranesp sales for the three months ended March 31, 2023, were unfavorably impacted by independent and medium-sized dialysis organizations transitioning from Aranesp to EPOGEN.

We expect Aranesp to continue to face competition from EPOGEN and its biosimilars, which will impact net selling price and volume in the future.

EVENITY

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

	Three months ended March 31,		
	2023	2022	Change
EVENITY — U.S.	$ 164	$ 110	49 %
EVENITY — ROW	90	60	50 %
Total EVENITY	$ 254	$ 170	49 %

The increase in global EVENITY sales for the three months ended March 31, 2023, was primarily driven by volume growth across our markets.

Other products

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

	Three months ended March 31,		
	2023	2022	Change
Neulasta — U.S.	$ 211	$ 304	(31)%
Neulasta — ROW	38	44	(14)%
Vectibix — U.S.	111	85	31 %
Vectibix— ROW	122	116	5 %
MVASI — U.S.	121	168	(28)%
MVASI — ROW	81	76	7 %
BLINCYTO — U.S.	126	79	59 %
BLINCYTO — ROW	68	59	15 %
AMJEVITA — U.S.	51	—	NM
AMGEVITA — ROW	113	108	5 %
TEZSPIRE — U.S.	96	7	*
Parsabiv — U.S.	58	57	2 %
Parsabiv — ROW	33	29	14 %
LUMAKRAS — U.S.	48	48	— %
LUMYKRAS — ROW	26	14	86 %
Aimovig — U.S.	64	98	(35)%
Aimovig — ROW	5	3	67 %
EPOGEN — U.S.	60	120	(50)%
KANJINTI — U.S.	33	80	(59)%
KANJINTI — ROW	14	16	(13)%
TAVNEOS — U.S.	23	—	NM
Other — U.S.[(1)]	152	84	81 %
Other — ROW[(1)]	41	59	(31)%
Total other products	$ 1,695	$ 1,654	2 %
Total U.S. — other products	$ 1,154	$ 1,130	2 %
Total ROW — other products	541	524	3 %
Total other products	$ 1,695	$ 1,654	2 %

NM = not meaningful

* Change in excess of 100%

(1) Consists of Corlanor, AVSOLA, NEUPOGEN, RIABNI, IMLYGIC and Sensipar/Mimpara as well as sales by our Bergamo and Gensenta subsidiaries.

Operating expenses

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

	Three months ended March 31,		
	2023	2022	Change
Operating expenses:			
Cost of sales	$ 1,720	$ 1,561	10 %
% of product sales	29.4 %	27.2 %	
% of total revenues	28.2 %	25.0 %	
Research and development	$ 1,058	$ 959	10 %
% of product sales	18.1 %	16.7 %	
% of total revenues	17.3 %	15.4 %	
Selling, general and administrative	$ 1,258	$ 1,228	2 %
% of product sales	21.5 %	21.4 %	
% of total revenues	20.6 %	19.7 %	
Other	$ 148	$ (10)	*
Total operating expenses	$ 4,184	$ 3,738	12 %

* Change in excess of 100%

Cost of sales

Cost of sales increased to 28.2% of total revenues for the three months ended March 31, 2023, primarily driven by higher amortization expense from acquisition-related assets, changes in our product mix, expenses related to our restructuring plan and higher profit share expense.

Research and development

The increase in R&D expense for the three months ended March 31, 2023, was primarily driven by higher spend in late-stage development, research and early pipeline programs, and marketed product support.

Selling, general and administrative

The increase in SG&A expense for the three months ended March 31, 2023, was primarily driven by higher general and administrative expenses, including acquisition-related expenses.

Other

Other operating expenses for the three months ended March 31, 2023, consisted primarily of expenses related to our restructuring plan. See Note 2, Restructuring, to the condensed consolidated financial statements. Other operating expenses for the three months ended March 31, 2022, consisted primarily of an IPR&D asset adjustment.

Nonoperating expense/income and income taxes

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

	Three months ended March 31,	
	2023	2022
Interest expense, net	$ (543)	$ (295)
Other income (expense), net	$ 2,064	$ (530)
Provision for income taxes	$ 601	$ 199
Effective tax rate	17.5 %	11.9 %

Interest expense, net

The increase in Interest expense, net, for the three months ended March 31, 2023, was primarily due to higher overall debt outstanding and higher LIBORs on debt for which we effectively pay a variable rate of interest through the use of interest rate swaps.

Other income (expense), net

The increase in Other income (expense), net, for the three months ended March 31, 2023, was primarily due to the gain recognized from the change in method of accounting for our investment in BeiGene from the equity method to recording the investment at fair value, with changes in fair value recognized in earnings. In addition, we recognized gains on our other strategic equity investments in the current year period compared with losses in the prior year. See Note 7, Investments, to the condensed consolidated financial statements.

Income taxes

The increase in our effective tax rate for the three months ended March 31, 2023, was primarily due to the new Puerto Rico income tax beginning in 2023 and an increase in interest expense on tax reserves.

The Administration and Congress continue to discuss changes to existing tax law that could substantially increase the taxes we pay to the U.S. government. Further, the OECD recently reached an agreement to align countries on a minimum corporate tax rate and an expansion of the taxing rights of market countries. Some individual countries, including those in the EU, have proposed legislation to implement the global minimum tax agreement. If enacted, either by all OECD participants or unilaterally by individual countries, this agreement could result in a tax increase that could affect our U.S. and foreign tax liabilities.

The U.S. Treasury released final foreign tax credit regulations in December 2021 that eliminated U.S. creditability of the Puerto Rico Excise Tax beginning in 2023. In response, on June 30, 2022, the U.S. territory of Puerto Rico enacted Act 52-2022, which provides for an alternative income tax rate on industrial development income that the U.S. Treasury confirmed will be creditable under federal law. As part of this new law, eligible businesses will be subject to incremental income and withholding taxes in lieu of payment of the Puerto Rico Excise Tax. In order to qualify for the alternative income tax, our current tax grant with the Puerto Rico government was amended in December 2022. We qualified for this alternative income tax, beginning January 1, 2023, and our tax expense increased. See Note 5, Income taxes, to the condensed consolidated financial statements.

In 2017, we received an RAR and a modified RAR from the IRS for the years 2010–2012, proposing significant adjustments that primarily relate to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico. We disagreed with the proposed adjustments and calculations and pursued resolution with the IRS appeals office but were unable to reach resolution. In July 2021, we filed a petition in the U.S. Tax Court to contest two duplicate Statutory Notices of Deficiency (Notices) for the years 2010–2012 that we received in May and July 2021, which seek to increase our U.S. taxable income for the years 2010–2012 by an amount that would result in additional federal tax of approximately $3.6 billion plus interest. Any additional tax that could be imposed for the years 2010–2012 would be reduced by up to approximately $900 million of repatriation tax previously accrued on our foreign earnings.

In 2020, we received an RAR and a modified RAR from the IRS for the years 2013–2015, also proposing significant adjustments that primarily relate to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico similar to those proposed for the years 2010–2012. We disagreed with the proposed adjustments and calculations and pursued resolution with the IRS appeals office but were unable to reach resolution. In July 2022, we filed a petition in the U.S. Tax Court to contest a Notice for the years 2013–2015 that we previously reported receiving in April 2022 that seeks to increase our U.S. taxable income for the years 2013–2015 by an amount that would result in additional federal tax of approximately $5.1 billion, plus interest. In addition, the Notice asserts penalties of approximately $2.0 billion. Any additional tax that could be imposed for the years 2013–2015 would be reduced by up to approximately $2.2 billion of repatriation tax previously accrued on our foreign earnings.

We firmly believe that the IRS positions set forth in the 2010–2012 and 2013–2015 Notices are without merit. We are contesting the 2010–2012 and 2013–2015 Notices through the judicial process. The two cases were consolidated in U.S. Tax Court on December 19, 2022. On February 10, 2023, the U.S. Tax Court entered an order setting a trial date of November 4, 2024.

We are currently under examination by the IRS for the years 2016–2018 with respect to issues similar to those for the 2010 through 2015 period. In addition, we are under examination by a number of state and foreign tax jurisdictions.

Final resolution of these complex matters is not likely within the next 12 months. We continue to believe our accrual for income tax liabilities is appropriate based on past experience, interpretations of tax law, application of the tax law to our facts and judgments about potential actions by tax authorities; however, due to the complexity of the provision for income taxes and uncertain resolution of these matters, the ultimate outcome of any tax matters may result in payments substantially greater than amounts accrued and could have a material adverse impact on our condensed consolidated financial statements.

We are no longer subject to U.S. federal income tax examinations for years ended on or before December 31, 2009.

See our Annual Report on Form 10-K for the year ended December 31, 2022, Part I, Item 1A, Risk Factors—*The adoption and interpretation of new tax legislation or exposure to additional tax liabilities could affect our profitability,* and Note 5, Income taxes, to the condensed consolidated financial statements in this filing for further discussion.

Financial condition, liquidity and capital resources

Selected financial data were as follows (in millions):

	March 31, 2023	December 31, 2022
Cash, cash equivalents and marketable securities	$ 31,561	$ 9,305
Total assets	$ 88,720	$ 65,121
Current portion of long-term debt	$ 834	$ 1,591
Long-term debt	$ 60,761	$ 37,354
Stockholders' equity	$ 5,348	$ 3,661

Cash, cash equivalents and marketable securities

Our balance of cash, cash equivalents and marketable securities was $31.6 billion as of March 31, 2023, of which $27.8 billion is anticipated to be used for the proposed acquisition of Horizon. See Note 3, Acquisitions and divestitures, to the condensed consolidated financial statements. 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 investments in innovation both internally and externally, 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 and our desire to optimize our cost of capital. 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 block purchases, tender offers, accelerated share repurchases and market transactions.

In December 2022, the Board of Directors declared a quarterly cash dividend of $2.13 per share of common stock for the first quarter of 2023, an increase of 10% for this period, which was paid in March 2023. In March 2023, the Board of Directors declared a quarterly cash dividend of $2.13 per share of common stock to be paid in June 2023.

During the three months ended March 31, 2023, we did not repurchase any of our common stock. As of March 31, 2023, $7.0 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, 2023 and December 31, 2022. Our accumulated deficit is not anticipated 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 Part II, Item 1A. Risk Factors—*Global economic conditions may negatively affect us and may magnify certain risks that affect our business*.

Financing arrangements

In February 2023, we filed a shelf registration statement with the SEC that allows us to issue unspecified amounts of debt securities; common stock; preferred stock; warrants to purchase debt securities, common stock, preferred stock or depositary shares; rights to purchase common stock or preferred stock; securities purchase contracts; securities purchase units; and depositary shares. Under this shelf registration statement, all of the securities available for issuance may be offered from time to time with terms to be determined at the time of issuance. This shelf registration statement expires in February 2026.

During the three months ended March 31, 2023, in connection with the proposed acquisition of Horizon, we issued $24.0 billion of debt composed of eight series of notes. If the proposed acquisition of Horizon does not occur by a specified date, or at all, we will be required to redeem all but one of the series of notes at a price equal to 101% of the principal amount of the notes plus accrued and unpaid interest. In connection with the issue of these notes, we elected to terminate all remaining commitments under the bridge credit agreement we entered into in December 2022. See Note 10, Financing arrangements, to the condensed consolidated financial statements.

During the three months ended March 31, 2023, we amended and restated our syndicated, unsecured, revolving credit agreement under which we may borrow up to $4.0 billion (increased from $2.5 billion prior to the amendment) for general corporate purposes, including as a liquidity backstop for our commercial paper program. The commitments under the revolving credit agreement may be increased by up to $1.25 billion with the agreement of the banks (increased from $750 million prior to the amendment). Each bank that is a party to the agreement has an initial commitment term of five years. This term may be extended for up to two additional one-year periods with the agreement of the banks. Annual commitment fees for this agreement are 0.09% of the unused portion of the facility based on our current credit rating. Generally, we would be charged interest for any amounts borrowed under this facility, based on our current credit rating, at (i) SOFR plus 1.01% or (ii) the highest of (A) the administrative agent bank base commercial lending rate, (B) the overnight federal funds rate plus 0.50% or (C) one-month SOFR plus 1.1%. As of March 31, 2023 and December 31, 2022, no amounts were outstanding under this facility.

Certain of our financing arrangements contain nonfinancial covenants. In addition, our revolving credit agreement includes a financial covenant that requires us to 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 earnings before interest, taxes, depreciation and amortization) 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, 2023.

Cash flows

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

	Three months ended March 31,	
	2023	2022
Net cash provided by operating activities	$ 1,064	$ 2,164
Net cash provided by (used in) investing activities	$ 1,358	$ (111)
Net cash provided by (used in) financing activities	$ 21,509	$ (3,514)

Operating

Cash provided by operating activities has been and is expected to continue to be our primary recurring source of funds. Cash provided by operating activities during the three months ended March 31, 2023, decreased primarily due to lower net income after adjustments for noncash items, as well as the impact of working capital items due to the timing of payments for sales incentives and discounts, partially offset by higher inventory build in the prior year.

Investing

Cash provided by investing activities during the three months ended March 31, 2023, was primarily due to net cash inflows related to marketable securities activity of $1.7 billion, partially offset by capital expenditures of $344 million, including construction costs of new plants in North Carolina and Ohio. Cash used in investing activities during the three months ended March 31, 2022, was primarily due to $190 million of capital expenditures, partially offset by proceeds from sales of property, plant and equipment. We currently estimate 2023 spending on capital projects to be approximately $925 million.

Financing

Cash provided by financing activities during the three months ended March 31, 2023, was primarily due to proceeds from the issuance of debt of $23.8 billion, partially offset by the payment of dividends of $1.1 billion as well as the repayment and extinguishment of debt of $1.1 billion. Cash used in financing activities during the three months ended March 31, 2022, was primarily due to payments to repurchase our common stock of $6.4 billion, including amounts paid under the accelerated stock repurchase agreements, and the payment of dividends of $1.1 billion, partially offset by proceeds from the issuance of debt of $4.0 billion. See Note 10, Financing arrangements, and Note 11, Stockholders' equity, to the condensed consolidated financial statements for further discussion.

Critical Accounting Policies and Estimates

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 and estimates 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, 2022.

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, 2022, and is incorporated herein by reference. There were no material changes during the three months ended March 31, 2023, 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, 2022.

During the three months ended March 31, 2023, our outstanding debt increased by $22.7 billion, primarily due to the issuance of $24.0 billion of debt in connection with the proposed acquisition of Horizon. As of March 31, 2023, we had outstanding debt with a carrying value of $61.6 billion and a fair value of $59.8 billion. As of December 31, 2022, we had outstanding debt with a carrying value of $38.9 billion and a fair value of $35.0 billion. Our debt pays interest at fixed rates, and therefore changes in interest rates do not affect interest expense on our outstanding debt. Changes in interest rates would, however, affect the fair values of fixed-rate debt. A hypothetical 100 basis point decrease in interest rates relative to interest rates as of March 31, 2023 and December 31, 2022, would have resulted in an increase of $5.7 billion and $3.5 billion, respectively, in the aggregate fair value of our outstanding debt on these dates. The analysis does not consider the impact that hypothetical changes in interest rates would have on related interest rate swap contracts and cross-currency swap contracts.

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 gets recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms and that such information gets accumulated and communicated to Amgen’s management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to facilitate 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 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 on 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, 2023.

Management determined that as of March 31, 2023, no changes in our internal control over financial reporting had occurred during the fiscal quarter then ended that materially affected or are reasonably likely to materially affect our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. LEGAL PROCEEDINGS

See Part I—Note 14, Contingencies and commitments, to the condensed consolidated financial statements included in our Quarterly Report on Form 10-Q for the period ended March 31, 2023, 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 our Annual Report on Form 10-K for the year ended December 31, 2022.

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. The risks described below 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 and international operations. 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 provide 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, 2022, provide additional disclosure for these supplemental risks and are incorporated herein by reference.

Our sales depend on coverage and reimbursement from government and commercial third-party payers, and pricing and reimbursement pressures have affected, and are likely to continue to affect, our profitability.

Sales of our products depend on the availability and extent of coverage and reimbursement from third-party payers, including government healthcare programs and private insurance plans. Governments and private payers continue to pursue initiatives to manage drug utilization and contain costs. Further, pressures on healthcare budgets from the pandemic, the economic downturn and inflation continue and are likely to increase across the markets we serve. Payers are increasingly focused on costs, which have resulted, and are expected to continue to result, in lower reimbursement rates for our products or narrower populations for which payers will reimburse. Continued intense public scrutiny of the price of drugs and other healthcare costs, together with payer dynamics, have limited, and are likely to continue to limit, our ability to set or adjust the price of our products based on their value, which can have a material adverse effect on our business. In the United States, particularly over the past few years, a number of legislative and regulatory proposals have been introduced and/or signed into law that attempt to lower drug prices. These include legislation promulgated by the IRA that enables the U.S. government to set prices for certain drugs in Medicare, redesigns Medicare Part D benefits to shift a greater portion of the costs to manufacturers and enables the U.S. government to impose penalties if drug prices are increased at a rate faster than inflation. Additional proposals focused on drug pricing continue to be debated, and additional executive orders focused on drug pricing and competition are likely to be adopted and implemented in some form. Government actions or ballot initiatives at the state level also represent a highly active area of policymaking and experimentation, including pursuit of proposals that limit drug reimbursement under state run Medicaid programs based on reference prices or permitting importation of drugs from Canada. Such state policies may also eventually be adopted at the federal level.

We are unable to predict which or how many policy, regulatory, administrative or legislative changes may ultimately be, or effectively estimate the consequences to our business if, enacted and implemented. However, to the extent that payer actions further decrease or modify the coverage or reimbursement available for our products, require that we pay increased rebates or shift other costs to us, limit or affect our decisions regarding the pricing of or otherwise reduce the use of our products, such actions could have a material adverse effect on our business and results of operations.

—Changing U.S. federal coverage and reimbursement policies and practices have affected and are likely to continue to affect access to, pricing of and sales of our products

A substantial portion of our U.S. business relies on reimbursement from federal government healthcare programs and commercial insurance plans regulated by federal and state governments. See Part I, Item 1. Business—Reimbursement, of our Annual Report on Form 10-K for the year ended December 31, 2022. Our business has been and will continue to be affected by legislative actions changing U.S. federal reimbursement policy. For example, in 2022, the IRA was enacted and includes provisions requiring that: (1) beginning in 2026, mandatory price setting be introduced in Medicare for certain drugs paid for

under Parts B and D, whereby manufacturers must accept a price established by the government or face penalties on all U.S. sales (starting with 10 drugs in 2026, adding 15 in 2027 and 2028, and adding 20 in 2029 and subsequent years such that by 2031 approximately 100 drugs could be subject to such set prices); (2) starting in 2024, Medicare Part D be redesigned to cap beneficiary out-of-pocket costs and, beginning January 1, 2025, Federal reinsurance be reduced in the catastrophic phase (resulting in a shift and increase of such costs to Part D plans and manufacturers, including by requiring manufacturer discounts on certain drugs); and (3) beginning October 1, 2022, manufacturers will owe rebates on drugs reimbursed under Medicare Part D if price increases outpace inflation, and beginning January 1, 2023, will owe rebates on drugs reimbursed under Medicare Part B if price increases outpace inflation. The IRA's drug pricing controls and Medicare redesign is likely to have a material adverse effect on our sales, our business and our results of operations, and such impact is expected to increase through the end of the decade and will depend on factors including the extent of our portfolio's exposure to Medicare reimbursement, the rate of inflation over time, the number of our products selected for mandatory price setting and the timing of market entry of generic or biosimilar competition. Further, following the passage of the IRA, the environment remains dynamic, and in February 2023, the HHS selected new healthcare payment and delivery models for testing, in response to an October 2022 Executive Order on Lowering Prescription Drug Costs for Americans, including the Accelerating Clinical Evidence Model, which could introduce new payment methods that reduce reimbursement for drugs approved under accelerated approval. That Executive Order followed a 2021 Executive Order designed to increase competition in the healthcare sector, including by calling for the FDA to develop prescription drug importation programs and the FTC to apply greater scrutiny of anticompetitive activity and responses to which include actions from the HHS (which released a report with drug pricing proposals that seek to promote competition) and from the U.S. Patent and Trademark Office (which has taken steps to strengthen coordination with the FDA to address impediments to generic drug and biosimilar competition). Other CMS policy changes and demonstration projects to test new care, delivery and payment models can also significantly affect how drugs, including our products, are covered and reimbursed. In September 2021, HHS released a plan to address drug pricing that included potential future mandatory models that link payment for prescription drugs and biologics to certain factors, including the overall cost of care. In March 2023, the Administration released its budget plan for fiscal year 2024 that included proposals to expand the number of drugs subject to mandatory price setting under Medicare, imposing such price setting activity earlier, and extending to commercial health insurance the requirement that drug manufacturers pay rebates if price increases outpace inflation. While the Administration's budget plan remains subject to Congressional review and implementation, this expansion of drug pricing controls and Medicare redesigns introduced by the IRA through this budget proposal demonstrates that this area continues to be a focus of the Administration.

We also face risks related to the reporting of pricing data that affects reimbursement of and discounts provided for our products. U.S. government price reporting regulations are complex and may require biopharmaceutical manufacturers to update certain previously submitted data. If our submitted pricing data are incorrect, we may become subject to substantial fines and penalties or other government enforcement actions, which could have a material adverse effect on our business and results of operations. In addition, as a result of restating previously reported price data, we may be required to pay additional rebates and provide additional discounts.

—Changing reimbursement and pricing actions in various states have negatively affected and may continue to negatively affect access to and have affected and may continue to affect sales of our products

At the state level, government actions or ballot initiatives can also affect how our products are covered and reimbursed and/or create additional pressure on our pricing decisions. Existing and proposed state pricing laws have added complexity to the pricing of drugs and may already be affecting industry pricing decisions. A number of states have adopted, and many other states are considering, drug importation programs and other pricing actions, including proposals designed to require biopharmaceutical manufacturers to report to the state proprietary pricing information or provide advance notice of certain price increases. For example, a California law requires biopharmaceutical manufacturers to notify health insurers and government health plans at least 60 days before scheduled prescription drug price increases that exceed certain thresholds. Similar laws exist in Oregon and Washington. Additional proposals directed at Medicaid seek to penalize manufacturers for pricing drugs above a certain threshold or limit spending on biopharmaceutical products. States are also seeking to change the way they pay for drugs for patients covered by state programs. New York has established a Medicaid drug spending cap, and Massachusetts implemented a new review and supplemental rebate negotiation process. Six states (Colorado, Maine, New Hampshire, Maryland, Oregon and Washington) have enacted laws that establish Prescription Drug Affordability Boards (PDABs) to study drug prices and identify drugs that pose affordability challenges, and in three states (Colorado, Maryland and Washington) include authority for the state PDAB to set upper payment limits on certain drugs in state regulated plans. Following the passage of the IRA, legislators in Nevada and Minnesota have proposed laws that would apply the drug price caps set by HHS for Medicare to drug prices statewide, including commercial health insurance. Other states may consider implementing similar policies and laws. Additionally, Colorado, Florida, Maine, New Hampshire, New Mexico and Vermont have enacted laws, and several other states have proposed bills, to implement importation of drugs from Canada. The FDA has met with representatives from Colorado, Florida, Maine and New Mexico to discuss those states' proposed importation programs, and the FDA may be working towards approving such plans. Other states could adopt similar approaches or could pursue different policy changes in

a continuing effort to reduce their costs. Ultimately, as with U.S. federal government actions, existing or future state government actions or ballot initiatives may also have a material adverse effect on our product sales, business and results of operations.

—U.S. commercial payer actions have affected and may continue to affect access to and sales of our products

Payers, including healthcare insurers, PBMs, integrated healthcare delivery systems (vertically-integrated organizations built from consolidations of healthcare insurers and PBMs) and group purchasing organizations, increasingly seek ways to reduce their costs. With increasing frequency, payers are adopting benefit plan changes that shift a greater proportion of drug costs to patients. Such measures include more limited benefit plan designs, high deductible plans, higher patient co-pay or coinsurance obligations and more significant limitations on patients' use of manufacturer commercial co-pay assistance programs. Further, government regulation of payers may affect these trends. For example, CMS finalized a policy for plan years starting on or after January 1, 2021 that has caused commercial payers to more widely adopt co-pay accumulator adjustment programs. Payers, including PBMs, have sought, and continue to seek, price discounts or rebates in connection with the placement of our products on their formularies or those they manage, and to also impose restrictions on access to or usage of our products (such as Step Therapy), require that patients receive the payer's prior authorization before covering the product, and/or chosen to exclude certain indications for which our products are approved. For example, some payers require physicians to demonstrate or document that the patients for whom Repatha has been prescribed meet their utilization criteria, and these requirements have served to limit and may continue to limit patient access to Repatha treatment. In an effort to reduce barriers to access, we reduced the net price of Repatha by providing greater discounts and rebates to payers (including PBMs that administer Medicare Part D prescription drug plans), and in response to a very high percentage of Medicare patients abandoning their Repatha prescriptions rather than paying their co-pay, we introduced a set of new National Drug Codes to make Repatha available at a lower list price. However, affordability of patient out-of-pocket co-pay cost has limited and may continue to limit patient use. Further, despite these net and list price reductions, some payers have restricted, and may continue to restrict, patient access and may seek further discounts or rebates or take other actions, such as changing formulary coverage for Repatha, that could reduce our sales of Repatha. These factors have limited, and may continue to limit, patient affordability and use, negatively affecting Repatha sales.

Further, significant consolidation in the health insurance industry has resulted in a few large insurers and PBMs, which places greater pressure on pricing and usage negotiations with biopharmaceutical manufacturers, significantly increasing discount and rebate requirements and limiting patient access and usage. For example, in the United States, as of the beginning of 2023, the top five integrated health plans and PBMs controlled about 92% of all pharmacy prescriptions. This high degree of consolidation among insurers and PBMs and other payers, including through integrated healthcare delivery systems and/or with specialty or mail-order pharmacies and pharmacy retailers, has increased the negotiating leverage such entities have over us and other biopharmaceutical manufacturers and has resulted in greater price discounts, rebates and service fees realized by those payers from our business. Each of CVS, Express Scripts and United Health Group (among the top five integrated health plans and PBMs), each have Rebate Management Organizations that further increase their leverage to negotiate deeper discounts. Ultimately, additional discounts, rebates, fees, coverage changes, plan changes, restrictions or exclusions imposed by these commercial payers could have a material adverse effect on our product sales, business and results of operations. Policy reforms advanced by Congress or the Administration that refine the role of PBMs in the U.S. marketplace could have downstream implications or consequences for our business and how we interact with these entities. For example, on June 7, 2022, the FTC launched an inquiry into the business practices of PBMs, and the results of such inquiry could have an effect on manufacturer interactions with PBMs, resulting in changes to access for certain medicines. See our Annual Report on Form 10-K for the year ended December 31, 2022, Part I, Item 1A. Risk Factors—*Concentration of sales at certain of our wholesaler distributors and consolidation of private payers may negatively affect our business.*

Our business is also affected by policies implemented by private healthcare entities that process Medicare claims, including Medicare Administrative Contractors. For example, in the second quarter of 2022, several Medicare Administrative Contractors issued notice, in contravention of TEZSPIRE's FDA approved labeling, that TEZSPIRE would be added to their "self-administered drug" exclusion lists. Although the Medicare Administrative Contractors subsequently removed TEZSPIRE from their exclusion lists, these exclusions, if reintroduced and/or implemented, would result in Medicare beneficiaries with severe asthma losing access to TEZSPIRE coverage under Medicare Part B and potentially also under Medicare Advantage.

—Government and commercial payer actions outside the United States have affected and will continue to affect access to and sales of our products

Outside the United States, we expect countries will also continue to take actions to reduce their drug expenditures and to reduce intellectual property protections. See Part I, Item 1. Business—Reimbursement, of our Annual Report on Form 10-K for the year ended December 31, 2022. Pressures to decrease drug expenditures may further intensify as the COVID-19 pandemic has strained government budgets and as economic conditions continue to worsen in certain regions, including in Europe where high inflation and the energy crisis relating to the Russia–Ukraine conflict are challenging the economies in that region.

International reference pricing has been widely used by many countries outside the United States to control costs based on an external benchmark of a product's price in other countries. International reference pricing policies can change quickly and frequently and may not reflect differences in the burden of disease, indications, market structures or affordability differences across countries or regions. Other expenditure control practices, including but not limited to the use of revenue clawbacks, rebates and percentage caps on price increases, are used in various foreign jurisdictions as well. In addition, countries may refuse to reimburse or may restrict the reimbursed population for a product when their national health technology assessments do not consider a medicine to demonstrate sufficient clinical benefit beyond existing therapies or to meet certain cost effectiveness thresholds. For example, despite the European Medicines Agency's approval of Repatha for the treatment of patients with established atherosclerotic disease, prior to 2020, the reimbursement of Repatha in France was limited to a narrower patient population (such as those with homozygous familial hypercholesterolemia (HoFH)) following a national health technology assessment. Many countries decide on reimbursement between potentially competing products through national or regional tenders that often result in one product receiving most or all of the sales in that country or region. Failure to obtain coverage and reimbursement for our products, a deterioration in their existing coverage and reimbursement or a decline in the timeliness or certainty of payment by payers to physicians and other providers has negatively affected, and may further negatively affect, the ability or willingness of healthcare providers to prescribe our products for their patients and otherwise negatively affect the use of our products or the prices we realize for them. Such changes have had, and could in the future have, a material adverse effect on our product sales, business and results of operations.

Our efforts to collaborate with or acquire other companies, products, or technology, and to integrate the operations of companies or to support the products or technology we have acquired, may not be successful, and may result in unanticipated costs, delays or failures to realize the benefits of the transactions.

We seek innovation through significant investment in both internal R&D and external transactions, including collaborations, partnerships, alliances, licenses, joint ventures, mergers and acquisitions (collectively, acquisition activity). Acquisition activities may be subject to regulatory approvals or other requirements that are not within our control. There can be no assurance that such regulatory or other approvals will be obtained or that all closing conditions required in connection with our acquisition activities will be satisfied or waived, which could result in us being unable to complete the planned acquisition activities. For example, with respect to our proposed acquisition of Horizon, the Company and Horizon each received a request for additional information and documentary materials from the FTC, and the FTC could make similar further requests in connection with its review of the proposed acquisition. In addition, antitrust scrutiny by regulatory agencies and changes to regulatory approval process in the U.S. and foreign jurisdictions may cause approvals to take longer than anticipated to obtain, not be obtained at all, or contain burdensome conditions, which may jeopardize, delay or reduce the anticipated benefits of acquisitions to us and could impede the execution of our business strategy.

Acquisition activities are complex, time consuming and expensive and may result in unanticipated costs, delays or other operational or financial problems related to integrating the acquired company and business with our company, which may divert our management's attention from other business issues and opportunities and restrict the full realization of the anticipated benefits of such transactions within the expected timeframe or at all. We may pay substantial amounts of cash, incur debt or issue equity securities to pay for acquisition activities, which could adversely affect our liquidity or result in dilution to our stockholders, respectively. For example, the funds received from our $24 billion of senior notes issued on March 2, 2023, together with our $4 billion term loan facility, are expected to be among our primary sources of payment for the proposed acquisition of Horizon. Further, failures or difficulties in integrating or retaining new personnel or in integrating the operations of the businesses, products or assets we acquire (including related technology, commercial operations, compliance programs, manufacturing, distribution and general business operations and procedures and ESG activities) may affect our ability to realize the benefits of the transaction and grow our business and may result in us incurring asset impairment or restructuring charges. These and other challenges may arise in connection with our acquisitions of Otezla, Five Prime Therapeutics, Inc., Teneobio, Inc., ChemoCentryx, Horizon and/or our collaborations with BeiGene and Kyowa Kirin Co., Ltd., or with other acquisition activities, which could have a material adverse effect on our business, results of operations and stock price.

Global economic conditions may negatively affect us and may magnify certain risks that affect our business.

Our operations and performance have been, and may continue to be, affected by global economic conditions. The economic downturn resulting from the COVID-19 pandemic precipitated a global recession, which was followed by high rates of inflation and actions taken by financial regulators to raise interest rates. Recent instability in the financial system and tighter lending standards are likely to generate additional stress and vulnerabilities in the global economy. These conditions have cumulatively led to regional and/or global macroeconomic challenges, the effects of which may be of an extended duration. Further, acute rising energy costs may further adversely affect productivity and economic conditions, particularly in Europe. The availability of governmental monetary and fiscal tools to address the financial crisis may also be limited as a result of political divisions in Congress, including any impasse on raising the debt ceiling which could result in a government shutdown. Additionally, with higher interest rates, governments may be unable to sustain their previously high levels of fiscal spending

and deficits. Consequently, these and other financial pressures have caused, and may continue to cause, government or other third-party payers to more aggressively seek cost containment measures in healthcare and other settings. See *Our sales depend on coverage and reimbursement from government and commercial third-party payers, and pricing and reimbursement pressures have affected, and are likely to continue to affect, our profitability.* As a result of global economic conditions, some third-party payers may delay or be unable to satisfy their reimbursement obligations. Job losses or other economic hardships (including inflation) may also affect patients' ability to afford healthcare as a result of increased co-pay or deductible obligations, greater cost sensitivity to existing co-pay or deductible obligations, lost healthcare insurance coverage or for other reasons. We believe such conditions have led and could continue to lead to reduced demand for our products, which could have a material adverse effect on our product sales, business and results of operations. The current inflationary environment related to increased aggregate demand, supply chain constraints and the effects from the armed conflict in Ukraine (including the effects of the sanctions that were implemented in response to the conflict and the resulting impacts on the commodity market and supply chains) have also increased our operating expenses and may continue to affect our operating expenses. Our operational costs, including the cost of energy, materials, labor, distribution and our other operational and facilities costs are subject to market conditions and are being adversely affected by inflationary pressures. Economic conditions may also adversely affect the ability of our distributors, customers and suppliers to obtain the liquidity required to buy inventory or raw materials and to perform their obligations under agreements with us, which could disrupt our operations. Although we monitor our distributors', customers' and suppliers' financial condition and their liquidity to mitigate our business risks, some of our distributors, customers and suppliers may become insolvent, which could have a material adverse effect on our product sales, business and results of operations. A significant worsening of global economic conditions could precipitate or materially amplify the other risks described herein.

We maintain a significant portfolio of investments disclosed as cash equivalents and marketable securities on our consolidated balance sheets. The global spread of COVID-19, and more recently, interest rate increases, have 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 or recurrent series of market disruptions, result in impairments. The value of our investments may also be adversely affected by interest rate fluctuations, inflation, downgrades in credit ratings, illiquidity in the capital markets and other factors that may result in other-than-temporary declines in the value of our investments. Any of those events could cause us to record impairment charges with respect to our investment portfolio or to realize losses on sales of investments. We also maintain a majority of our cash and cash equivalents in accounts with major multi-national financial institutions, and our deposits at these institutions exceed insured limits. Market conditions can adversely affect the viability of these institutions. In the event of failure of any of the financial institutions where we maintain our cash and cash equivalents, there can be no assurance that we would be able to access uninsured funds in a timely manner or at all. Inability to access, or a delay in accessing these funds, could adversely affect our business and financial position.

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

During the three months ended March 31, 2023, 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	Total number of shares purchased as part of publicly announced program	Maximum dollar value that may yet be purchased under the program[(1)]
January 1 - 31	—		—	$ 6,979,263,848
February 1 - 28	—		—	$ 6,979,263,848
March 1 - 31	—		—	$ 6,979,263,848
Total	—		—	

(1) In October 2022, the Board of Directors increased the amount authorized under the repurchase program by an additional $2.4 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.)
2.1.1	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.)
2.1.2	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.)
2.2	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.)
2.3	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.)
2.4	Agreement and Plan of Merger, dated July 27, 2021, by and among Amgen Inc., Teneobio, Inc., Tuxedo Merger Sub, Inc., and Fortis Advisors LLC. (portions of the exhibit have been omitted because they are both (i) not material and (ii) is the type of information that the Company treats as private or confidential)(Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2021 on November 3, 2021 and incorporated herein by reference.)
2.5	Agreement and Plan of Merger, dated as of August 3, 2022, among ChemoCentryx, Inc., Amgen Inc. and Carnation Merger Sub, Inc. (Filed as an exhibit to Form 8-K on August 4, 2022 and incorporated herein by reference.)
2.6	Transaction Agreement, dated as of December 11, 2022, by and among Amgen Inc., Pillartree Limited and Horizon Therapeutics plc. (Filed as an exhibit to Form 8-K on December 12, 2022 and incorporated herein by reference.)
2.7	Appendix 3 to the Rule 2.7 Announcement, dated as of December 12, 2022 (Conditions Appendix). (Filed as an exhibit to Form 8-K on December 12, 2022 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.)

Exhibit No.	Description
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 form of the Company's 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 form of the Company's 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 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 form of the Company's 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	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.)
4.24	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.)
4.25	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.)
4.26	Officer's Certificate of Amgen Inc., dated as of February 21, 2020, including 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.)

Exhibit No.	Description
4.27	Officer's Certificate of Amgen Inc., dated as of May 6, 2020, including form of the Company's 2.300% Senior Notes due 2031. (Filed as an exhibit to Form 8-K on May 6, 2020 and incorporated herein by reference.)
4.28	Officer's Certificate of Amgen Inc., dated as of August 17, 2020, including forms of the Company's 2.770% Senior Notes due 2053. (Filed as an exhibit to Form 8-K on August 18, 2020 and incorporated herein by reference.)
4.29	Officer's Certificate of Amgen Inc., dated as of August 9, 2021, including forms of the Company's 1.650% Senior Notes due 2028, 2.000% Senior Notes due 2032, 2.800% Senior Notes due 2041 and 3.000% Senior Notes due 2052. (Filed as an exhibit to Form 8-K on August 9, 2021 and incorporated herein by reference.)
4.30	Officer's Certificate of Amgen Inc., dated as of February 22, 2022, including forms of the Company's 3.000% Senior Notes due 2029, 3.350% Senior Notes due 2032, 4.200% Senior Notes due 2052 and 4.400% Senior Notes due 2062. (Filed as an exhibit to Form 8-K on February 22, 2022 and incorporated herein by reference.)
4.31	Officer's Certificate of Amgen Inc., dated as of August 18, 2022, including forms of the Company's 4.050% Senior Notes due 2029, 4.200% Senior Notes due 2033 and 4.875% Senior Notes due 2053. (Filed as an exhibit to Form 8-K on August 18, 2022 and incorporated herein by reference.)
4.32	Description of Amgen Inc.'s Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934. (Filed as an exhibit to Form 10-K for the year ended December 31, 2022 on February 9, 2023 and incorporated herein by reference.)
4.33	Officer's Certificate of the Company, dated as of March 2, 2023, including forms of the Company's 5.250% Senior Notes due 2025, 5.507% Senior Notes due 2026, 5.150% Senior Notes due 2028, 5.250% Senior Notes due 2030, 5.250% Senior Notes due 2033, 5.600% Senior Notes due 2043, 5.650% Senior Notes due 2053 and 5.750% Senior Notes due 2063. (Filed as an exhibit to Form 8-K on March 2, 2023 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 and Restated on December 12, 2022.)(Filed as an exhibit to Form 10-K for the year ended December 31, 2022 on February 9, 2023 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 and Restated on December 12, 2022.)(Filed as an exhibit to Form 10-K for the year ended December 31, 2022 on February 9, 2023 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 and Reinstated on December 12, 2022.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2022 on February 9, 2023 and incorporated herein by reference.)
10.8+	Amgen Inc. 2009 Director Equity Incentive Program. (As Amended and Restated on October 21, 2020.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2020 on February 9, 2021 and incorporated herein by reference.)
10.9+	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.)

Exhibit No.	Description
10.10+	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.)
10.11+	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.)
10.11.1+	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.)
10.11.2+	Second Amendment to the Amgen Inc. Supplemental Retirement Plan, 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.)
10.11.3+	Third Amendment to the Amgen Inc. Supplemental Retirement Plan, effective October 20, 2021. (Filed as an exhibit to Form 10-K for the year ended December 31, 2021 on February 16, 2022 and incorporated herein by reference.)
10.11.4+	Fourth Amendment to the Amgen Inc. Supplemental Retirement Plan, effective October 20, 2022. (Filed as an exhibit to Form 10-K for the year ended December 31, 2022 on February 9, 2023 and incorporated herein by reference.)
10.12+	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.)
10.13+	Amgen Inc. Executive Incentive Plan. (As Amended and Restated effective January 1, 2022.) (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2022 on April 28, 2022 and incorporated herein by reference.)
10.14+	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.)
10.14.1+	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.)
10.14.2+	Second Amendment to the Amgen Nonqualified Deferred Compensation Plan, 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.)
10.14.3+	Third Amendment to the Amgen Nonqualified Deferred Compensation Plan, effective January 1, 2022. (Filed as an exhibit to Form 10-K for the year ended December 31, 2021 on February 16, 2022 and incorporated herein by reference.)
10.15+	Aircraft Time Sharing Agreement, dated December 3, 2021, by and between Amgen Inc. and Robert A. Bradway. (Filed as an exhibit to Form 10-K for the year ended December 31, 2021 on February 16, 2022 and incorporated herein by reference.)
10.16	Term Loan Credit Agreement, dated as of December 22, 2022, by and among Amgen Inc., Citibank, N.A., as administrative agent, Bank of America, N.A., as syndication agent, Citibank, N.A., Bank of America, N.A., Goldman Sachs Bank USA and Mizuho Bank, Ltd., as lead arrangers and book runners, Goldman Sachs Bank USA and Mizuho Bank, Ltd. as documentation agents, and the other banks party thereto. (Filed as an exhibit to Form 8-K on December 22, 2022 and incorporated herein by reference.)
10.17	Third Amended and Restated Credit Agreement, dated as of March 9, 2023, 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 March 9, 2023 and incorporated herein by reference.)
10.18	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.)

Exhibit No.	Description
10.18.1	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.)
10.19	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.)
10.20	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.)
10.20.1	First Amendment to Collaboration Agreement, dated April 20, 2022, by and between Amgen Inc. and BeiGene Switzerland GmbH, and BeiGene, Ltd. (portions of the exhibit have been omitted because they are both (i) not material and (ii) is the type of information that the Company treats as private or confidential.) (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2022 on August 5, 2022 and incorporated herein by reference.)
10.20.2*	Second Amendment to Collaboration Agreement, entered into as of February 26, 2023, by and between Amgen Inc. and BeiGene Switzerland GmbH, and BeiGene, Ltd. (portions of the exhibit have been omitted because they are both (i) not material and (ii) is the type of information that the Company treats as private or confidential.)
10.21	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.)
10.22	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.)
10.22.1	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.)
10.22.2	Restated Amendment No. 2 to Share Purchase Agreement, dated September 24, 2020, by and among BeiGene, Ltd. and Amgen Inc. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2020 on October 29, 2020 and incorporated herein by reference.)
10.22.3	Amendment No. 3 to Share Purchase Agreement, dated January 30, 2023, by and among BeiGene, Ltd. and Amgen Inc. (Filed as an exhibit to Form 8-K on January 31, 2023 and incorporated herein by reference.)
10.23	Collaboration Agreement dated March 30, 2012 by and between Amgen Inc. and AstraZeneca Collaboration Ventures, LLC, a wholly owned subsidiary of AstraZeneca Pharmaceuticals LP (portions of the exhibit have been omitted because they are both (i) not material and (ii) is the type of information that the Company treats as private or confidential.) (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2022 on August 5, 2022 and incorporated herein by reference.)
10.23.1	Amendment No. 1 to the Collaboration Agreement, dated October 1, 2014, by and among Amgen Inc., AstraZeneca Collaboration Ventures, LLC and AstraZeneca Pharmaceuticals LP (portions of the exhibit have been omitted because they are both (i) not material and (ii) is the type of information that the Company treats as private or confidential.) (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2022 on August 5, 2022 and incorporated herein by reference.)
10.23.2	Amendment Nos. 2 through 6 to the March 30, 2012 Collaboration Agreement between Amgen Inc. and AstraZeneca Collaboration Ventures, LLC, dated May 2 and 27 and October 2, 2016, January 31, 2018, and May 15, 2020, respectively (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, 2020 on July 29, 2020 and incorporated herein by reference.)

Exhibit No.	Description
10.23.3	Amendment No. 7 to the Collaboration Agreement, dated December 17, 2020, by and between Amgen Inc. and AstraZeneca Collaboration Ventures, LLC (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, 2020 on February 9, 2021 and incorporated herein by reference.)
10.23.4	Amendment No. 8 to the Collaboration Agreement, dated November 19, 2021, by and between Amgen Inc. and AstraZeneca Collaboration Ventures, LLC (portions of the exhibit have been omitted because they are both (i) not material and (ii) is the type of information that the Company treats as private or confidential.)(Filed as an exhibit to Form 10-K for the year ended December 31, 2021 on February 16, 2022 and incorporated herein by reference.)
10.24	License and Collaboration Agreement, dated June 1, 2021, by and between Amgen Inc. and Kyowa Kirin Co., 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-Q for the quarter ended June 30, 2021 on August 4, 2021 and incorporated herein by reference.)
31*	Rule 13a-14(a) Certifications.
32**	Section 1350 Certifications.
101.INS	Inline 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*	Inline XBRL Taxonomy Extension Schema Document.
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	Inline 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)

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 27, 2023

By: /s/ PETER H. GRIFFITH

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

Exhibit 10.20.2

EXECUTION VERSION

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [*], HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

SECOND AMENDMENT TO COLLABORATION AGREEMENT

This Second Amendment to the Collaboration Agreement ("Amendment") is entered into as of February 26, 2023 (the "Second Amendment Effective Date") by and among Amgen Inc., a Delaware corporation having its principal place of business at One Amgen Center Drive, Thousand Oaks, California 91320-1799 ("Amgen"), BeiGene Switzerland GmbH, a Swiss corporation with a principal place of business at Aeschengraben 27, 4051 Basel, Switzerland ("BeiGene"), and BeiGene, Ltd., a Cayman Islands exempted company incorporated with limited liability with its registered offices c/o Mourant Governance Services (Cayman) Limited, 94 Solaris Avenue, P.O. Box 1348, Grand Cayman KY1-1108, Cayman Islands ("BeiGene Parent"). BeiGene and Amgen are sometimes referred to herein individually as a "Party" and collectively as the "Parties." This Amendment amends that certain Collaboration Agreement, entered into as of October 31, 2019 (as amended from time to time, the "Agreement"), by and between Amgen and BeiGene and, solely with respect to Section 13.6 thereof, BeiGene Parent. Capitalized terms used but not defined herein have the meanings given to them in the Agreement.

RECITALS

WHEREAS, pursuant to the Agreement, Amgen and BeiGene collaborate on the commercialization of certain Products (as defined in the Agreement) in the Collaboration Territory (as defined in the Agreement) and the global development funding and clinical development and commercialization of certain clinical-stage pipeline Products in the Collaboration Territory; and

WHEREAS, the Parties desire to enter into this Amendment, upon the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements contained herein, the Parties, intending to be legally bound hereby, do agree as follows:

1. **Amendment to Section 1.13**. Section 1.13 of the Agreement is hereby amended by adding the following language at the end of the existing Section 1.13:

"Amgen Pipeline Product Global Development Costs shall not include Costs incurred by Amgen during the period starting on January 1, 2023 and ending on August 31, 2023 to the extent such Costs are attributable to AMG 510 (also known as sotorasib or LUMAKRAS®)."

2. **Amendment to Section 1.28**. Section 1.28 of the Agreement is hereby amended by adding the following language at the end of the existing Section 1.28:

"BeiGene Pipeline Product Development Costs shall not include Costs incurred by BeiGene during the period starting on January 1, 2023 and ending on August 31, 2023 to the extent such Costs are attributable to AMG 510 (also known as sotorasib or LUMAKRAS®)."

3. **New Section 1.174**. The following is hereby inserted as a new Section 1.174 of the Agreement:

"Section 1.174 "Tianjin" means the Pilot Zone in the Tianjin province."

4. **New Section 1.175**. The following is hereby inserted as a new Section 1.175 of the Agreement:

"Section 1.175 "Tianjin Support Costs" means all actual and, if reasonably practicable, [*]

5. **Amendment to Section 5.1.4**. Section 5.1.4 of the Agreement is hereby amended and restated in its entirety as follows:

"Section 5.1.4 Reversion of In-Line Products and Pipeline Products. In order to memorialize and effectuate the reversion of Product rights to Amgen pursuant to Sections 5.1.2 and 5.1.3 and Sections 14.6 and 14.9, the Parties shall, within forty-five (45) months following the Effective Date, enter into, execute and deliver a Master Reverse Transition Services Agreement with Product-specific addendums to be entered into at least twenty-four (24) months prior to the expected Product Reversion date (each a "Reverse Transition Services Agreement"), consistent with the scope of the Product Reversion Transition Services Schedule attached hereto, with such changes, if any, as may be mutually agreed by the Parties, including any changes to the Product Reversion Transition Services Schedule as each Party, using its reasonable best efforts, shall negotiate and supplement or finalize. The Parties shall begin good faith negotiations regarding each Reverse Transition Services Agreement at least thirty (30) months prior to the expected Product Reversion Date for the applicable Product."

6. **Amendment to Section 7.2.3(b)**. Section 7.2.3(b) of the Agreement is hereby amended by adding the following to the end of the existing Section 7.2.3(b):

"The table below sets out the 2022 and 2023 baseline budget for Product Team/Work Package Team strategy FTEs based on the Pipeline Product portfolio as of the Second Amendment Effective Date: [*]

7. **Amendment to Section 7.2.3(c)**. Section 7.2.3(c) of the Agreement is hereby amended and restated in its entirety as follows:

"(c) The Product Team and Work Package Team FTE allocation for Pipeline Products will be adjusted by Amgen [*] based on relevant factors, [*]. Such adjusted allocations shall be reflected in the records of the JSC or other governance committee or team."

8. **Amendment to Section 7.2.8**. Section 7.2.8 (Hainan Bo Ao Cost-Share Matters) of the Agreement is hereby amended and restated in its entirety as follows:

"Section 7.2.8 Early Access Program Cost-Share Matters. Notwithstanding anything to the contrary in this Agreement, with respect to the AMG 510 (also known as sotorasib or LUMAKRAS®) Product (as applicable, the "Bo Ao Product," the "Tianjin Product" or, the "Early Access Product"), the Parties desire to initiate the Profit-sharing arrangement set forth in Section 7.2 prior to applicable Initiation Date, subject to the following terms and conditions:

(a) *Commercialization and Related Costs*. Prior to the applicable Initiation Date, costs (including Costs for outside services and expenses (e.g., consultants, agency fees, etc.)) for the following activities shall be considered "Commercialization and Related Costs" for purposes of determining "Amgen Costs" or "BeiGene Costs," as applicable:

(i) [*];

(ii) Medical Affairs Activities Costs incurred in connection with Hainan Bo Ao and Tianjin in or for the Collaboration Territory prior to commercialization and during commercialization;

(iii) all Costs incurred by the Parties or their respective Affiliates associated with any recalls of the Early Access Product in the Collaboration Scope and in or for the Collaboration Territory;

(iv) all Costs incurred by the Parties or their respective Affiliates with respect to product liability claims for the Early Access Product in the Collaboration Scope in the Collaboration Territory;

(v) all Costs incurred by the Parties or their respective Affiliates associated with any returns and withdrawals of the Early Access Product in the Collaboration Scope in the Collaboration Territory;

(vi) any Third Party IP Payments to the extent not already included in Manufacturing Actual Costs; and

(viii) all unrecovered Indirect taxes, including, for the avoidance of doubt, unrecovered VAT surcharge, incurred by either Party arising with respect to payments to be made under Section 7.2.7 (Calculation of Collaboration Profits).

[*]

Commercialization and Related Costs for purposes of this Section 7.2.8 shall not include [*] or any Cost subject to an indemnification obligation under Article XIII.

(b) *Manufacturing Actual Costs*. The Manufacturing Actual Costs incurred with respect to the Early Access Product in connection with Hainan Bo Ao or Tianjin, as applicable, shall be deemed "Amgen Costs" for purposes of the calculations set forth under Section 7.2 (Profit Sharing).

(c) *Net Revenues.* Net Revenues from the sale or transfer for value of the Early Access Product in Hainan Bo Ao or Tianjin, as applicable, shall be considered "Net Revenues" for purpose of Section 7.2 (Profit Sharing).

(d) *Support Costs*. Bo Ao Support Costs and Tianjin Support Costs incurred with respect to the applicable Early Access Product in connection with Hainan Bo Ao or Tianjin, as

applicable, shall be deemed "Amgen Costs" for purposes of the calculations set forth under Section 7.2 (Profit Sharing)."

9. **New Section 7.2.9**. The following is hereby inserted as a new Section 7.2.9 of the Agreement:

10. Amendment to Section 7.2. Section 7.2 (Profit Sharing) of the Agreement is hereby amended and restated by adding a new Section 7.2(d):

"Section 7.2.9 Adjustments. Notwithstanding anything to the contrary in this Agreement, within fifty (50) days following December 31, 2023, BeiGene shall deliver to Amgen a statement setting forth, in reasonable detail, [*] (the "Restated Operating Income") [*]. Amgen shall review the calculations delivered by BeiGene and Amgen shall notify BeiGene of any disagreement with the calculations. In the event of a disagreement between the Parties with respect to the Restated Operating Income, the Parties shall cooperate in good faith to resolve such disagreement, and any unresolved disagreements shall be addressed through Section 15.4 of this Agreement. If the agreed-upon Restated Operating Income is a negative number, Amgen shall deliver an invoice to BeiGene setting forth the amount (the "Adjustment Amount") equal to [*] of the absolute value of the Restated Operating Income and BeiGene shall make a payment to Amgen in the amount of the Adjustment Amount, which payment shall be made in accordance with the provisions of Article VIII (Payments)."

11. **New Section 11.8**. The following is hereby inserted as a new Section 11.8 of the Agreement:

"Section 11.8 Additional Restrictions. With respect to clinical and regulatory information or data belonging to Amgen or a Third Party pertaining to the development of one or more Products in combination with pembrolizumab (such information, the "Amgen Proprietary Information"), the following shall apply:

11.8.1 Designated Personnel.

(a) BeiGene hereby designates the regulatory, clinical, commercial and other personnel (including relevant personnel of its Affiliates and Third Party consultants and contractors) listed on the Designated Personnel Schedule, attached hereto and incorporated herein by this reference, as the designated personnel ("Designated Personnel" and, each, a "Designated Person") to receive Amgen Proprietary Information. Amgen shall ensure storage and use of personal information contained in the Designated Personnel Schedule strictly in observance of and in compliance with Applicable Law on data protection and privacy, consistent with the obligations set out in Section 12.5 (Privacy and Data Protection). BeiGene may, at any time upon written notice to Amgen, revise the Designated Personnel Schedule as reasonably necessary to add Designated Personnel who will be responsible for conducting regulatory activities under the Collaboration Agreement on behalf of BeiGene and to remove Designated Personnel who are no longer responsible for conducting regulatory activities under the Collaboration Agreement on behalf of BeiGene; *provided*, *however*, that BeiGene may not disclose any Amgen Proprietary Information to any such new Designated Personnel prior to updating such Designated Personnel Schedule listing such new Designated Personnel and delivering such revised Designated Personnel Schedule to Amgen. BeiGene shall provide Amgen with an updated Designated Personnel Schedule at the end of each semi-annual period ending June 30 and December 31 and at such earlier times as personnel are assigned to receive Amgen Proprietary Information (e.g., upon new employees joining BeiGene in a relevant capacity) and such Designated Personnel Schedule shall cumulatively set out all updates of Designated Personnel Schedule made by BeiGene in such semi-annual period.

(b) BeiGene shall be bound by, and shall ensure that each Designated Person is bound by, restrictions on use and disclosure of any Amgen Proprietary Information it receives consistent with the confidentiality obligations under Article XI (Confidentiality) (including, without limitation, Section 11.1 (Confidentiality; Exceptions)), and BeiGene shall be responsible for each Designated Person's compliance with such restrictions, as follows:

i. During the Term and for [*] thereafter, each Designated Person (regardless of the date such Designated Person was removed from the list of Designated Personnel) shall keep confidential all Amgen Proprietary Information and shall not publish or otherwise disclose or use for any purpose other than as provided for in this Section 11.8 any Amgen Proprietary Information.

ii. Each Designated Person may use and access such Amgen Proprietary Information solely for the purposes of carrying out the applicable responsibilities of BeiGene under this Agreement, including disclosing such information to the extent reasonably necessary to other Designated Personnel and the relevant Governmental Authority, and, except as permitted under this Section 11.8.1(b)(ii), such Designated Personnel shall not disclose such Amgen Proprietary Information to any other personnel of BeiGene or its Affiliates, including, without limitation, its or their respective Representatives or any Third Party (including any partner or collaborator), for any purpose. For the avoidance of doubt, each Designated Person may not disclose Amgen Proprietary Information to any Third Party Collaboration Personnel (as defined below).

iii. The obligations of nondisclosure and the limitations upon the right to use such Amgen Proprietary Information under this Section 11.8 will not apply to the extent that BeiGene can demonstrate that such Amgen Proprietary Information: (A) was obtained or was already known by BeiGene or its Affiliates without obligation of confidentiality as a result of disclosure from a Third Party that BeiGene did not know, after due inquiry, was under an obligation of confidentiality to Amgen with respect to such information, (B) was generally available to the public or otherwise part of the public domain at the time of its disclosure to BeiGene through no act or omission of BeiGene or its Affiliates or Representatives in breach of this Agreement, (C) became generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of BeiGene or its Affiliates or Representatives in breach of this Agreement or (D) was independently discovered or developed by BeiGene or its Affiliates (without reference to or use of Amgen Proprietary Information or Confidential Information of Amgen).

11.8.2 Third Party Collaborations.

(a) BeiGene agrees that individuals that will receive information from and engage with [*] or any of its Affiliates pursuant to [*], by and between BeiGene and [*], with respect to any proposed and/or approved [*] (as defined in the [*] Agreement) involving a proprietary product that would be a Distracting Product under this Agreement if developed by BeiGene (such individuals, the "Third Party Collaboration Personnel" and, each, a "Third Party Collaboration Person", and such [*], a "Restricted Study") shall not have access to any Amgen Proprietary Information or Confidential Information of Amgen without Amgen's prior written consent. In no event shall any individual that is or has been a Designated Person or any BeiGene personnel that

have had access to Amgen proprietary clinical, regulatory, and strategic information or data pertaining to Amgen's global development and commercialization of the Products be classified as a Third Party Collaboration Person.

(b) BeiGene shall not provide any input, advice, feedback, comments, or guidance to [*] or its Affiliates in connection with any Restricted Study; *provided*, *however*, that the foregoing shall not restrict the Third Party Collaboration Personnel's ability to provide comments to a proposed protocol for a Restricted Study to the extent such comments relate solely to patient safety.

11.8.3 Compliance with Section 11.8.

(a) On or before January 15 and July 15 of each calendar year, BeiGene will certify its compliance with the terms of this Section 11.8, including, but not limited to, confirmation that each Designated Person has been made aware of the requirements and restrictions applicable to such Designated Person under this Agreement and that the Designated Personnel Schedule attached hereto are accurate as of such certification date, by providing written confirmation to Amgen in a form acceptable to Amgen.

(b) Upon the written request and reasonable notice of Amgen and not more than once in each calendar year, Amgen shall have the right, at its own expense, to have access (directly or through a Third Party consultant) during normal business hours to records and related systems that are reasonably necessary to assess BeiGene' compliance with this Section 11.8 to review such records and related systems of BeiGene and any relevant Affiliates solely for the purpose of assessing BeiGene's compliance with the terms of this Section 11.8."

12. **Amendment to Section 12.5**: Section 12.5 (Privacy and Data Protection) of the Agreement is hereby amended and restated in its entirety as follows:

"12.5 Data Protection and Privacy.

(a) Generally. Each Party agrees that it determines the purpose and means of processing Personal Data, and, as such, each Party is: (i) acting as a "controller" (as defined under the GDPR and other Applicable Law) of such information and shall be responsible for its own "processing" activities and the activities of its "processors" (as defined under GDPR and other Applicable Law), and (ii) shall comply with GDPR and all applicable Data Protection Laws applicable to a controller, which shall include without limitation employing and maintaining appropriate Security to protect such data. "Security" means technological, physical and administrative controls, including, but not limited to, policies, procedures, organizational structures, hardware and software functions, as well as physical security measures, the purpose of which is, in whole or part, to ensure the confidentiality, integrity or availability of Personal Data. For purposes of this Agreement, (1) "Data Protection Laws" means, as in effect from time to time, with respect to the processing of Personal Data, the applicable data privacy laws of the applicable jurisdiction, including without limitation the European Union General Data Protection Regulation (Regulation (EU) 2016/679) ("GDPR"), together with any national implementing laws in any Member State of the European Union or, to the extent applicable, in any other country, as amended, repealed, consolidated or replaced from time to time and all data breach notification and information security laws and regulations specific thereto and (2) "Personal Data" means any information that relates to, describes or is capable of being associated with or linked to an individual, by direct or indirect means, including without limitation classes, categories and other types of information that may identify an individual as specified by Applicable Law.

(b) Data Transfers. If, in connection with this Agreement or the Safety Agreement, either Party is required to transfer or otherwise disclose to the other Party Personal Data that has not been de-identified or anonymized in accordance with applicable Data Protection Laws (e.g., in connection with the Safety Agreement), the Parties agree to comply with the following:

i. In the event of the actual or reasonably suspected unauthorized access, acquisition, alteration, and/or deletion of Personal Data, collected or otherwise processed under this Agreement, resulting from a breach or violation of Security, each Party shall notify the other, in accordance with the Information Security Schedule, of such incident without undue delay (but in no event later than [*] after discovery). In such event, each Party shall be responsible for fulfilling any reporting and notification obligations required under GDPR and other Applicable Law (inclusive of Data Protection Laws) with regard to the data processing operations it carries out.

ii. The Parties hereby incorporate the EU Standard Contractual Clauses necessary to effectuate the compliant transfer of EU/EEA/UK/Swiss Personal Data outside of EU/EEA/UK/Switzerland to any jurisdiction that does not ensure an adequate level of data protection within the meaning of Data Protection Laws, which Clauses are attached hereto as the Schedule titled "Privacy and Data Protection." In addition, the Parties agree to cooperate with each to effectuate the compliant transfer of Personal Data applicable to other jurisdictions, which may include executing additional data transfer agreements.

iii. The Parties shall notify each other without undue delay (but in no event later [*] after receipt) in the event a data subject included in the Data asserts one of his/her rights under GDPR and Applicable Law (inclusive of Data Protection Laws). Any such notifications shall be made in a pseudonymous form using the subject's trial-specific identification number only. If necessary and appropriate, the Parties shall reasonably cooperate with each other by providing the necessary information to ensure full and effective implementation of the rights of the data subject. Notification required under this Section shall be made as follows:

Amgen: [*]

BeiGene: [*]

iv. To the extent required under GDPR and Applicable Law (inclusive of Data Protection Laws) and upon a Party's reasonable request, the other Party shall make available to the requesting Party documentation reasonably necessary to demonstrate the other Party's compliance with its obligations under GDPR and Applicable Law (inclusive of Data Protection Laws) and such Party's obligations set out in this Agreement."

13. **Amendment to Schedule**: The Schedule to the Agreement titled "Privacy and Data Protection" is amended and restated in its entirety in the form attached to this Amendment as Exhibit A and is deemed entered into as of the date of this Amendment.

14. **Addition of New Schedules**.

(a) A new schedule titled "Designated Personnel Schedule" in the form attached to this Amendment as Exhibit B is hereby added to the Agreement.

15. **Select Products**.

a. The Parties agree that AMG 701 shall be deemed terminated from the Agreement effective as of December 4, 2022.

b. The Parties shall cooperate with one another in good faith to prepare a transition plan by [*] and such other documentation as may be necessary or useful in connection with the anticipated termination of AMG 510 (also known as sotorasib or LUMAKRAS®) from the Agreement; *provided*, *however*, that if a further amendment to the Agreement is required in connection with such termination, the Parties shall cooperate with one another in good faith to finalize such amendment by June 30, 2023. The Parties anticipate terminating AMG 510 (also known as sotorasib or LUMAKRAS®) from the Agreement by [*].

16. **Miscellaneous**.

(a) Except as specifically amended above, the Agreement shall continue to be in full force and effect.

(b) This Amendment and its effect are subject to and shall be construed and enforced in accordance with the laws of the State of New York, U.S.A.

(c) This Amendment may be executed in counterparts with the same effect as if both Parties had signed the same document. All such counterparts will be deemed an original, will be construed together and will constitute one and the same instrument. Signature pages of this Amendment may be exchanged by facsimile or other electronic means without affecting the validity thereof.

[Signature page follows.]

IN WITNESS WHEREOF, BeiGene, BeiGene Parent and Amgen have caused this Amendment to be executed by their duly authorized representatives as set forth below.

BEIGENE SWITZERLAND GMBH	AMGEN INC.
By: /s/ Michael Schoen	By: /s/ Peter Griffith
Name: Michael Schoen	Name: Peter H. Griffith
Title: Managing Director	Title: Executive Vice President and Chief Financial Officer
Date: February 26, 2023	Date: February 26, 2023

BEIGENE, LTD.

By: /s/ Chan Lee

Name: Chan Lee

Title: Senior Vice President, General Counsel & Corporate Secretary

Date: February 26, 2023

List of Exhibits and Schedules Omitted from the Second Amendment to Collaboration Agreement
Referenced in Exhibit 10.20.2 Above

Pursuant to Regulation S-K, Item 601(a)(5), the Exhibits and Schedules to the Second Amendment to Collaboration Agreement referenced in Exhibit 10.20.2 above, as listed below, have not been filed. The Registrant agrees to furnish supplementally a copy of any omitted Exhibit or Schedule to the Securities and Exchange Commission upon request; provided, however, that the Registrant may request confidential treatment of omitted items.

Exhibits

Exhibit A:	Privacy and Data Protection Schedule
Exhibit B:	Designated Personnel Schedule

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.

April 27, 2023

/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.

April 27, 2023

/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, 2023 (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.

April 27, 2023

/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, 2023 (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.

April 27, 2023

/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.