CELGENE CORP /DE/

FORM 8-K/A

(Amended Current report filing)

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K/A

Amendment No. 1

CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(D)
OF THE SECURITIES EXCHANGE ACT OF 1934

Date of Report (Date of earliest event reported): **March 6, 2018**

CELGENE CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**001-34912**	**22-2711928**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

86 Morris Avenue, Summit, New Jersey	**07901**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(908) 673-9000**

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

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. ☐

Explanatory Note:

On March 6, 2018, Celgene Corporation (the "Company") filed a Current Report on Form 8-K (the "Initial Form 8-K") to report the completion of its acquisition (the "Merger") of Juno Therapeutics, Inc., a Delaware corporation ("Juno"), pursuant to the Agreement and Plan of Merger, dated as of January 21, 2018 (the "Merger Agreement"), by and among Celgene, Juno and Blue Magpie Corporation, a Delaware corporation and wholly-owned subsidiary of Celgene. The Company is filing this Amendment No. 1 to amend the Initial Form 8-K to include the historical financial statements of Juno and pro forma condensed combined financial information required to be filed under Item 9.01 of Form 8-K. The disclosure included in the Initial Form 8-K otherwise remains unchanged.

Item 9.01 Financial Statements and Exhibits

(a) Financial statements of business acquired.

The audited consolidated balance sheets of Juno as of December 31, 2017 and 2016, and the related consolidated statements of operations, consolidated statements of comprehensive loss, consolidated statements of cash flows, and consolidated statements of stockholders' equity, for each of the three years in the period ended December 31, 2017, are attached hereto as Exhibit 99.3 and are incorporated by reference herein.

(b) Pro forma financial information.

The unaudited pro forma condensed combined balance sheet gives effect to the acquisition, as if it had occurred on December 31, 2017 and combines the historical balance sheets of Celgene and Juno as of December 31, 2017. The unaudited pro forma condensed combined statement of operations is presented as if the acquisition had occurred on January 1, 2017 and combines the historical results of operations of Celgene and Juno for the year ended December 31, 2017. Such unaudited pro forma condensed combined financial statements are included as Exhibit 99.4 to this Form 8-K and are incorporated by reference herein.

(d) Exhibits

Exhibit No.	Description
2.1*	Agreement and Plan of Merger, dated as of January 21, 2018, among Celgene Corporation, Blue Magpie Corporation and Juno Therapeutics, Inc. (incorporated herein by reference to Exhibit 2.1 to Celgene's Current Report on Form 8-K filed on January 22, 2018).
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm
99.1*	Press Release, dated March 5, 2018 (incorporated herein by reference to Exhibit (a)(5)(L) to Amendment No. 4 to Schedule TO filed by Celgene on March 5, 2018).
99.2*	Press Release, dated March 6, 2018 (incorporated herein by reference to Exhibit 99.2 to the Current Report on Form 8-K filed by Celgene on March 6, 2018).
99.3	Juno's Audited Historical Consolidated Financial Statements and Related Notes
99.4	Celgene's Unaudited Pro Forma Condensed Combined Financial Statements and Related Notes

* Previously filed.

SIGNATURES

Pursuant to the requirements of the Securities and Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

CELGENE CORPORATION

Date: May 18, 2018

By: /s/ Peter N. Kellogg
Peter N. Kellogg
Executive Vice President and Chief Financial Officer (principal financial and accounting officer)

Exhibit 23.1

Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-3 Nos. 333-02517, 333-32115, 333-52963, 333-87197, 333-93759, 333-107977, 333-107978, and 333-214279) of Celgene Corporation, and

(2) Registration Statement (Form S-8 Nos. 333-70083, 333-91977, 333-39716, 333-65908, 333-107980, 333-126296, 333-138497, 333-152655, 333-160955, 333-177669, 333-184634, 333-191996, 333-199638, 333-207840, 333-212728, 333-219505 and 333-223469) of Celgene Corporation;

of our report dated March 1, 2018, with respect to the consolidated financial statements of Juno Therapeutics, Inc. and our report dated March 1, 2018, with respect to the effectiveness of internal control over financial reporting of Juno Therapeutics, Inc., included in this Current Report on Form 8-K/A.

/s/ Ernst & Young LLP

Seattle, Washington
May 18, 2018

Exhibit 99.3

Juno Therapeutics, Inc.
Index to Consolidated Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Juno Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Juno Therapeutics, Inc. (the Company) as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated March 1, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2014.

Seattle Washington

March 1, 2018

Juno Therapeutics, Inc.
Consolidated Balance Sheets
(In thousands, except per share amounts)

	December 31,	
	2017	2016
ASSETS		
Current assets:		
Cash and cash equivalents	$ 232,781	$ 187,891
Marketable securities	493,344	544,684
Accounts receivable	13,912	13,286
Prepaid expenses and other current assets	13,317	26,471
Total current assets	753,354	772,332
Property and equipment, net	133,110	81,734
Long-term marketable securities	247,735	189,706
Goodwill	221,306	221,306
Intangible assets, net	75,257	77,986
Other assets	4,074	6,400
Total assets	$ 1,434,836	$ 1,349,464
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 12,416	$ 4,415
Accrued liabilities and other current liabilities	81,244	36,822
Success payment liabilities	91,525	22,786
Contingent consideration	2,238	7,605
Deferred revenue	21,329	43,264
Total current liabilities	208,752	114,892
Long-term debt, less current portion	9,945	—
Contingent consideration, less current portion	22,656	13,291
Deferred revenue, less current portion	100,132	120,054
Tenant improvement allowance, deferred rent, and other long-term liabilities	46,369	23,526
Commitments and contingencies (Note 15)		
Stockholders' equity:		
Preferred stock, $0.0001 par value; 5,000 shares authorized; 0 shares issued and outstanding	—	—
Common stock, $0.0001 par value, 495,000 shares authorized at December 31, 2017 and 2016; 114,313 and 103,403 shares issued and outstanding at December 31, 2017 and 2016, respectively	12	11
Additional paid-in-capital	2,311,892	1,911,769
Accumulated other comprehensive income (loss)	3,421	(2,842)
Accumulated deficit	(1,268,343)	(831,237)
Total stockholders' equity	1,046,982	1,077,701
Total liabilities and stockholders' equity	$ 1,434,836	$ 1,349,464

See accompanying notes.

Juno Therapeutics, Inc.
Consolidated Statements of Operations
(In thousands, except per share amounts)

	Year Ended December 31,		
	2017	2016	2015
Revenue	$ 111,871	$ 79,356	$ 18,215
Operating expenses:			
Research and development	451,518	264,285	205,160
General and administrative	108,127	70,675	57,155
Total operating expenses	559,645	334,960	262,315
Loss from operations	(447,774)	(255,604)	(244,100)
Other-than-temporary impairment loss	—	(5,490)	—
Interest income, net	8,367	5,869	1,730
Other (expenses) income, net	(3,700)	(1,012)	234
Loss before income taxes	(443,107)	(256,237)	(242,136)
Benefit for income taxes	6,001	10,657	2,760
Net loss	$ (437,106)	$ (245,580)	$ (239,376)
Net loss per share, basic and diluted	$ (4.10)	$ (2.42)	$ (2.72)
Weighted average common shares outstanding, basic and diluted	106,683	101,476	88,145

See accompanying notes.

Juno Therapeutics, Inc.
Consolidated Statements of Comprehensive Loss
(In thousands)

	Year Ended December 31,		
	2017	2016	2015
Net loss	$ (437,106)	$ (245,580)	$ (239,376)
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	4,274	(1,186)	(605)
Net unrealized gain (loss) on marketable securities	1,989	(1,063)	(5,388)
Reclassification adjustment for loss included in net loss	—	5,490	—
Total other comprehensive income (loss)	6,263	3,241	(5,993)
Comprehensive loss	$ (430,843)	$ (242,339)	$ (245,369)

See accompanying notes.

Juno Therapeutics, Inc.
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended December 31,		
	2017	2016	2015
OPERATING ACTIVITIES			
Net loss	$ (437,106)	$ (245,580)	$ (239,376)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	23,632	14,186	6,041
Non-cash stock-based compensation	72,602	57,172	31,941
Non-cash expense in connection with equity issuance	—	23,227	—
Deferred income taxes	(6,016)	(10,617)	(2,760)
Change in fair value of success payment liabilities	68,739	(32,474)	51,557
Change in fair value of contingent consideration	3,998	(9,724)	78
Other-than-temporary impairment on marketable securities	—	5,490	—
Other	3,886	1,089	(227)
Changes in operating assets and liabilities:			
Accounts receivable	(623)	(12,968)	33
Prepaid expenses and other assets	12,399	(17,587)	(6,888)
Accounts payable, accrued liabilities and other liabilities	46,900	2,238	21,783
Deferred revenue	(41,886)	18,122	144,782
Tenant improvement allowance and deferred rent	28,442	17,617	361
Net cash (used in) provided by operating activities	(225,033)	(189,809)	7,325
INVESTING ACTIVITIES			
Purchases of marketable securities and other investments	(710,745)	(750,344)	(1,315,597)
Sales and maturities of marketable securities	703,459	969,720	459,381
Acquisitions, net of cash acquired	—	(74,575)	(77,666)
Purchase of property and equipment	(60,924)	(56,246)	(28,184)
Net cash (used in) provided by investing activities	(68,210)	88,555	(962,066)
FINANCING ACTIVITIES			
Proceeds from public offering of common stock, net of offering costs	272,465	—	(1,683)
Proceeds from issuance of common stock to strategic partner	32,783	47,000	849,804
Proceeds from employee stock purchase plan and exercise of stock options, net of tax withholdings	22,274	4,786	3,366
Proceeds from long-term borrowings, net of financing costs	10,804	—	—
Payments of long-term debt and build-to-suit lease obligation	(161)	(369)	(249)
Repurchases of common stock	—	(10,073)	—
Payments of contingent consideration related to acquisition	—	(4,562)	—
Net cash provided by financing activities	338,165	36,782	851,238
Effect of exchange rate changes on cash and cash equivalents	(32)	(35)	(67)
Net increase (decrease) in cash and cash equivalents	44,890	(64,507)	(103,570)
Cash and cash equivalents at beginning of period	187,891	252,398	355,968
Cash and cash equivalents at end of period	$ 232,781	$ 187,891	$ 252,398
SUPPLEMENTAL CASH FLOW INFORMATION			
Purchases of property and equipment included in accounts payable and accrued liabilities	$ 5,124	$ 1,841	$ 1,900
Issuance of common stock for acquisitions	$ —	$ 46,914	$ 41,611
Issuance of common stock for success payments	$ —	$ 9,481	$ 71,648
Amounts capitalized under build-to-suit leases	$ —	$ —	$ 9,910

See accompanying notes.

Juno Therapeutics, Inc.
Consolidated Statements of Stockholders' Equity
(In thousands)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Stockholders' Equity
	Shares	Amount				
Balance as of December 31, 2014	82,074	$ 8	$ 734,895	$ (90)	$ (346,281)	$ 388,532
Issuance of common stock for acquisition, non-cash	853	—	41,611	—	—	41,611
Issuance of common stock to strategic partner	9,137	1	849,803	—	—	849,804
Issuance of common stock for success payments	1,601	—	71,648	—	—	71,648
Issuance of common stock in connection with the Company's equity award programs	3,582	1	3,365	—	—	3,366
Stock-based compensation expense	—	—	31,941	—	—	31,941
Other comprehensive loss, net	—	—	—	(5,993)	—	(5,993)
Net loss	—	—	—	—	(239,376)	(239,376)
Balance as of December 31, 2015	97,247	10	1,733,263	(6,083)	(585,657)	1,141,533
Issuance of common stock for acquisition, non-cash	1,181	—	46,914	—	—	46,914
Issuance of common stock to strategic partner	1,741	—	70,227	—	—	70,227
Issuance of common stock for success payments	240	—	9,481	—	—	9,481
Repurchase of common stock	(240)	—	(10,073)	—	—	(10,073)
Issuance of common stock in connection with the Company's equity award programs, net of tax withholdings	3,234	1	4,785	—	—	4,786
Stock-based compensation expense	—	—	57,172	—	—	57,172
Other comprehensive income, net	—	—	—	3,241	—	3,241
Net loss	—	—	—	—	(245,580)	(245,580)
Balance as of December 31, 2016	103,403	11	1,911,769	(2,842)	(831,237)	1,077,701
Issuance of common stock in follow-on public offering, net of $15.1 million in offering costs	7,015	1	272,464	—	—	272,465
Issuance of common stock in private placement	758	—	31,091	—	—	31,091
Issuance of common stock to strategic partner	76	—	1,692	—	—	1,692
Issuance of common stock in connection with the Company's equity award programs, net of tax withholdings	3,061	—	22,274	—	—	22,274
Stock-based compensation expense	—	—	72,602	—	—	72,602
Other comprehensive income, net	—	—	—	6,263	—	6,263
Net loss	—	—	—	—	(437,106)	(437,106)
Balance as of December 31, 2017	114,313	$ 12	$ 2,311,892	$ 3,421	$ (1,268,343)	$ 1,046,982

See accompanying notes.

1. Organization

Juno Therapeutics, Inc. (the "Company") was incorporated in Delaware on August 5, 2013 as FC Therapeutics, Inc., and changed its name to Juno Therapeutics, Inc. on October 23, 2013. The Company is building a fully-integrated biopharmaceutical company focused on developing innovative cellular immunotherapies for the treatment of cancer. Founded on the vision that the use of human cells as therapeutic entities will drive one of the next important phases in medicine, the Company is developing cell-based cancer immunotherapies based on its chimeric antigen receptor ("CAR") and high-affinity T cell receptor ("TCR") technologies to genetically engineer T cells to recognize and kill cancer cells.

On January 21, 2018, the Company entered into an Agreement and Plan of Merger ("Merger Agreement") with Celgene Corporation, a Delaware corporation ("Celgene Corp."), and Blue Magpie Corporation, a Delaware corporation and a wholly-owned subsidiary of Celgene ("Purchaser"), pursuant to which, among other things, subject to the terms and subject to the conditions of the Merger Agreement, Purchaser has commenced a tender offer ("Offer") to acquire all of the Company's outstanding shares of common stock. For additional information regarding the Merger Agreement refer to Note 19, Subsequent Events.

In September 2017, the Company completed a follow-on public offering (the "September 2017 follow-on public offering") whereby the Company sold 7,015,000 shares of common stock (inclusive of 915,000 shares of common stock sold by the Company pursuant to the full exercise of the underwriters' option to purchase additional shares) at a price to the public of $41.00 per share. The Company received aggregate net proceeds from the September 2017 follow-on public offering of $272.5 million, after deducting underwriting discounts and commissions and offering expenses payable by the Company.

Concurrent with the closing of the September 2017 follow-on public offering, the Company closed a private placement of 758,327 shares of its common stock, at price of $41.00 per share, to a subsidiary of Celgene Corporation. The Company received aggregate proceeds from the concurrent private placement of $31.1 million.

The Company is subject to a number of risks similar to other biopharmaceutical companies in the early stage, including, but not limited to, possible failure of preclinical testing or clinical trials, the need to obtain marketing approval for its product candidates, competitors developing new technological innovations, the need to successfully commercialize and gain market acceptance of the Company's products, protection of proprietary technology, and the need to obtain adequate additional funding. If the Company, or any commercialization partner for the Company's product candidates, does not successfully commercialize any of the Company's product candidates, the Company will not be able to generate product revenue or achieve profitability. As of December 31, 2017, the Company had an accumulated deficit of $1.3 billion.

2. Significant Accounting Policies

Basis of Presentation and Use of Estimates

The accompanying consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP") and include the accounts of Juno Therapeutics, Inc. and its wholly-owned subsidiaries. All significant intercompany transactions and balances are eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the current period presentation.

The preparation of the Company's consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect reported amounts and related disclosures. Actual results could differ from such estimates.

The Company utilizes significant estimates and assumptions in determining the estimated success payment and contingent consideration liabilities and associated expense or gain at each balance sheet date. A small change in the Company's stock price may have a relatively large change in the estimated fair value of the success payment liability and associated expense or gain. Changes in the probabilities and estimated timing of milestones used in the calculation of the contingent consideration liability may have a relatively large impact on the resulting liability and associated expense or gain.

Cash and Cash Equivalents

Cash and cash equivalents include cash and highly liquid investments with original maturities of three months or less at acquisition. Cash equivalents, which consist primarily of money market funds and government and agency securities, are stated at fair value.

Marketable Securities

The Company generally invests its excess cash in investment grade short- to intermediate-term fixed income securities. Such investments are included in cash and cash equivalents, marketable securities, or long-term marketable securities on the consolidated balance sheets, classified as available-for-sale, and reported at fair value with unrealized gains and losses included in accumulated other comprehensive income or loss. Realized gains and losses on the sale of these securities are recognized in net income or loss. The cost of marketable securities sold is based on the specific identification method.

The Company periodically evaluates whether declines in fair values of its investments below their book value are other-than-temporary. This evaluation consists of several qualitative and quantitative factors regarding the severity and duration of the unrealized loss as well as the Company's ability and intent to hold the investment until a forecasted recovery occurs. Additionally, the Company assesses whether it has plans to sell the security or it is more likely than not it will be required to sell any investment before recovery of its amortized cost basis. Factors considered include quoted market prices, recent financial results and operating trends, implied values from any recent transactions or offers of investee securities, credit quality of debt instrument issuers, other publicly available information that may affect the value of the investments, duration and severity of the decline in value, and our strategy and intentions for holding the investment.

Accounts Receivable

Accounts receivable primarily relates to cost reimbursements due from Celgene and other collaboration partners. Accounts receivable are generally due within 30 days. The Company considers accounts outstanding longer than the contractual terms past due. Given the nature and historical collectability of the Company's accounts receivables, an allowance for doubtful accounts is not deemed necessary as of December 31, 2017 and 2016.

Property and Equipment, Net

Property and equipment primarily consists of land, building and building improvements, laboratory equipment, computer equipment and software, and leasehold improvements. Property and equipment is stated at cost, and depreciated using the straight-line method over the estimated useful lives of the respective assets.

Computer equipment and software	3 years
Laboratory equipment	5 years
Building	30 years
Building improvements	15 years
Land	Not depreciable
Leasehold improvements	Shorter of asset's useful life or remaining term of lease

Impairment of Long-Lived Assets

The Company regularly reviews the carrying value and estimated lives of its long-lived assets, including property and equipment, to determine whether indicators of impairment may exist which warrant adjustments to carrying values or estimated useful lives. The determinants used for this evaluation include management's estimate of the asset's ability to generate positive income from operations and positive cash flow in future periods as well as the strategic significance of the asset to the Company's business objectives. Should an impairment exist, the impairment loss would be measured based on the excess of the asset's carrying amount over its fair value. The Company has not recognized any impairment losses on long-lived assets for the years ended December 31, 2017, 2016, and 2015.

Goodwill and Intangible Assets

Goodwill represents the excess of the purchase price over the estimated fair value of the identifiable assets acquired and liabilities assumed in a business combination. The Company evaluates goodwill for impairment annually during the fourth quarter and upon the occurrence of triggering events or substantive changes in circumstances that could indicate a potential impairment. The Company evaluates goodwill for impairment by assessing qualitative factors or performing a quantitative analysis to determine whether it is more-likely-than-not that the fair value of net assets is below the carrying amount.

Intangible assets acquired in a business combination are recognized separately from goodwill and are initially recognized at their fair value at the acquisition date (which is regarded as their cost). The fair value of acquired in-process research and development ("IPR&D") has been estimated using the replacement cost method. Under this method, the Company estimated the cost to recreate the technology and derived an estimated value to develop the technology. IPR&D assets are required to be classified as indefinite-lived assets and are not amortized until they become finite-lived assets, upon the successful completion of the associated research and development effort. At that time, the Company will determine the useful life of the asset and begin amortization. If the associated research and development effort is abandoned, the related IPR&D assets will be written-off and an impairment charge recorded. Intangible assets are reviewed for impairment at least annually or if indicators of potential impairment exist.

Contingent Consideration from Business Combinations

At and subsequent to the acquisition date of a business combination, contingent consideration obligations are remeasured to fair value at each balance sheet date with changes in fair value recognized in research and development expense in the consolidated statements of operations. Changes in fair values reflect changes to the Company's assumptions regarding probabilities of successful achievement of related milestones, the timing in which the milestones are expected to be achieved, and the discount rate used to estimate the fair value of the obligation, as well as the foreign currency impact of the contingent consideration for the Stage Cell Therapeutics GmbH ("Stage") acquisition as potential future payments are denominated in Euro.

Leases

The Company has entered into various non-cancelable lease agreements for its office, laboratory, and manufacturing spaces. The Company recognizes rent expense under such arrangements on a straight-line basis over the effective term of each lease. Under the terms of certain of our lease agreements, we received, or will receive, tenant allowances and record these amounts as a liability, which is amortized as a reduction to rent expense over the term of the lease.

Fair Value of Financial Instruments

The Company is required to disclose information on all assets and liabilities reported at fair value that enables an assessment of the inputs used in determining the reported fair values. The fair value hierarchy prioritizes valuation inputs based on the observable nature of those inputs. The fair value hierarchy applies only to the valuation inputs used in determining the reported fair value of the investments and is not a measure of the investment credit quality. The hierarchy defines three levels of valuation inputs:

Level 1—Quoted prices in active markets for identical assets or liabilities

Level 2—Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly

Level 3—Unobservable inputs that reflect the Company's own assumptions about the assumptions market participants would use in pricing the asset or liability

The Company's financial instruments, in addition to those presented in Note 7, Fair Value Measurements and Note 10, Debt, include cash and cash equivalents, accounts receivable, accounts payable, and accrued liabilities. The carrying amount of cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate fair value because of the short-term nature of these instruments.

Success Payments

The Company granted rights to share-based success payments to the Fred Hutchinson Cancer Research Center ("FHCRC") and the Memorial Sloan Kettering Cancer Center ("MSK") pursuant to the terms of its collaboration agreements with each of those entities. Pursuant to the terms of these arrangements, the Company may be required to make success payments based on increases in the per share fair market value of the Company's common stock, payable in cash or publicly-traded equity at the Company's discretion. See Note 5, Collaboration and License Agreements. The success payments are accounted for under ASC 505-50, *Equity-Based Payments to Non-Employees* . Once the service period is complete, the instruments will be accounted for under ASC 815, *Derivatives and Hedging* , and continue to be marked to market with all changes in value recognized in other income or expense.

Success payment liabilities are estimated at fair value at inception and at each subsequent balance sheet date and the expense is amortized using the accelerated attribution method over the remaining term (service period) of the related collaboration agreement or related possible payment due date (whichever is sooner). To determine the estimated fair value of the success payments the Company uses a Monte Carlo simulation methodology which models the future movement of stock prices based on several key variables. The following variables were incorporated in the estimated fair value of the success payment liability: estimated term of the success payments, fair value of common stock, expected volatility, risk-free interest rate, estimated number and timing of valuation measurement dates on the basis of which payments may be triggered, and certain estimated indirect costs creditable against the success payments are also included in the calculation. The computation of expected volatility was estimated using a combination of available information about the historical volatility of stocks of similar publicly-traded companies for a period matching the expected term assumption and its historical and projected volatility. There are several valuation measurement dates subsequent to the December 2014 initial public offering ("IPO"), on the basis of which payments may be triggered.

Concentrations of Credit Risk and Off-Balance Sheet Risk

The Company maintains its cash, cash equivalents, and marketable securities with high quality, accredited financial institutions. These amounts at times may exceed federally insured limits. The Company has not experienced any credit losses in such accounts and does not believe it is exposed to significant risk on these funds. The Company has no off-balance sheet concentrations of credit risk, such as foreign currency exchange contracts, option contracts or other hedging arrangements.

Claims and Contingencies

From time to time, the Company may become involved in litigation and proceedings relating to claims arising from the ordinary course of business. The Company accrues a liability if the likelihood of an adverse outcome is probable and the amount is estimable. If the likelihood of an adverse outcome is only reasonably possible (as opposed to probable), or if an estimate is not determinable, the Company provides disclosure of a material claim or contingency.

Revenue

The Company recognizes revenue for each unit of accounting when all of the following criteria are met:

- persuasive evidence of an arrangement exists;
- delivery has occurred or services have been rendered;
- the seller's price to the buyer is fixed or determinable; and
- collectability is reasonably assured.

Amounts received prior to satisfying the revenue recognition criteria are recorded as deferred revenue in the Company's consolidated balance sheets. Amounts expected to be recognized as revenue within the 12 months following the balance sheet date are classified as deferred revenue in current liabilities. Amounts not expected to be recognized as revenue within the 12 months following the balance sheet date are classified as deferred revenue, less current portion.

The Company analyzes agreements with more than one element, or deliverable, based on the guidance in ASC 605-25, *Revenue Recognition-Multiple-Element Arrangements* . The Company identifies the deliverables within the agreement and evaluates which deliverables represent separate units of accounting. Analyzing the agreement to identify deliverables requires the use of judgment. A deliverable is considered a separate unit of accounting when the deliverable has value to the collaborator or licensee on a standalone basis based on the consideration of the relevant facts and circumstances for each agreement.

In assessing whether an item has standalone value, the Company considers factors such as the research, manufacturing, and commercialization capabilities of the collaboration partner and the availability of the associated expertise in the general marketplace. In addition, the Company considers whether the other deliverable(s) can be used for their intended purpose without the receipt of the remaining element(s), whether the value of the deliverable is dependent on the undelivered item(s) and whether there are other vendors that can provide the undelivered element(s).

Consideration received is allocated at the inception of the agreement to all identified units of accounting based on the relative selling prices. The relative selling price for each deliverable is estimated using objective evidence if it is available. If objective evidence is not available, the Company uses its best estimate of the selling price for the deliverable. Management may be required to exercise considerable judgment in estimating the selling prices of identified units of accounting under its agreements.

Options for future deliverables are considered substantive if, at the inception of the arrangement, the Company is at risk as to whether the collaboration partner will choose to exercise the option. Factors that the Company considers in evaluating whether an option is substantive include the overall objective of the arrangement, the benefit the collaborator might obtain from the arrangement without exercising the option, the cost to exercise the option and the likelihood that the option will be exercised. For arrangements under which an option is considered substantive, the Company does not consider the item underlying the option to be a deliverable at the inception of the arrangement and the associated option fees are not included in the initial consideration, assuming the option is not priced at a significant and incremental discount. Conversely, for arrangements under which an option is not considered substantive or if an option is priced at a significant and incremental discount, the Company would consider the item underlying the option to be a deliverable at the inception of the arrangement and a corresponding amount would be included in the initial consideration.

The consideration received is allocated among the separate units of accounting, and the applicable revenue recognition criteria are applied to each of the separate units. The Company recognizes the revenue allocated to each unit of accounting over the period of performance. Revenue is recognized using either a proportional performance or straight-line method, depending on whether the Company can reasonably estimate the level of effort required to complete its performance obligations under an arrangement.

Research and Development Expense

The Company records expense for research and development costs to operations as incurred. For service contracts entered into that include a nonrefundable prepayment for service, the upfront payment is deferred and recognized in the statement of operations as the services are rendered. Research and development expenses consist of costs incurred by the Company for the discovery and development of the Company's product candidates and include costs to acquire technology complimentary to our own, external research and development expenses incurred under arrangements with third parties, such as contract research organizations, contract manufacturing organizations ("CMOs"), collaboration partners, academic and non-profit institutions and consultants, salaries and personnel-related costs, including non-cash stock-based compensation, changes in the estimated fair value of our success payments to FHCRC and MSK, changes in the estimated fair value of our contingent consideration liabilities, intangible asset amortization, milestones, and other expenses, which include direct and allocated expenses for laboratory, facilities, overhead, and other costs.

General and Administrative Expense

General and administrative costs are expensed as incurred and include personnel-related expenses, including non-cash stock-based compensation expense, for our personnel in executive, legal, finance and accounting, commercial, and other administrative functions, legal costs, transaction costs related to acquisitions and collaboration and licensing agreements, as

well as fees paid for accounting and tax services, consulting fees, including costs to support commercial readiness, and facilities costs not otherwise included in research and development expenses. Legal costs include general corporate legal fees, patent costs, litigation costs, and legal expense associated with inter partes review proceedings at the U.S. Patent & Trademark Office ("USPTO").

The costs related to acquiring patents and prosecuting and maintaining intellectual property rights are expensed as incurred to general and administrative expense due to the uncertainty surrounding the drug development process and the uncertainty of future benefits.

Stock-Based Compensation

Under ASC 718, *Compensation—Stock Compensation,* the Company measures and recognizes expense for restricted stock awards, restricted stock units ("RSUs"), performance-based restricted stock awards ("PSAs"), performance-based restricted stock units ("PSUs"), and stock options based on their fair value on the date of grant. Stock-based compensation costs for restricted stock, RSUs, and stock options is recognized on a straight-line basis over the requisite service period, which is generally the vesting period of the respective award. Stock-based compensation costs for PSAs and PSUs is recognized over the implicit service period if it is probable that the performance goals will be achieved. If it is subsequently determined that the performance goals are not probable of achievement, the expense related to the PSAs or PSUs is reversed.

The fair value of stock options is estimated at the date of grant using the Black-Scholes option pricing model that requires management to apply judgment and make estimates, including:

- the expected term of the option, which is calculated using the simplified method, as permitted by the Securities and Exchange Commission ("SEC") Staff Accounting Bulletin ("SAB") No. 110, *Share-Based Payment* , as the Company has insufficient historical information regarding its stock options to provide a basis for an estimate;

- the expected volatility of the underlying common stock, which the Company estimates based on the historical volatility of a representative group of publicly traded biopharmaceutical companies with similar characteristics, and the Company's own historical and implied future volatility;

- the risk-free interest rate, which is based on the yield curve of U.S. Treasury securities with periods commensurate with the expected term of the options being valued;

- the expected dividend yield, which the Company estimates to be zero based on the fact that the Company has never paid cash dividends and has no present intention to pay cash dividends; and

- the fair value of the Company's common stock on the date of grant.

In 2016, the FASB issued ASU No. 2016-09, *Compensation-Stock Compensation (Topic 718)* , which outlines new provisions intended to simplify various aspects related to accounting for share-based payments and their presentation in the financial statements. The guidance required the Company to make a policy election to either estimate share-based payment forfeitures or recognize forfeitures as they occur, and apply the change from the policy election on a modified retrospective basis as a cumulative-effect adjustment to accumulated deficit as of the date of adoption. The Company adopted this standard on January 1, 2017, and elected to recognize forfeitures as they occur. Prior to this adoption, the Company was required to estimate a forfeiture rate based on actual forfeitures, analysis of employee turnover, and expectations of future option exercise behavior. Based on those factors, and the Company's limited historical data, the Company's estimated forfeiture rate had been immaterial since inception. As such, there was no impact to accumulated deficit upon adoption of the new guidance.

The fair value of restricted stock, RSUs, PSAs and PSUs are measured as the fair value of the Company's common stock on the date of grant.

The Company also grants stock-based awards to certain service providers who are not employees, scientific founders, or directors. Stock-based awards issued to such persons, or to directors for non-board related services, are measured based on the fair value of the award on the date on which the related services are completed or of the equity instruments issued, whichever is

more reliably measured. The fair value of such awards is subject to remeasurement at each reporting period until services required under the arrangement are completed, which is the vesting date.

Income Taxes

The Company determines its deferred tax assets and liabilities based on the differences between the financial reporting and tax basis of assets and liabilities. The deferred tax assets and liabilities are measured using the enacted tax rates that will be in effect when the differences are expected to reverse. A valuation allowance is recorded when it is more likely than not that the deferred tax asset will not be recovered. The Company applies judgment in the determination of the consolidated financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The Company recognizes any material interest and penalties related to unrecognized tax benefits in income tax expense.

Foreign Currency Translation

Assets and liabilities denominated in foreign currencies were translated into U.S. dollars, the reporting currency, at the exchange rate prevailing at the balance sheet date. Revenue and expenses denominated in foreign currencies were translated into U.S. dollars at the monthly average exchange rate for the period and the translation adjustments are reported as an element of accumulated other comprehensive income or loss on the consolidated balance sheets.

Segments

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker in making decisions regarding resource allocation and assessing performance. The Company views its operations and manages its business in one operating segment and one reportable segment.

Recent Accounting Pronouncements

In February 2017, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2017-05, *Other Income - Gains and Losses from the Derecognition of Nonfinancial Assets: Clarifying the Scope of Asset Derecognition Guidance and Accounting for Partial Sales of Nonfinancial Assets* ("ASU 2017-05"). ASU 2017-05 clarifies the scope of the derecognition of nonfinancial assets, defines in substance financial assets, adds guidance for partial sales of nonfinancial assets and clarifies the recognition of gains and losses from the transfer of nonfinancial assets in contracts with noncustomers. This guidance will become effective for the Company beginning in the first quarter of 2018 and may be adopted using either a full retrospective or a modified retrospective approach. Early adoption is permitted. The Company is required to adopt the amendments in this standard at the same time that amendments in ASU 2014-09 are adopted. The Company plans to adopt this standard on January 1, 2018, using the modified retrospective method. The Company does not expect to record any adjustments in the first quarter of 2018 as a result of adopting this guidance.

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles—Goodwill and Other: Simplifying the Test for Goodwill Impairmen* t ("ASU 2017-04"). ASU 2017-04 simplifies the goodwill impairment test. Under the new guidance, goodwill impairment will be measured by the amount by which the carrying value of a reporting unit exceeds its fair value, without exceeding the carrying amount of goodwill allocated to that reporting unit. This guidance is effective for reporting periods beginning first quarter of 2020 and is required to be adopted on a prospective basis, with early adoption permitted. The Company does not plan to early adopt, and the adoption of this guidance is not expected to have a material impact its consolidated financial statements.

In March 2016, the FASB issued ASU No. 2016-09, *Compensation—Stock Compensation (Topic 718)* ("ASU 2016-09"). The guidance was effective for reporting periods beginning after December 15, 2016, with early adoption permitted. The Company adopted this standard on January 1, 2017. The guidance required the Company to recognize all excess tax benefits previously unrecognized, along with any valuation allowance, on a modified retrospective basis as a cumulative-effect adjustment to accumulated deficit as of the date of adoption. As of January 1, 2017, the Company's deferred tax asset for net operating losses increased by $7.1 million but was offset by a full valuation allowance, so there was no impact to accumulated deficit on the

condensed consolidated balance sheets. Additionally, the guidance required the Company to make a policy election to either estimate share-based payment forfeitures or recognize them as they occur, and apply the change from the policy election on a modified retrospective basis as a cumulative-effect adjustment to accumulated deficit as of the date of adoption. The Company elected to recognize forfeitures as they occur. Prior to the adoption of this guidance, the estimate for forfeitures was immaterial and as such there was no material impact to accumulated deficit on the condensed consolidated balance sheets upon adoption.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)* . The new guidance requires lessees to recognize the assets and liabilities arising from leases on the balance sheet and additional qualitative and quantitative disclosures will be required. The amendment is effective for reporting periods beginning after December 15, 2018, with early adoption permitted. The Company plans to adopt this standard on January 1, 2019. Although the Company is in the process of evaluating the impact the adoption of the new accounting guidance will have on its consolidated financial statements, the Company currently believes the most significant changes will be related to the recognition of new right-of-use assets and lease liabilities on the consolidated balance sheets.

In January 2016, the FASB issued ASU No. 2016-01, *Financial Instruments — Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities* . The new guidance primarily affects the accounting for equity investments, financial liabilities under the fair value option and the presentation and disclosure requirements for financial instruments. In addition, the FASB clarified guidance related to the valuation allowance assessment when recognizing deferred tax assets resulting from unrealized losses on available-for-sale debt securities. This guidance is effective for annual and interim periods beginning after December 15, 2017, and with early adoption permitted for certain provisions of the guidance. The Company will adopt this standard on January 1, 2018 and will record a cumulative-effect adjustment of a $3.4 million gain, net of tax, to accumulated other comprehensive income (loss) and beginning accumulated deficit to reflect the unrealized gain for the Company's available-for-sale equity securities.

In May 2014, the FASB issued ASU No. 2014-09, *Revenue From Contracts With Customers (Topic 606)* , amended by ASU No. 2015-14. This new standard will become effective for the Company beginning on January 1, 2018. The standard replaces all current GAAP guidance on this topic and establishes principles for recognizing revenue upon the transfer of promised goods or services to customers, in an amount that reflects the expected consideration received in exchange for those goods or services. This guidance can be applied either retrospectively to each period presented, or on a modified retrospective basis as a cumulative-effect adjustment as of the date of adoption. The Company will adopt this standard using the modified retrospective method. As of December 31, 2017, the majority of the Company's revenue is generated from upfront license payments and reimbursement revenue under its collaboration arrangement with Celgene Corp. and its wholly-owned subsidiary Celgene Switzerland LLC (together, "Celgene"), and license and milestone payments associated with the Novartis sublicense agreement. Upon the adoption of this standard on January 1, 2018, the Company will record an adjustment to beginning accumulated deficit and deferred revenue to reflect the deferral of $12.5 million of revenue for a portion of a milestone payment associated with the Novartis sublicense.

3. Acquisitions

Acquisition of Technology from RedoxTherapies

In July 2016, the Company acquired RedoxTherapies, Inc. ("RedoxTherapies"), for a $10.0 million upfront cash payment. The Company also agreed to deliver additional consideration upon achievement of specified clinical, regulatory, and commercial milestones. The acquisition provides the Company with an exclusive license to vipadenant, a small molecule A2a receptor antagonist that has the potential to disrupt important immunosuppressive pathways in the tumor microenvironment in certain cancers. The Company concluded that the assets acquired did not meet the accounting definition of a business as inputs, but no processes or outputs, were acquired, and the licensed technology had not achieved technological feasibility. As such, the Company treated the acquisition as an asset purchase, recording the purchase price as $10.0 million in research and development expense in the accompanying consolidated statements of operations. Additionally, the Company made a joint election under Section 338(h)(10) of the Internal Revenue Code of 1986 ("IRC"), which treats the transaction as an asset purchase for tax purposes.

In addition to cash paid, the acquisition agreement stipulates that the Company is required to make milestone payments to the founder of RedoxTherapies upon the achievement of specified clinical, regulatory, and commercial milestones. Triggering of

these milestone payments was not considered probable as of the date of the acquisition, and no expense has been recorded for these milestones as of December 31, 2017. As a result of the acquisition, the Company obtained access to two license agreements to which RedoxTherapies is party, which require the payment of royalties to the licensors based on annual net sales of licensed products or processes by RedoxTherapies and its sublicensees, as well as certain payments upon the achievement of specified clinical and regulatory milestones. Triggering of these milestone payments was not considered probable as of the date of the acquisition, and no expense has been recorded for these milestones as of December 31, 2017.

Acquisition of AbVitro

In January 2016, the Company completed the acquisition of 100% of the outstanding equity in AbVitro, Inc. ("AbVitro"). The Company paid $74.7 million in cash and issued an aggregate of 1,289,188 shares of the Company's common stock valued at $46.9 million based on the closing stock price on January 8, 2016 of $36.39 per share. An additional $2.2 million was recorded as post-combination research and development expense in the year ended December 31, 2016 in connection with the accelerated vesting of employee stock options. Additionally, 24,446 RSUs were granted to former AbVitro employees, which shares are subject to monthly vesting over three years following the closing of the transaction, contingent on such employees continuing to provide services to the Company through such vesting dates. These are accounted for as post-acquisition compensation expenses. There are no milestone payment obligations under the terms of the AbVitro acquisition.

The elements of the purchase consideration are as follows (in thousands):

Cash paid	$	74,729
Common stock issued		46,914
Total consideration	$	121,643

The allocation of the purchase price is based on estimates of the fair value of assets acquired and liabilities assumed as of the acquisition date. The components of the purchase price allocation are as follows (in thousands):

Net working capital	$	67
Deferred tax liabilities, net of tax attributes		(6,655)
Acquired in-process research and development		29,017
Goodwill		99,214
Total consideration	$	121,643

IPR&D assets are required to be classified as indefinite-lived assets until they become finite-lived assets upon the successful completion or the abandonment of the associated research and development effort. Beginning in the second quarter of 2017, the intangible asset recognized in connection with the AbVitro acquisition completed development and reached technological feasibility, and the Company began amortizing the asset over an estimated life of three years.

The factors contributing to the recognition of the amount of goodwill in the AbVitro acquisition include the ability to accelerate the generation of binders that recognize known targets and discover novel cancer antigen targets. The acquisition also provides the Company with the ability to utilize translational assays to provide a better understanding of the natural immune response to cancer as well as to interrogate and monitor the immune system of patients during treatment. None of the goodwill is expected to be deductible for income tax purposes.

Acquisition of Stage Cell Therapeutics GmbH

In May 2015, the Company completed the acquisition of all the outstanding ownership interests in Stage not already held by it. Prior to the acquisition, the Company held a 4.76% equity interest in Stage. The Company paid €52.5 million, or $58.5 million, in cash and issued an aggregate of 486,279 shares of common stock, valued at $22.2 million based on the closing stock price on May 11, 2015 of $45.58 per share.

The Company also agreed to pay additional amounts of up to an aggregate of €135.0 million in cash based on the achievement of certain technical, clinical, regulatory, and commercial milestones related to novel reagents (€40.0 million), advanced

automation technology (€65.0 million), and Stage's existing clinical pipeline (€30.0 million). The fair value of this contingent consideration was estimated to be $28.2 million at the date of acquisition. Payments could vary based on milestones that are reached.

The elements of the purchase consideration are as follows (in thousands):

Cash paid (1)	$	58,496
Common stock issued		22,165
Fair value of contingent consideration (2)		28,244
Total consideration for 95.24% equity		108,905
Fair value of 4.76% initial investment in Stage (3)		3,682
Implied purchase price consideration for 100% equity	$	112,587

(1) The cash consideration represents the consideration paid in cash amounting to €52.5 million which is translated based on an exchange rate on May 11, 2015.

(2) The fair value of the contingent consideration was determined by calculating the probability-weighted milestone payments based on the assessment of the likelihood and estimated timing that certain milestones would be achieved. The fair value of the contingent consideration was estimated using a discount rate of 14.6%. The discount rate captures the credit risk associated with the payment of the contingent consideration when earned and due.

(3) The fair value of the initial investment is calculated as the implied per share fair value of the stock based upon the acquisition purchase price reduced by a lack of control discount associated with the 4.76% holding.

The allocation of the purchase price is based on estimates of the fair value of assets acquired and liabilities assumed as of the date of acquisition. The components of the purchase price allocation are as follows (in thousands):

Net working capital	$	1,863
Property and equipment		651
Net assets acquired		2,514
Deferred tax liabilities		(10,801)
Acquired in-process research and development		34,457
Goodwill		86,417
Total consideration	$	112,587

IPR&D assets are required to be classified as indefinite-lived assets until they become finite-lived assets upon the successful completion or the abandonment of the associated research and development effort. Accordingly, during the development period after the date of acquisition, these assets will not be amortized until the acquired reagents or automation technology is accepted by the FDA as part of an IND, subject to management judgment.

The factors contributing to the recognition of the amount of goodwill are based on several strategic and synergistic benefits that are expected to be realized from the Stage acquisition. The acquisition of Stage is intended to provide the Company access to transformative cell selection and activation capabilities, next generation manufacturing automation technologies, enhanced control of its supply chain, and lower expected long-term cost of goods. None of the goodwill is expected to be deductible for income tax purposes. The Company made a Section 338(g) election under the Internal Revenue Code with respect to this acquisition, resulting in the acquired entity being treated for U.S. tax purposes as a newly incorporated company. Under such election, the U.S. tax basis of the assets and liabilities of Stage were stepped up to fair value as of the closing date of the acquisition to reflect the consequences of the Section 338(g) election.

Acquisition of X-Body, Inc.

In June 2015, the Company completed the acquisition of 100% of the outstanding equity in X-Body, Inc. ("X-Body"). The Company paid $21.3 million in cash and issued an aggregate of 366,434 shares of common stock, valued at $19.4 million based

on the closing stock price on June 1, 2015 of $53.07 per share. Further, an additional 72,831 shares of common stock were issued to two former X-Body stockholders in the transaction, which shares are subject to monthly vesting over the three years following the closing of the transaction. These will be accounted for as post-acquisition compensation expenses.

The Company also agreed to pay additional amounts in cash upon the realization of specified milestones substantially as follows, with respect to products generated using the X-Body technology: $5.0 million per target upon the achievement, during a specified period, of a certain regulatory milestone for products that utilize a certain type of binding mechanism; up to $30.0 million upon the achievement, during a specified period, of regulatory and clinical milestones for the first product using another type of binding mechanism (any product using such type of binding mechanism, a "Type X Product"); $5.0 million per product upon the achievement, during a specified period, of a certain regulatory milestone for a certain number of subsequent Type X Products; $50.0 million upon the achievement, during a specified period, of a clinical milestone related to the first product with certain specified binding properties (a "Type Y Product"); and $20.0 million upon the achievement, during a specified period, of a clinical milestone related to the first product with certain other specified binding properties. If a Type X Product or a Type Y Product is commercialized, Juno can choose either to make a commercialization milestone payment for such a product or to pay a low single-digit royalty on net sales of such a product. The fair value of this contingent consideration was estimated to be $8.9 million at the date of acquisition. Payments could vary based on milestones that are reached.

The elements of the purchase consideration are as follows (in thousands):

Cash paid	$	21,331
Common stock issued		19,447
Fair value of contingent consideration (1)		8,944
Settlement of preexisting obligation (2)		1,123
Total consideration	$	50,845

(1) The fair value of the contingent consideration was determined by calculating the probability-weighted milestone based on the assessment of the likelihood and estimated timing that certain milestones would be achieved. The fair value of the contingent consideration was estimated using a discount rate of 15.2%. The discount rate captures the credit risk associated with the payment of the contingent consideration when earned and due.

(2) The settlement of preexisting obligation reflects the effective settlement of the Company's preexisting prepaid contract research agreement with X-Body. No gain or loss was recognized by the Company on the effective settlement of this prepaid expense as of the acquisition date.

The allocation of the purchase price is based on estimates of the fair value of assets acquired and liabilities assumed as of the acquisition date. The components of the purchase price allocation are as follows (in thousands):

Net liabilities assumed	$	(181)
Deferred tax liabilities		(1,099)
Acquired in-process research and development		16,450
Goodwill		35,675
Total consideration	$	50,845

IPR&D assets are required to be classified as indefinite-lived assets until they become finite-lived assets upon the successful completion or the abandonment of the associated research and development effort. Accordingly, during the development period after the date of acquisition, these assets will not be amortized until regulatory approval is obtained in a major market, typically either the United States or the EU, subject to management judgment.

The goodwill recognized as a result of the X-Body acquisition is primarily attributable to the fact that the acquisition furthers the Company's strategy of investing in technologies that augment the Company's capabilities to create best-in-class engineered T cells against a broad array of cancer targets. The acquisition brings in-house to the Company an innovative discovery platform that interrogates the human antibody repertoire, rapidly selecting fully human antibodies with desired characteristics, even against difficult targets. None of the goodwill is expected to be deductible for income tax purposes.

Post-Acquisition and Pro Forma Consolidated Financial Information

The business acquisitions did not have a material impact on the Company's consolidated statements of operations, and therefore actual and pro forma disclosures have not been presented. The intangible assets acquired in the business acquisitions are in-process research and development assets, and as such, there would be no pro forma adjustment needed for the amortization of intangible assets.

Transaction Costs

The Company incurred approximately $0.4 million and $4.5 million of direct transaction costs related to the business acquisitions for the years ended December 31, 2016 and 2015, respectively. These costs are included in general and administrative expenses in the consolidated statements of operations.

4. Goodwill and Intangible Assets

The following table summarizes the changes in the carrying amount of goodwill (in thousands):

Balance as of December 31, 2015	$	122,092
Goodwill acquired during the year ended December 31, 2016		99,214
Balance as of December 31, 2017 and 2016	$	221,306

There was no impairment of goodwill for the years ended December 31, 2017, 2016, and 2015.

Intangible assets consist of developed technology and IPR&D obtained from the 2016 AbVitro acquisition and the 2015 Stage and X-Body acquisitions. IPR&D assets are required to be classified as indefinite-lived assets until they become finite-lived assets upon the successful completion of the associated research and development effort.

Beginning in the second quarter of 2017, the intangible asset recognized in connection with the AbVitro acquisition completed development and reached technological feasibility, and the Company began amortizing the asset over an estimated life of three years.

Identifiable intangible assets consisted of the following (in thousands):

	December 31, 2017		
	Gross Carrying Amount	Accumulated Amortization	Intangible Assets, Net
Finite-lived intangible assets:			
Developed technology	$ 29,017	$ (7,254)	$ 21,763
Indefinite-lived intangible assets:			
In-process research and development	53,494	—	53,494
Total identifiable intangible assets	$ 82,511	$ (7,254)	$ 75,257

	December 31, 2016		
	Gross Carrying Amount	Accumulated Amortization	Intangible Assets, Net
Indefinite-lived intangible assets:			
In-process research and development	$ 77,986	$ —	$ 77,986
Total identifiable intangible assets	$ 77,986	$ —	$ 77,986

Amortization expense recognized related to intangible assets was $7.3 million for the year ended December 31, 2017. There was no amortization expense recognized related to intangible assets for the years ended December 31, 2016 and 2015 as all intangibles were deemed to be indefinite-lived at that time.

Estimated future amortization expense related to finite-lived intangible assets as of December 31, 2017 is as follows (in thousands):

Year ending December 31:		
2018	$	9,672
2019		9,672
2020		2,419
Total future amortization expense	$	21,763

There was no impairment of intangible assets for the years ended December 31, 2017, 2016, and 2015.

5. Collaboration and License Agreements

Celgene

Celgene Collaboration Agreement

In June 2015, the Company entered into a Master Research and Collaboration Agreement ("Celgene Collaboration Agreement") with Celgene pursuant to which the Company and Celgene agreed to collaborate on researching, developing, and commercializing novel cellular therapy product candidates and other immuno-oncology and immunology therapeutics, including, in particular, CAR and TCR product candidates. The Celgene Collaboration Agreement became effective in July 2015 and was amended and restated in August 2015.

Pursuant to the collaboration, prior to the exercise of an option for a program, each of the Company and Celgene will conduct independent programs to research, develop, and commercialize such product candidates (including, in the case of the Company, its CD19 and CD22 programs). Each party has certain options to obtain either an exclusive license to develop and commercialize specified product candidates arising from specified types of programs conducted by the other party within the scope of the collaboration, or the right to participate in the co-development and co-commercialization of specified product candidates arising from such programs, in each case in specified territories. Further, following the exercise by Celgene of an option to license product candidates from certain Company developed programs, excluding the CD19 program and the CD22 program, Celgene has the right to exercise an option for a specified number of such programs to co-develop and co-commercialize products arising out of such programs in certain countries, and each of Celgene and Company has the right to elect to participate in certain commercialization activities for products in such programs in territories where it is not leading commercialization of such product. The parties may exercise their options with respect to specified product candidates arising under programs within the scope of the collaboration until the tenth anniversary of the effective date of the Celgene Collaboration Agreement (the "Research Collaboration Term"), subject to a tail period applicable to certain programs, for which options have not yet been exercised as of the expiration of the Research Collaboration Term. BCMA-directed product candidates are excluded from the collaboration.

For Company-originated programs (which includes the CD19 program and may include the CD22 program) under the collaboration for which Celgene exercises its option to obtain an exclusive license:

- The Company would be responsible for research and development in the United States, Canada, and Mexico, and, for cellular therapy product candidates, China, and would retain commercialization rights and would lead commercialization activities and book sales of products in those countries (the "Juno Territory"), subject to Celgene's option, for a specified number of programs (excluding the CD19 program and the CD22 program), to elect to co-develop and co-commercialize product candidates arising from such programs, or for other programs, to elect to participate in certain commercialization activities in the Juno Territory, as further described below. Under all such license agreements, the Company has the right to participate in specified commercialization activities arising from such programs in certain major European markets;

- On a program-by-program basis, Celgene would receive an exclusive license, and pursuant to such license would be responsible for, development and commercialization outside of the Juno Territory (the "Celgene Territory"), including

by leading commercialization activities and booking sales of products in the Celgene Territory. Celgene would be required to pay the Company a royalty on sales of products arising from such program in the Celgene Territory as further described below; and

- For Company-originated programs, excluding CD19 and CD22, Celgene would have the right to exercise an option for a specified number of such programs, to obtain the right to co-develop and co-commercialize products arising from such program worldwide, except for China. For each such program, following Celgene's exercise of such option, the parties would enter into an agreed form of co-development and co-commercialization agreement, pursuant to which:

    - Celgene would have the right to co-develop and co-commercialize product candidates arising from such programs, with the parties each entitled to bear and receive an equal share of the profits and losses arising from development and commercialization activities in such programs worldwide (other than China); and

    - The Company would remain the lead party for development and commercialization activities for such product candidates in the Juno Territory, and Celgene would remain the lead party for development and commercialization activities for such product candidates in the Celgene Territory, subject to the Company's right to participate in certain commercialization activities in certain major European countries, and Celgene's right to elect to participate in a specified percentage of commercialization activities in the Juno Territory.

For other Company originated programs for which Celgene does not exercise such a co-development and co-commercialization right, Celgene would also have the right to elect to participate in up to a specified percentage of certain commercialization activities for product candidates in such program in the Juno Territory, and the Company would have the right to elect to participate in up to a specified percentage of certain commercialization activities for such product candidates in certain major European markets.

For Celgene-originated programs under the collaboration for which the Company exercises its option to obtain an exclusive license, the parties will enter into a co-development and co-commercialization agreement and:

- The parties will share global profits and losses from development and commercialization activities with 70% allocated to Celgene and 30% allocated to the Company; and

- Celgene will lead global development and commercialization activities, subject to the Company's right to elect to participate in up to a specified percentage of certain commercialization activities in the Juno Territory under certain circumstances and in certain major European countries.

Furthermore, each of Celgene and the Company will have the exclusive right to exercise options to co-develop and co-commercialize product candidates arising out of programs for which the other party in-licenses or acquires rights that are within the scope of their collaboration, where such rights are available to be granted, with the parties each bearing an equal share of the profits and losses arising out of such programs following the exercise of such option. In general, for such programs where the rights are in-licensed or acquired by the Company and for which Celgene exercises its options, the Company will be the lead party for development and commercialization of product candidates arising from such programs in the Juno Territory, subject to Celgene's right to elect to participate in certain commercialization activities for such product candidates in the Juno Territory, and Celgene will be the lead party for development and commercialization of product candidates arising in such programs in the Celgene Territory, subject to the Company's right to elect to participate in certain commercialization activities for such product candidates in certain major European markets. Conversely, for such programs where the rights are in-licensed or acquired by Celgene and for which the Company exercises its options, Celgene will be the lead party for development and commercialization activities for product candidates arising from such programs on a worldwide basis, subject to the Company's right to elect to participate in certain commercialization activities for such product candidates in the Juno Territory and in certain major European markets. The party exercising an option for these in-licensed or acquired programs is generally required to pay to the other party an upfront payment equal to one half of the costs incurred by other party in connection with the acquisition of rights to such programs.

Under the terms of the Celgene Collaboration Agreement, the Company received an upfront cash payment of $150.2 million. In addition to the upfront payment, Celgene is required to pay to the Company an additional fee if it exercises its option for each

of the CD19 program and the CD22 program, totaling, if the options are exercised for both programs during the initial opt-in window, $100.0 million. As described below, in April 2016, Celgene exercised its option for the CD19 program and paid the Company $50.0 million as an option exercise fee. Upon a party's exercise of the option for any other program (other than certain in-licensed or acquired programs where a party exercises its option at the time such program is acquired), the party exercising the option is required to pay to the other party a payment at the time of exercise of its option, calculated as a multiple of the costs incurred by the other party in relation to the development activities for such program prior to the exercise of the option, with such multiple based on the point in development of such product at which such party exercises such option. For programs for which the parties have entered into a license agreement, the Company will also receive royalties from Celgene, for product candidates arising from the CD19 and CD22 programs, at a percentage in the mid-teens of net sales of such product candidates in the Celgene Territory, and for product candidates arising from other Company programs that are subject to a license agreement, tiered royalties on net sales of such product candidates in the Celgene Territory, at percentages ranging from the high single digits to the mid-teens, calculated based on the stage of development at which Celgene exercises its option for such program.

Celgene CD19 License

In April 2016, Celgene exercised its opt-in right to develop and commercialize product candidates from the Company's CD19 program in the Celgene Territory. As a result, the Company and Celgene entered into a license agreement (the "Celgene CD19 License") pursuant to which Celgene received an exclusive, royalty-bearing license to develop and commercialize therapeutic CAR product candidates from the Company's CD19 program in the Celgene Territory. The Company retains all rights to develop further and commercialize such product candidates in the Juno Territory. The Company and Celgene will generally share worldwide research and development costs for certain CD19 product candidates, although either party may opt out of funding specific studies led by the other. The Company will be responsible for commercialization costs in the Juno Territory and Celgene will be responsible for commercialization costs in the Celgene Territory. The Company has the right to participate in specified commercialization activities for licensed products arising from the CD19 program in certain major European markets. Celgene has the right to participate in specified commercialization activities in North America for licensed products for certain indications under the CD19 program. The Company received a $50.0 million option exercise fee from Celgene upon the exercise of Celgene's option for the CD19 program. The Company will also receive royalties from Celgene for CAR product candidates arising from the CD19 program at a percentage in the mid-teens of net sales of such product candidates in the Celgene Territory.

2015 Celgene Share Purchase Agreement

In June 2015, the Company also entered into a Share Purchase Agreement (the "2015 Celgene SPA") with Celgene. Pursuant to the 2015 Celgene SPA, the Company sold 9,137,672 shares of the Company's common stock to Celgene at an aggregate cash price of approximately $849.8 million, or $93.00 per share of common stock, on August 4, 2015. The 2015 Celgene SPA also provides for additional sales of shares by the Company to Celgene as follows:

- First Period Top-Up Rights. Until June 29, 2020, Celgene has the annual right, following the filing of each Annual Report on Form 10-K filed by the Company, to purchase additional shares from the Company at a market average price, allowing it to "top up" to an ownership interest equal to 10% of the then-outstanding shares (after giving effect to such purchase), subject to adjustment downward in certain circumstances. If Celgene does not exercise its top-up right in full in any given year, then the percentage of ownership targeted for a top-up stock purchase for the next year will be reduced to Celgene's percentage ownership at the time of such non-exercise or partial exercise (after giving effect to the issuance of shares in any partial exercise).

- First Acquisition Right. During the period beginning on June 29, 2019 and ending on June 28, 2020, subject to Celgene opting in to a certain number of Company programs under the Celgene Collaboration Agreement, Celgene will have the right (the "First Acquisition Right") to purchase up to such number of shares that will allow Celgene to have ownership of 19.99% of the then-outstanding shares of the Company's common stock (after giving effect to such purchase) at the closing price of the common stock on the principal trading market (currently The Nasdaq Global Select Market) on the date of exercise (the "FAR Base Price"), plus a premium on all shares in excess of the number of

shares for which Celgene would then be able to purchase if it then had a top-up right as described in the preceding paragraph.

- Second Period Top-Up Rights. After the closing of the purchase of shares upon the exercise of the First Acquisition Right until the SAR Termination Date (as defined below), in the event that Celgene has been diluted after exercising the First Acquisition Right, the Company may elect annually, upon the filing of each Annual Report on Form 10-K filed by the Company, to offer Celgene the right to purchase additional shares from the Company at 105% of market average price, allowing Celgene to "top up" to an ownership interest (after giving effect to such purchase) equal to the percentage ownership of shares that Celgene obtained upon exercise of the First Acquisition Right, subject to adjustment downward in certain circumstances. If Celgene does not exercise its top-up right in full in any year in which it is offered such right by the Company, then the percentage of ownership targeted for a top-up stock purchase for the next year it is offered such top-up right will be reduced to Celgene's percentage ownership at the time of such non-exercise or partial exercise (after giving effect to the issuance of shares in any partial exercise). The "SAR Termination Date" is the later of (a) June 29, 2025, and (b) the earlier of (x) the date that is 6 months following the date that the conditions to the exercise of the Second Acquisition Right (as defined herein) are satisfied and (y) December 29, 2025.

- Second Acquisition Right. During the period beginning on June 29, 2024 and ending on the SAR Termination Date, subject to each of Celgene and the Company opting into a certain number of programs under the Celgene Collaboration Agreement, and provided that Celgene exercised the First Acquisition Right so as to obtain an aggregate percentage ownership of at least 17% of the Company, Celgene will have the right (the "Second Acquisition Right") to purchase up to such number of shares that will allow Celgene to have ownership of 30% of the then-outstanding shares of the Company's common stock (after giving effect to such purchase) at the closing price of the common stock on the principal trading market on the date of exercise (the "SAR Base Price"), plus a premium on all shares in excess of the number of shares for which Celgene would then be able to purchase if it then had a top-up right as described in the preceding paragraph.

- Final Top-Up Rights. Following the closing of the purchase of shares upon the exercise of the Second Acquisition Right and until the Celgene Collaboration Agreement expires or is terminated, Celgene would have the annual right, in the event that Celgene has been diluted after exercising the Second Acquisition Right, following the filing of each Annual Report on Form 10-K filed by the Company, to purchase additional shares from the Company at a price equal to 105% of market average price, allowing it to "top up" to the percentage ownership it had attained upon exercising the Second Acquisition Right, less 250 basis points, subject to adjustment downward in certain circumstances. If Celgene does not exercise its top-up right in full in any given year, then the percentage of ownership targeted for a top-up stock purchase for the next year will be reduced to Celgene's percentage ownership at the time of such non-exercise or partial exercise (after giving effect to the issuance of shares in any partial exercise). These rights and the other described top-up rights, as well as the First Acquisition Right and Second Acquisition Right, may be limited or eliminated in certain circumstances when and if Celgene disposes of any of its shares.

The First Period Top-Up Rights, Second Period Top-Up Rights and Third Period Top-Up Rights are collectively referred to herein as the "Top-Up Rights". The First Acquisition Right and Second Acquisition Right are collectively referred to herein as the "Acquisition Rights."

Each closing of the sale of shares to Celgene is subject to customary closing conditions, including termination or expiration of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended.

The First Period Top-Up Right that was triggered by the filing of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015 permitted Celgene to top-up its ownership stake in the Company to 10%. Celgene exercised its right in part and purchased 1,137,593 shares at a price of $41.32 per share, for an aggregate cash purchase price of $47.0 million, to bring its ownership stake in the Company to 9.76%. As Celgene did not exercise this First Period Top-Up Right in full to reach 10% ownership, future First Period Top-Up Rights have been limited to permit Celgene to top-up its ownership stake in the Company to only 9.76%.

In March 2017, Celgene exercised its First Period Top-Up Right triggered by the filing of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016 and purchased 75,568 shares at a price of $22.39 per share, for an aggregate cash purchase price of $1.7 million, to top-up its ownership stake of the Company's common stock to the permitted amount of 9.76%. The First Period Top-Up Right that will be triggered by the filing of the Company's Annual Report on Form 10-K for the fiscal year ending December 31, 2017 will again permit Celgene to top-up its ownership stake of the Company's common stock to 9.76%.

In September 2017, concurrent with the closing of the September 2017 follow-on public offering, the Company closed a private placement of 758,327 shares of its common stock, at a price of $41.00 per share, with Celgene for an aggregate purchase price of $31.1 million.

Accounting Analysis

The Celgene Collaboration Agreement contains the following deliverables: (1) access to certain of the Company's technology through a non-exclusive, worldwide, royalty-free right and license to conduct certain activities under the collaboration, and (2) participation on various collaboration committees. The Company considered the provisions of the multiple-element arrangement guidance in determining how to recognize the revenue associated with the two deliverables. The Company has accounted for access to certain of the Company's technology and participation on various collaboration committees as a single unit of accounting because the two deliverables do not have standalone value and both obligations will be delivered throughout the estimated period of performance.

The Company has identified the initial consideration for the Celgene Collaboration Agreement, which is the best estimated selling price, as the $150.2 million upfront payment. The Company determined that each of the identified deliverables have the same period of performance (the ten years research collaboration term) and have the same pattern of revenue recognition, ratably over the period of performance. As a result, the $150.2 million in arrangement consideration was recorded in deferred revenue and is being recognized over the ten year research collaboration term.

The Company also evaluated its own options pertaining to Celgene's programs. If the Company exercises any of its options, it is required to make a payment equal to a percentage of the costs incurred by Celgene prior to the exercise of the option in connection with the research and development activities and regulatory activities for such development candidate. The percentage of costs to be paid varies based on the point in development of such product at the time the Company exercises its option. The Company will account for the payments as research and development expense upon the exercise of the related option. The Company determined that payments related to licenses that will be used in future research and development activities with no proven alternative future use at the time of acquisition by the Company should be expensed when incurred in accordance with the Company's accounting policy.

In addition, Celgene purchased 9,137,672 shares of the Company's common stock at a price of $93.00 per share, resulting in gross proceeds of $849.8 million. The Company determined that this initial purchase of common stock combined with the embedded future stock purchase rights had a fair value of $849.8 million and this amount was recorded in equity.

The Company evaluated and determined that the Top-Up Rights and Acquisition Rights granted to Celgene under the 2015 Celgene SPA are not freestanding instruments as these rights are not legally detachable and separately exercisable from the Company's common stock. In addition, the Company has further assessed whether the Top-Up Rights and Acquisition Rights should be accounted for as derivative instruments and determined that derivative accounting does not apply. The Company determined that the Top-Up Rights and Acquisition Rights are embedded and inseparable from the initial stock purchase and no subsequent remeasurement is necessary.

The Celgene CD19 License agreement contains the following deliverables: (1) an exclusive license with respect to intellectual property, (2) transfer of certain clinical and manufacturing knowledge and related support, and (3) participation on various collaboration committees during the technology transfer period. The Company has accounted for these deliverables as a single unit of accounting because they do not have standalone value and the obligations will be delivered throughout the estimated period of performance. The $50.0 million option exercise fee was recorded in deferred revenue and is being recognized ratably over the period in which the Company expects to fulfill these performance obligations, which was initially determined to be approximately two years.

To the extent the Company's research and development costs for certain CD19 product candidates exceed Celgene's research and development costs for the CD19 program for a given quarter, Celgene is required to provide partial reimbursement to the Company for such costs. Either party may opt out from the cost sharing arrangement for specific studies being led by the other party, with the possibility to opt back in to the study in the future at a premium in exchange for the right to use data from that study in such party's territory. The Company recognizes the reimbursement by Celgene as revenue in the period the services are performed. To the extent Celgene's research and development costs for the CD19 program exceed the Company's research and development costs for certain CD19 product candidates for a given quarter, the Company is required to provide Celgene partial reimbursement for such costs. The Company recognizes the reimbursement to Celgene as additional research and development expense in the period the services are provided.

For the year ended December 31, 2017, the Company recognized revenue of $86.1 million in connection with the Celgene Collaboration Agreement and the Celgene CD19 License, comprised of $41.4 million in upfront and opt-in fees recognized, and $44.7 million of cost-sharing revenue. For the year ended December 31, 2016, the Company recognized revenue of $64.6 million in connection with the Celgene Collaboration Agreement and the Celgene CD19 License, comprised of $34.1 million in upfront and opt-in fees recognized, and $30.5 million of cost-sharing revenue. The Company recognized revenue of $5.1 million in connection with the Celgene Collaboration Agreement for the year ended December 31, 2015 related to upfront fees recognized. As of December 31, 2017 and 2016, there was $13.8 million and $11.2 million due from Celgene included in accounts receivable on the consolidated balance sheets.

Fred Hutchinson Cancer Research Center

In October 2013, the Company entered into a collaboration agreement with FHCRC, focused on research and development of cancer immunotherapy products. The agreement has a six year term and can be extended if mutually agreed upon. The research is conducted under project orders containing plans and budgets approved by the parties. In December 2015, the Company entered into an agreement with FHCRC to support the establishment of a clinical immunotherapy trial unit.

Excluding the expense or gain related to success payment obligations, the Company recognized $15.8 million, $16.1 million, and $10.3 million of research and development expenses in connection with its collaboration and funding agreements with FHCRC for the years ended December 31, 2017, 2016, and 2015, respectively.

In October 2013, the Company granted FHCRC rights to certain share-based success payments. Under the terms of this arrangement, the Company may be required to make success payments to FHCRC based on increases in the estimated fair value of the Company's common stock. The potential payments are based on multiples of increasing value based on a comparison of the fair value of the common stock relative to its original $4.00 issuance price. The payments are based on whether the value of the Company's common stock meets or exceeds certain specified threshold values per share, in each case subject to adjustment for any stock dividend, stock split, combination of shares, or other similar events. The aggregate success payments to FHCRC are not to exceed $375.0 million which would only occur at a stock valuation of $160.00 per share. In June 2014, the Company entered into an agreement with FHCRC in which it can offset certain indirect costs related to the collaboration projects conducted by FHCRC against any success payments. The term of the success payment agreement ranges from eight to eleven years depending upon when or if the company receives FDA approval of certain of its product candidates as specified in the agreement.

The following table summarizes all possible remaining FHCRC success payments, payable in cash or publicly-traded equity at the Company's discretion:

Multiple of Initial Equity Value at issuance	15.0x	20.0x	25.0x	30.0x	35.0x	40.0x
Per share common stock price required for payment	$ 60.00	$ 80.00	$ 100.00	$ 120.00	$ 140.00	$ 160.00
Success payment(s) (in millions)	$ 50	$ 50	$ 50	$ 50	$ 50	$ 50

The success payments will be owed if the value of the Company's common stock on the contractually specified valuation measurement dates during the term of the success payment agreement equals or exceeds the above outlined multiples. The valuation measurement dates are triggered by events which include an initial public offering of the Company's stock, a merger, an asset sale, or the sale of the majority of the shares held by certain of the Company's stockholders or the last day of the term

of the success payment agreement. If a higher success payment tier is first met at the same time a lower tier is first met, both tiers will be owed. Any previous success payments made to FHCRC are credited against the success payment owed as of any valuation measurement date, so that FHCRC does not receive multiple success payments in connection with the same threshold. A payment may be triggered on the first anniversary of the closing of the IPO (or the date that is 90 days following such anniversary, at the Company's option, if the Company is contemplating a capital market transaction during such 90 day period). The value of any such success payment will be determined by the average trading price of a share of the Company's common stock over the consecutive 90-day period preceding such determination date. The value of any success payment payable upon a merger or an asset sale will be equal to the cash or value of securities received for each share of the Company's common stock.

In December 2015, success payments to FHCRC were triggered in the aggregate amount of $75.0 million, less indirect cost offsets of $3.3 million. The Company elected to make the payment in shares of its common stock, and thereby issued 1,601,085 shares of its common stock to FHCRC in December 2015.

The estimated fair value of the total success payment obligation to FHCRC, after giving effect to the success payments achieved in December 2015, was approximately $70.3 million and $22.9 million as of December 31, 2017 and 2016, respectively. With respect to the FHCRC success payment obligations, the Company recognized expense of $41.4 million for the year ended December 31, 2017, a gain of $20.5 million for the year ended December 31, 2016, and expense of $44.3 million for the year ended December 31, 2015. The gain and expense are recorded within research and development expense in the consolidated statements of operations and represent the change in the FHCRC success payment liability during such periods and twelve months of accrued expense. The FHCRC success payment liability on the consolidated balance sheets as of December 31, 2017 and 2016 was $54.6 million and $13.3 million, respectively.

The Company's liability for share-based success payments under the FHCRC collaboration is carried at fair value and recognized as expense over the term of the six year collaboration agreement. To determine the estimated fair value of the success payment liability the Company uses a Monte Carlo simulation methodology which models the future movement of stock prices based on several key variables. The following variables were incorporated in the calculation of the estimated fair value of the success payment liability as of the following balance sheet dates:

	December 31,	
Assumptions	**2017**	**2016**
Fair value of common stock	$ 45.71	$ 18.85
Risk free interest rate	2.07% - 2.32%	1.88% - 2.30%
Expected volatility	75%	75%
Expected term (years)	3.79 - 6.79	4.79 - 7.79

The computation of expected volatility was estimated using a combination of available information about the historical volatility of stocks of similar publicly-traded companies for a period matching the expected term assumption and our historical and implied future volatility. The risk free interest rate and expected term assumptions depend on the estimated timing of FDA approval. In addition, the Company incorporated the estimated number and timing of valuation measurement dates in the calculation of the success payment liability.

In October 2013, the Company entered into a license agreement with FHCRC, pursuant to which the Company acquired an exclusive, worldwide, sublicensable license under certain patent rights, and a non-exclusive, worldwide, sublicensable license under certain technology, to research, develop, manufacture, improve, and commercialize products and processes covered by such patent rights or incorporating such technology for all therapeutic uses for the treatment of human cancer. The patents and patent applications covered by this agreement are directed, in part, to CAR constructs, including target specific constructs and customized spacer regions, TCR constructs, and their use for immunotherapy. The Company classifies on the consolidated statements of operations payments accrued or made under its licensing arrangements based on the underlying nature of the expense. Expenses related to the reimbursement of legal and patent costs are classified as general and administrative because the nature of the expense is not related to the research or development of the technologies the Company is licensing.

The Company also agreed to pay FHCRC annual maintenance fees, milestone payments, and royalties as a percentage of net sales of licensed products.

Milestone payments to FHCRC of up to an aggregate of $6.8 million per licensed product, including JCAR014 and JCAR017, are triggered upon the achievement of specified clinical and regulatory milestones and are not creditable against royalties. The Company may terminate the license agreement at any time with advance written notice.

Memorial Sloan Kettering Cancer Center

In November 2013, the Company entered into a sponsored research agreement with MSK, focused on research and development relating to chimeric antigen receptor T cell technology. The research is conducted under project orders containing plans and budgets approved by the parties. The Company also entered into a master clinical study agreement with MSK for clinical studies to be conducted at MSK on the Company's behalf. Each such study will be conducted in accordance with a written plan and budget and protocol, or separate clinical trial agreement, approved by the parties. The Company is also party to separate clinical study agreements with MSK.

Excluding the expense or gain related to success payment obligations, the Company recognized $6.8 million, $2.8 million, and $4.7 million of research and development expenses in connection with its research and clinical agreements with MSK for the years ended December 31, 2017, 2016, and 2015, respectively.

The Company granted MSK rights to certain share-based success payments. Under the terms of this arrangement, the Company may be required to make success payments to MSK based on the increases in the estimated fair value of the Company's common stock. The potential payments are based on multiples of increasing value based on a comparison of the fair value of the common stock relative to its original $4.00 issuance price. The payments are based on whether the value of the Company's common stock meets or exceeds certain specified threshold values per share, in each case subject to adjustment for any stock dividend, stock split, combination of shares, or other similar events. The aggregate success payments to MSK are not to exceed $150.0 million, which would only occur at a stock valuation of $120.00 per share. In October 2015, the Company entered into an agreement with MSK in which certain indirect costs related to certain clinical studies and research projects conducted by MSK are creditable against any success payments. This agreement was amended by the Company in December 2015. The term of the success payment agreement ranges from eight to eleven years depending upon when or if the company receives FDA approval of certain of its product candidates as specified in the agreement.

The following table summarizes all possible remaining MSK success payments, payable in cash or publicly-traded equity at the Company's discretion:

Multiple of Initial Equity Value at issuance		15.0x		30.0x
Per share common stock price required for payment	$	60.00	$	120.00
Success payment(s) (in millions)	$	70	$	70

The success payments will be owed, if the value of the Company's common stock on contractually specified valuation measurement dates equals or exceeds the above outlined multiples. The valuation measurement dates are triggered by events which include an initial public offering of the Company's stock, a merger, an asset sale, or the sale of the majority of the shares held by certain of the Company's stockholders or the last day of the term of the success payment agreement. If a higher success payment tier is met at the same time a lower tier is met, both tiers will be owed. Any previous success payments made to MSK are credited against the success payment owed as of any valuation measurement date, so that MSK does not receive multiple success payments in connection with the same threshold. A payment may be triggered on the first anniversary of the closing of the IPO (or the date that is 90 days following such anniversary, at the Company's option, if the Company is contemplating a capital market transaction during such 90 day period). The value of any such success payment will be determined by the average trading price of a share of the Company's common stock over the consecutive 90-day period preceding such determination date. The value of any success payment payable upon a merger or an asset sale will be equal to the cash or value of securities received for each share of the Company's common stock.

In December 2015, a success payment to MSK was triggered in the amount of $10.0 million, less indirect cost offsets of $1.0 million. The Company elected to make the payment in shares of its common stock, and thereby issued 240,381 shares of its

common stock to MSK in March 2016. In April 2016, the Company repurchased the shares issued to MSK at a price per share equal to $41.90.

The estimated fair value of the total success payment obligation to MSK, after giving effect to the success payment achieved in December 2015 and paid in March 2016, was approximately $43.2 million and $14.1 million as of December 31, 2017 and 2016, respectively. With respect to the MSK success payment obligations, the Company recognized expense of $27.3 million for the year ended December 31, 2017, a gain of $12.0 million for the year ended December 31, 2016, and expense of $7.3 million for the year ended December 31, 2015. The gain and expense are recorded within research and development expense in the consolidated statements of operations and represent the change in the MSK success payment liability during such periods and twelve months of accrued expense. The MSK success payment liability on the consolidated balance sheets as of December 31, 2017 and 2016 was $36.9 million and $9.5 million, respectively.

The Company's liability for share-based success payments under the MSK collaboration is carried at fair value and recognized as expense over the term of the five year collaboration agreement. To determine the estimated fair value of the success payment liability, the Company uses a Monte Carlo simulation methodology which models the future movement of stock prices based on several key variables. The following variables were incorporated in the calculation of the estimated fair value of the success payment liability as of the following balance sheet dates:

	December 31,	
Assumptions	**2017**	**2016**
Fair value of common stock	$ 45.71	$ 18.85
Risk free interest rate	2.08% – 2.32%	1.90% – 2.31%
Expected volatility	75%	75%
Expected term (years)	3.89 - 6.89	4.89 – 7.89

The computation of expected volatility was estimated using a combination of available information about the historical volatility of stocks of similar publicly-traded companies for a period matching the expected term assumption and the Company's historical and implied volatility. The risk free interest rate and expected term assumptions depend on the estimated timing of FDA approval. In addition, the Company incorporated the estimated number and timing of valuation measurement dates in the calculation of the success payment liability.

In November 2013, the Company entered into a license agreement with MSK, pursuant to which the Company acquired a worldwide, sublicensable license to specified patent rights and intellectual property rights related to certain know-how to develop, make, and commercialize licensed products and to perform services for all therapeutic and diagnostic uses, which license is exclusive with respect to such patent rights and tangible materials within such know-how, and non-exclusive with respect to such know-how and related intellectual property rights. The patents and patent applications covered by this agreement are directed, in part, to CAR constructs, including bispecific and armored CARs, and their use for immunotherapy.

The Company agreed to pay MSK milestone payments and royalties as a percentage of net sales of licensed products and services by us or our affiliates and sublicensees.

Milestone payments to MSK of up to an aggregate of $6.8 million per licensed product, including JCAR015, are triggered upon the achievement of specified clinical and regulatory milestones and are not creditable against royalties. The Company may terminate the license agreement at any time with advance written notice, but if the Company has commenced the commercialization of licensed products, the Company can only terminate at will if it ceases all development and commercialization of licensed products.

St. Jude Children's Research Hospital/Novartis

In December 2013, the Company entered into a license agreement with St. Jude ("St. Jude License Agreement"), pursuant to which the Company (1) obtained control over, and the obligation to pursue and defend, St. Jude's causes of action in Trustees of the University of Pennsylvania v. St. Jude Children's Research Hospital, Civil Action No. 2:13-cv-1502-SD (E.D. Penn.), which concerned both U.S. Patent No. 8,399,645 (the "'645 Patent") and a contractual dispute between St. Jude and the

Trustees of the University of Pennsylvania ("Penn") and (2) acquired an exclusive, worldwide, royalty-bearing license under certain patent rights owned by St. Jude, including the '645 Patent, to develop, make, and commercialize licensed products and services for all therapeutic, diagnostic, preventative, and palliative uses. The patents and patent applications covered by this agreement are directed, in part, to CAR constructs capable of signaling both a primary and a costimulatory pathway. Together with St. Jude, the Company was a party in, and was adverse to Penn and Novartis Pharmaceutical Corporation ("Novartis") in, that litigation (the "Penn litigation"), which was settled by the parties in April 2015.

The Company agreed to pay to St. Jude milestone payments and royalties as a percentage of net sales of licensed products and services, and a percentage of St. Jude's reasonable legal fees incurred in connection with the Penn litigation. Included in general and administrative expense for the year ended December 31, 2015 was $5.5 million for legal reimbursements.

Milestone payments to St. Jude of up to an aggregate of $62.5 million are triggered upon the achievement of specified clinical, regulatory, and commercialization milestones for licensed products, including JCAR014 or JCAR017, and are not creditable against royalties. The Company can terminate the agreement for any reason upon advance written notice.

In April 2015, the Company and St. Jude agreed to settle the Penn litigation with Penn and Novartis. In connection with such settlement, in April 2015, the Company entered into a sublicense agreement (the "Penn/Novartis Sublicense Agreement") with Penn and an affiliate of Novartis pursuant to which the Company granted to Novartis a non-exclusive, royalty-bearing sublicense under certain patent rights, including the '645 Patent. This sublicense is not sublicensable without the Company's prior written consent, although Novartis may authorize third parties to act on its behalf with respect to the manufacture, development, or commercialization of Novartis' licensed products and licensed services. Under the Penn/Novartis Sublicense Agreement, Novartis paid the Company an initial license fee of $12.3 million, which was recorded as revenue for the year ended December 31, 2015. In addition, Novartis is also required to pay mid-single digit royalties on the U.S. net sales of products and services related to the disputed contract and patent claims (the "Royalty Payments"), a low double digit percentage of the royalties Novartis pays to Penn for global net sales of those products (the "Penn Royalty Payments"), and milestone payments upon the achievement of specified clinical, regulatory, and commercialization milestones for licensed products (the "Milestone Payments"). If the Company achieves any of the milestones with respect to its own products leveraging the same patents, prior to Novartis, the related Milestone Payment will be reduced by 50%. In addition, if the Company achieves any milestone after Novartis, the Company will reimburse Novartis 50% of any Milestone Payment previously paid by Novartis to the Company in respect of such milestone. These milestones largely overlap with the milestones for which the Company may owe a payment to St. Jude under the St. Jude License Agreement and the Milestone Payments would in effect serve to partially offset the Company's obligations to St. Jude with respect to such milestones. Novartis may terminate the Penn/Novartis Sublicense Agreement at will upon advance written notice to the Company.

In August 2017, a regulatory milestone was met under both the Penn/Novartis Sublicense Agreement and the St. Jude License Agreement, pursuant to which the Company recognized milestone revenue of $25.0 million from Novartis, and a corresponding research and development expense to St. Jude of $6.8 million. Additionally, in September 2017, the Company achieved two clinical milestones previously achieved by Novartis, and were obligated to reimburse Novartis 50% of the milestone payments previously paid. The Company recorded research and development expense of $7.1 million associated with the milestone repayment to Novartis.

In 2016, two clinical milestones were met under both the Penn/Novartis Sublicense Agreement and the St. Jude License Agreement, pursuant to which the Company recognized milestone revenue from Novartis of $14.3 million. The Company made corresponding payments to St. Jude of $12.5 million.

Seattle Children's Research Institute

In February 2014, the Company entered into a sponsored research agreement with Seattle Children's Research Institute ("SCRI"). The research is conducted under project orders containing plans and budgets approved by the parties. The Company has also entered into clinical support and manufacturing services agreements with SCRI related to the Company's JCAR017 trials.

In February 2014, the Company entered into a license agreement with SCRI that grants the Company an exclusive, worldwide, royalty-bearing sublicensable license to certain patent rights to develop, make and commercialize licensed products and to perform licensed services for all therapeutic, prophylactic, and diagnostic uses. Effective June 2015, the license agreement was amended to include additional patent rights.

The Company is required to pay to SCRI annual license maintenance fees, creditable against royalties and milestone payments.

The Company also agreed to pay SCRI milestone payments and royalties as a percentage of net sales of licensed products and licensed services. Milestone payments to SCRI related to licensed products, including JCAR014 and JCAR017, are triggered upon the achievement of specified clinical, regulatory, and commercialization milestones and are not creditable against future royalties. The Company may terminate the license agreement for any reason with advance written notice.

Opus Bio

In December 2014, the Company entered into a license agreement with Opus Bio, Inc. ("Opus Bio") pursuant to which the Company was granted an exclusive, worldwide, sublicensable license under certain patent rights and data to research, develop, make, have made, use, have used, sell, have sold, offer to sell, import and otherwise exploit products that incorporate or use engineered T cells directed against CD22 and that are covered by such patent rights or use or incorporate such data. Certain of the licensed patent rights are in-licensed by Opus Bio from the National Institutes of Health ("NIH"). Under the agreement, the Company is required to use commercially reasonable efforts to research, develop, and commercialize licensed products. Such development must be in accordance with the timelines provided in the license agreement for achievement of certain clinical, regulatory, and commercial benchmarks, and with the development plans set forth in Opus Bio's agreements with the NIH.

Upon achievement of certain clinical, regulatory, and commercial milestones set forth in the license agreement, the Company will be obligated to pay Opus Bio additional consideration. The consideration due upon achievement of the first three clinical milestones would consist of additional shares of our common stock in an amount equal to the dollar value specified for the applicable milestone, divided by the greater of $10.92 and the arithmetic average of the daily volume-weighted average price of our common stock on The Nasdaq Global Select Market over the 30 trading days preceding the achievement of the milestone, up to a maximum of 4,807,692 shares in the aggregate (this minimum per share value and maximum number of shares subject, in each case, to adjustment for any stock dividend, stock split, combination of shares, or other similar events). Two of these milestones were achieved in 2016, for which the Company issued a total of 603,364 shares of its common stock as payment and recorded research and development expense of $23.2 million based on the fair value of the common stock on the date the milestones were achieved. After giving effect to the achievement of these milestones, as of December 31, 2017 one milestone required to be paid in equity in the amount of $25.0 million remains to be achieved, along with up to $215.0 million in milestones payable in cash.

The license agreement further provides that the Company is required to pay to Opus Bio tiered royalties based on annual net sales of licensed products. The Company will also be required to make certain pass-through payments owed by Opus Bio to NIH under its NIH license agreements, including certain patent costs, development and commercial milestones of up to $2.8 million in the aggregate, royalties based on annual net sales of licensed products. The Company may terminate the agreement at will upon advance written notice.

Fate Therapeutics

In May 2015, the Company entered into a collaboration and license agreement with Fate Therapeutics, Inc. ("Fate"), to identify and utilize small molecules to modulate the Company's genetically-engineered T cell product candidates to improve their therapeutic potential for cancer patients. The Company paid an upfront fee of $5.0 million in cash and purchased 1,000,000 shares in Fate common stock at a purchase price of $8.00 per share, representing an approximately 5% ownership interest in Fate. The upfront fee and the premium paid for the common stock of $0.8 million were recorded as research and development expense for the year ended December 31, 2015. The investment in Fate is classified as available-for-sale, and reported at fair value with unrealized gains and losses included in accumulated other comprehensive income or loss. Under the collaboration and license agreement, for each product developed by the Company that incorporates modulators identified through the collaboration, the Company will also be required to pay Fate target selection fees and milestone payments upon achievement of

clinical, regulatory, and commercial milestones, as well as low single-digit royalties on net sales of licensed products. The Company can terminate the agreement at will upon advance written notice.

Editas Medicine

In May 2015, the Company entered into a collaboration and license agreement with Editas Medicine, Inc. ("Editas"), to pursue research programs utilizing Editas' genome editing technologies with Juno's CAR and TCR technologies. The Company paid an upfront fee of $25.0 million in cash, which was recorded as research and development expense for the year ended December 31, 2015. Editas is also eligible to receive future research, regulatory, and commercial sales milestones for each program. Following the approval of any products resulting from the alliance, Editas is also eligible to receive tiered royalties on net sales of licensed products. The Company can terminate the agreement at will upon advance written notice.

JW Cayman

The Company is a minority shareholder in JW (Cayman) Therapeutics Co., Ltd ("JW Cayman"), a company formed to develop novel cell-based immunotherapies for patients in China with hematologic and solid organ cancers. The Company accounts for its investment in JW Cayman as an equity method investment, and record income or losses proportionate to its equity ownership in the entity.

In December 2017, the Company entered into a license and strategic alliance agreement with JW Cayman and its affiliates. Under the agreement, JW Cayman received an exclusive, royalty-bearing license to develop and commercialize a therapeutic product candidate in China, as well as the right of first negotiation to license the Company's future pipeline candidates for further development in China. In exchange, the Company will receive consideration from JW Cayman in the form of (i) $8.0 million of equity issued at a 10% discount upon the closing of the first tranche of JW Cayman's Series A financing from outside investors; (ii) an equity ownership top up to 35% upon the closing of the second tranche of JW Cayman's Series A financing from outside investors; (iii) a $5.0 million one-time milestone upon JW Cayman's achievement of certain clinical or regulatory outcomes; and (iv) royalties on net sales of licensed products. All consideration under the license and strategic alliance agreement is contingent upon future events which have not occurred as of December 31, 2017. Consideration under this agreement was determined not to be fixed or determinable, and no revenue was recognized in connection with this license for the year ended December 31, 2017.

6. Cash Equivalents and Marketable Securities

The following tables summarize the estimated fair value of cash equivalents and marketable securities and gross unrealized holding gains and losses (in thousands):

	December 31, 2017			
	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value
Cash equivalents:				
Money market funds	$ 164,160	$ —	$ —	$ 164,160
U.S. government and agency securities	49,899	—	(1)	49,898
Corporate debt securities	4,796	—	(1)	4,795
Total cash equivalents	$ 218,855	$ —	$ (2)	$ 218,853
Marketable securities:				
U.S. government and agency securities	$ 353,116	$ —	$ (686)	$ 352,430
Corporate debt securities	141,082	1	(169)	140,914
Total marketable securities	$ 494,198	$ 1	$ (855)	$ 493,344
Long-term marketable securities:				
U.S. government and agency securities	$ 202,254	$ —	$ (1,006)	$ 201,248
Corporate debt securities	40,621	—	(244)	40,377
Equity securities	1,700	4,410	—	6,110
Total long-term marketable securities	$ 244,575	$ 4,410	$ (1,250)	$ 247,735

	December 31, 2016			
	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value
Cash equivalents:				
Money market funds	$ 173,746	$ —	$ —	$ 173,746
U.S. government and agency securities	4,712	—	—	4,712
Corporate debt securities	6,334	—	(6)	6,328
Total cash equivalents	$ 184,792	$ —	$ (6)	$ 184,786
Marketable securities:				
Commercial paper	$ 64,260	$ —	$ —	$ 64,260
U.S. government and agency securities	320,224	51	(68)	320,207
Corporate debt securities	160,379	18	(180)	160,217
Total marketable securities	$ 544,863	$ 69	$ (248)	$ 544,684
Long-term marketable securities:				
U.S. government and agency securities	$ 132,622	$ 4	$ (364)	$ 132,262
Corporate debt securities	55,920	1	(177)	55,744
Equity securities	1,700	—	—	1,700
Total long-term marketable securities	$ 190,242	$ 5	$ (541)	$ 189,706

The following tables summarize the gross unrealized holding losses and fair value for investments in an unrealized loss position, and the length of time that individual securities have been in a continuous loss position (in thousands):

	December 31, 2017					
	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Marketable securities:						
U.S. government and agency securities	$ 230,977	$ (418)	$ 114,072	$ (268)	$ 345,049	$ (686)
Corporate debt securities	93,733	(111)	41,089	(58)	134,822	(169)
Total marketable securities	$ 324,710	$ (529)	$ 155,161	$ (326)	$ 479,871	$ (855)
Long-term marketable securities:						
U.S. government and agency securities	$ 201,247	$ (1,006)	$ —	$ —	$ 201,247	$ (1,006)
Corporate debt securities	38,374	(244)	—	—	38,374	(244)
Total long-term marketable securities	$ 239,621	$ (1,250)	$ —	$ —	$ 239,621	$ (1,250)

	December 31, 2016					
	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Marketable securities:						
U.S. government and agency securities	$ 143,480	$ (56)	$ 9,988	$ (12)	$ 153,468	$ (68)
Corporate debt securities	128,013	(180)	—	—	128,013	(180)
Total marketable securities	$ 271,493	$ (236)	$ 9,988	$ (12)	$ 281,481	$ (248)
Long-term marketable securities:						
U.S. government and agency securities	$ 129,163	$ (364)	$ —	$ —	$ 129,163	$ (364)
Corporate debt securities	53,643	(177)	—	—	53,643	(177)
Total long-term marketable securities	$ 182,806	$ (541)	$ —	$ —	$ 182,806	$ (541)

The Company evaluated its securities for other-than-temporary impairment and considers the decline in market value for the securities to be primarily attributable to current economic and market conditions. For the debt securities, it is not more-likely-than-not that the Company will be required to sell the securities, and the Company does not intend to do so prior to the recovery of the amortized cost basis.

In 2016, the Company evaluated the near-term prospects of the Fate Therapeutics investment in relation to the severity and duration of the impairment. Based on that evaluation, the Company determined that the equity security was other-than-temporarily impaired ("OTTI"), and a loss of $5.5 million was recognized at that time. The OTTI loss is included in net loss on the consolidated statements of operations for the year ended December 31, 2016.

All of our marketable securities have an effective maturity date of three years or less and are available for use and therefore classified as available-for-sale.

7. Fair Value Measurements

The following tables set forth the fair value of the Company's financial assets and liabilities measured at fair value on a recurring basis based on the three-tier fair value hierarchy (in thousands):

	December 31, 2017			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Money market funds	$ 164,160	$ —	$ —	$ 164,160
U.S. government and agency securities	—	603,576	—	603,576
Corporate debt securities	—	186,086	—	186,086
Equity securities	6,110	—	—	6,110
Total financial assets	$ 170,270	$ 789,662	$ —	$ 959,932
Financial liabilities:				
Success payment liabilities	$ —	$ —	$ 91,525	$ 91,525
Contingent consideration	—	—	24,894	24,894
Total financial liabilities	$ —	$ —	$ 116,419	$ 116,419

	December 31, 2016			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Money market funds	$ 173,746	$ —	$ —	$ 173,746
Commercial paper	—	64,260	—	64,260
U.S. government and agency securities	—	457,181	—	457,181
Corporate debt securities	—	222,289	—	222,289
Equity securities	1,700	—	—	1,700
Total financial assets	$ 175,446	$ 743,730	$ —	$ 919,176
Financial liabilities:				
Success payment liabilities	$ —	$ —	$ 22,786	$ 22,786
Contingent consideration	—	—	20,896	20,896
Total financial liabilities	$ —	$ —	$ 43,682	$ 43,682

The Company measures the fair value of money market funds based on quoted prices in active markets for identical assets or liabilities. The Level 2 marketable securities include U.S. government and agency securities, corporate debt securities, and commercial paper and are valued either based on recent trades of securities in inactive markets or based on quoted market prices of similar instruments and other significant inputs derived from or corroborated by observable market data.

The following table sets forth a summary of the changes in the fair value of the Company's Level 3 financial liabilities (in thousands):

	Success Payment Liabilities	Contingent Consideration	Total
Balance at December 31, 2015	$ 64,829	$ 37,266	$ 102,095
Payments	(9,569)	(6,646)	(16,215)
Changes in fair value (1)	(32,474)	(9,724)	(42,198)
Balance as of December 31, 2016	22,786	20,896	43,682
Changes in fair value (1)	68,739	3,998	72,737
Balance as of December 31, 2017	$ 91,525	$ 24,894	$ 116,419

(1) The amount of success payments and contingent consideration milestones achieved and changes in fair value for success payment liabilities and contingent consideration are recorded in research and development expense in the consolidated statements of operations.

As of December 31, 2017 and 2016, the estimated fair value of the success payment obligations, after giving effect to the success payments achieved by FHCRC and MSK, was approximately $113.5 million and $37.0 million, respectively. With respect to the success payment obligations, the Company recognized expense of $68.7 million for the year ended December 31, 2017, a gain of $32.5 million for the year ended December 31, 2016, and expense of $51.6 million for the year ended December 31, 2015.

The Company utilizes significant estimates and assumptions in determining the estimated success payment liability and associated expense at each balance sheet date. The assumptions used to calculate the fair value of the success payments are subject to a significant amount of judgment including the expected volatility, estimated term, and estimated number and timing of valuation measurement dates. A small change in the assumptions and other inputs, such as the fair value of the Company's common stock, may have a relatively large change in the estimated valuation and associated liability and expense.

For example, keeping all other variables constant, a hypothetical 10% increase in the stock price at December 31, 2017 from $45.71 per share to $50.28 per share would have increased the expense recorded in 2017 associated with the success payment liability by $12.6 million. A hypothetical 10% decrease in the stock price from $45.71 per share to $41.14 per share would have decreased the expense recorded in 2017 associated with the success payment liability by $12.5 million. Further, keeping all other variables constant, a hypothetical 35% increase in the stock price at December 31, 2017 from $45.71 per share to $61.71 per share would have increased the expense recorded in 2017 associated with the success payment liability by $43.9 million. A hypothetical 35% decrease in the stock price from $45.71 per share to $29.71 per share would have decreased the expense recorded in 2017 associated with the success payment liability by $42.2 million.

In connection with the acquisitions of Stage and X-Body, the Company also agreed to pay additional amounts based on the achievement of certain technical, clinical, regulatory, and commercialization milestones. The valuation of contingent consideration uses assumptions the Company believes would be made by a market participant. The Company assesses these estimates on an on-going basis as additional data impacting the assumptions is obtained. Contingent consideration may change significantly as development progresses and additional data are obtained, impacting the Company's assumptions regarding probabilities of successful achievement of related milestones used to estimate the fair value of the liability and the timing in which they are expected to be achieved. In evaluating the fair value information, judgment is required to interpret the market data used to develop the estimates. The estimates of fair value may not be indicative of the amounts that could be realized in a current market exchange. Accordingly, the use of different market assumptions and/or different valuation techniques could result in materially different fair value estimates.

The significant unobservable inputs used in the measurement of fair value of the Company's contingent consideration are probabilities of successful achievement of the milestones, the period in which these milestones are expected to be achieved ranging from 2018 to 2043, and a discount rate of 16%. Significant increases or decreases in any of the probabilities of success and other inputs would result in a significantly higher or lower fair value measurement, respectively.

In 2016 a milestone requiring payment by the Company of €6.0 million to the former stockholders of Stage was achieved and paid. As of December 31, 2017, the estimated fair values of the contingent consideration associated with the Stage and X-Body acquisitions, after giving effect to the milestone achieved, were $21.1 million and $3.8 million, respectively. As of December 31, 2016, the estimated fair values of the contingent consideration associated with the Stage and X-Body acquisitions were $16.6 million and $4.3 million, respectively. The Company recognized expense of $4.0 million, a gain of $9.7 million, and expense of $0.1 million related to the change in fair value of the contingent consideration for the years ended December 31, 2017, 2016, and 2015, respectively. This expense or gain is recorded in research and development expense in the consolidated statements of operations.

8. Property and Equipment, Net

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

	December 31,	
	2017	2016
Leasehold improvements	$ 66,221	$ 5,079
Laboratory and manufacturing equipment	34,198	24,746
Building and building improvements	27,104	26,959
Construction in progress	10,902	22,083
Computer equipment, software and other	7,795	3,199
Land	6,250	6,250
Property and equipment, at cost	152,470	88,316
Less: Accumulated depreciation	(19,360)	(6,582)
Property and equipment, net	$ 133,110	$ 81,734

Depreciation expense related to property and equipment was $12.7 million, $7.4 million, and $1.6 million for the years ended December 31, 2017, 2016, and 2015, respectively.

9. Accrued Liabilities and Other Current Liabilities

Accrued liabilities and other current liabilities consisted of the following (in thousands):

	December 31,	
	2017	2016
Accrued research and development expenses	$ 21,812	$ 9,220
Accrued bonus expense	19,883	8,844
Accrued clinical expenses	12,280	6,716
Accrued employee expenses	10,259	5,179
Other	17,010	6,863
Total accrued liabilities and other current liabilities	$ 81,244	$ 36,822

10. Long-term Debt

In April 2017, the Company entered into a debt agreement for a principal amount of $11.0 million which was used to fund the purchase of the Juno-owned and -operated manufacturing facility in Bothell, Washington. The terms of the agreement include a 4.55% annual fixed interest rate and provide for 120 monthly payments beginning June 1, 2017, with the final payment of all outstanding interest and principal due May 1, 2027.

The following table summarizes future principal payments on long-term debt as of December 31, 2017 (in thousands):

Year ending December 31:	
2018	$ 286
2019	299
2020	313
2021	328
2022	343
Thereafter	9,270
Total future principal payments	$ 10,839

As of December 31, 2017, the fair value of the Company's long-term debt approximates carrying value based on the borrowing rates currently available to the Company for loans with similar terms using Level 2 inputs.

11. Stock-Based Compensation

Equity Incentive Plans

Until the IPO, the Company maintained and granted restricted stock awards and option awards under the 2013 Stock Incentive Plan (the "2013 Plan") for employees, directors, consultants, and advisors to the Company. The 2013 Plan terminated as of the IPO as to future awards, but will continue to govern restricted stock awards and option awards previously granted thereunder.

In December 2014, the Company's board of directors adopted the 2014 Equity Incentive Plan (the "2014 Plan"). The 2014 Plan became effective the day prior to the effective date of the registration statement for the Company's IPO, and enables the grant of incentive and non-qualified stock options, restricted stock awards, restricted stock unit awards, stock appreciation rights, and other stock-based awards to employees, directors, consultants, and advisors to the Company. Terms of the awards, including vesting requirements, are determined by the Company's board of directors or by a committee appointed by the board of directors.

The 2014 Plan provides for an annual increase in the shares available for issuance thereunder, to be added on the first day of each fiscal year, beginning with the year ending December 31, 2015 and continuing until the expiration of the 2014 Plan, equal to the lesser of (i) four percent (4%) of the outstanding shares of the Company's common stock on the last day of the immediately preceding fiscal year or (ii) such number of shares determined by the board of director or an authorized committee of the board of directors; provided, however, that such determination under clause (ii) will be made no later than the last day of the immediately preceding fiscal year. As of December 31, 2017, the total number of shares available for issuance pursuant to future awards under the 2014 Plan was 5,079,693. As a result of the operation of this provision, on January 1, 2018, an additional 4,593,012 shares became available for issuance under the 2014 Plan.

Generally, awards granted by the Company under the 2013 Plan and 2014 Plan vest over four years.

Employee Stock Purchase Plan

In December 2014, the Company's board of directors adopted the 2014 Employee Stock Purchase Plan (the "ESPP"). The ESPP is administered by the Company's board of directors or by a committee appointed by the board of directors. The ESPP allows eligible employees to purchase shares of the Company's common stock at a discount through payroll deductions of up to 15% of their eligible compensation, subject to any plan limitations. The ESPP provides for consecutive six-month offering periods beginning on the first trading day on or after November 15 and May 15 of each year, and at the end of each offering period, employees are able to purchase shares at 85% of the lower of the fair market value of the Company's common stock on the first trading day of the offering period or on the last day of the offering period. The number of shares issued under the ESPP was 159,548, 86,354 and 67,664 for the years ended December 31, 2017, 2016, and 2015, respectively.

The ESPP also provides for an annual share increase, to be added on the first day of each fiscal year, beginning with the year ending December 31, 2015 and continuing until the expiration of the ESPP, equal to the lesser of (i) one and a half percent (1.5%) of the outstanding shares of the Company's common stock on the last day of the immediately preceding fiscal year or (ii) such number of shares determined by the board of directors or authorized committee of the board of directors. As of December 31, 2017, the total number of shares available for future issuance pursuant to the ESPP was 5,668,909. As a result of the operation of this provision, on January 1, 2018, an additional 1,722,380 shares became available for issuance under the ESPP.

Stock-Based Compensation

Stock-based compensation expense is recognized in the consolidated statements of operations as follows (in thousands):

	Year Ended December 31,		
	2017	2016	2015
Research and development (1)	$ 44,866	$ 38,432	$ 17,089
General and administrative	27,736	20,953	14,852
Total stock-based compensation expense (2)	$ 72,602	$ 59,385	$ 31,941

(1) Included in research and development stock-based compensation expense for the year ended December 31, 2016 was $2.2 million related to the payout of employee stock options in connection with the AbVitro acquisition.

(2) Included in stock-based compensation expense for the years ended December 31, 2017, 2016, and 2015 is $5.4 million, $7.3 million, and $8.1 million, respectively, related to service providers other than our employees, scientific founders, and directors, including $3.0 million, $3.9 million, and $6.2 million, respectively, for a former co-founding director who became a consultant upon his departure from the board of directors.

Total stock-based compensation cost related to unvested awards not yet recognized and the weighted average periods over which the awards are expected to be recognized as of December 31, 2017 for all employees are as follows:

	Stock Options	Restricted Stock and RSUs
Unrecognized stock-based compensation cost (in thousands)	$ 147,555	$ 38,188
Expected weighted average period compensation costs to be recognized (years)	2.63	2.58

In addition, as of December 31, 2017, we had approximately $74.8 million of unrecognized compensation cost related to PSAs and PSUs. The estimated compensation expense is adjusted for actual performance experience and is recognized ratably during the service period, or remaining service period, if and when it becomes probable that the performance conditions will be satisfied. As of December 31, 2017, there has been no stock-based compensation expense recognized related to PSAs and PSUs.

PSAs and PSUs

A summary of the Company's PSA and PSU activity is as follows (in thousands, except per share data):

	PSAs and PSUs	Weighted Average Fair Value at Date of Grant per Share
Unvested shares as of December 31, 2016	—	$ —
Granted	1,632	45.81
Forfeited	(6)	45.13
Unvested shares as of December 31, 2017	1,626	$ 46.15

Vesting for the PSUs is contingent upon our achievement of prospective company performance goals. Actual performance may result in the ultimate award of 50 to 100 percent of the initial number of PSAs or PSUs granted, with the potential for no award if company performance goals are not achieved during the performance period.

PSAs and PSUs in the preceding table represent aggregate initial target awards, and do not reflect potential decreases resulting from the performance factor determined after the end of the performance period.

Restricted Stock and RSUs

A summary of the Company's restricted stock and RSU activity is as follows (in thousands, except per share data):

	Restricted Stock and RSUs	Weighted Average Fair Value at Date of Grant per Share
Unvested shares as of December 31, 2015	5,477	$ 3.72
Granted	382	29.96
Vested	(2,752)	3.52
Forfeited	(52)	10.04
Unvested shares as of December 31, 2016	3,055	7.10
Granted	1,516	24.78
Vested	(2,094)	4.05
Forfeited	(583)	7.05
Unvested shares as of December 31, 2017	1,894	$ 24.59

The following table summarizes additional information related to restricted stock and RSU activity (in thousands):

	Year Ended December 31,		
	2017	2016	2015
Fair value of vested restricted stock and RSUs	$ 62,764	$ 90,464	$ 158,541

Stock Options

A summary of the Company's stock option activity is as follows (in thousands, except per share and contractual life data):

	Stock Options	Weighted Average Exercise Price per Share	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2015	5,219	$ 30.25		
Granted	4,091	29.09		
Exercised	(412)	7.11		
Forfeited/Cancelled	(377)	38.62		
Outstanding as of December 31, 2016	8,521	30.28		
Granted	4,869	30.68		
Exercised	(822)	23.35		
Forfeited/Cancelled	(981)	35.00		
Outstanding as of December 31, 2017	11,587	$ 30.54	8.33	$ 191,489
Exercisable as of December 31, 2017	4,049	$ 29.02	7.50	$ 73,088

The fair value of each stock option granted has been determined using the Black-Scholes option pricing model. The material factors incorporated in the Black-Scholes model in estimating the fair value of the options granted to employees, directors, and consultants included the following:

	December 31,		
Assumptions	2017	2016	2015
Risk free interest rate	1.62% – 2.40%	1.13% – 2.45%	1.53% – 2.35%
Expected volatility	75%	70% – 75%	70% - 80%
Expected life (years)	3.22 - 9.96	5.27 - 9.97	6.02 - 10.00
Expected dividend yield	—%	—%	—%

For employees, scientific founders, and directors, the expected life was calculated based on the simplified method as permitted by the SEC Staff Accounting Bulletin No. 110, *Share-Based Payment* . For other service providers, the expected life was calculated using the contractual term of the award. Management's estimate of expected volatility was based on available information about the historical volatility of stocks of similar publicly-traded companies for a period matching the expected term assumption and its own historical and implied future volatility. The risk-free interest rate is based on a U.S. Treasury instrument whose term is consistent with the expected life of the stock options.

The following table summarizes additional information related to stock option activity:

	Year Ended December 31,		
	2017	2016	2015
Aggregate intrinsic value of stock options exercised (in thousands)	$ 18,431	$ 12,177	10,925
Weighted average grant date fair value per share for options granted	$ 15.79	$ 18.30	$ 32.51

12. Comprehensive Income (Loss)

The components of accumulated other comprehensive income (loss) and the adjustments to other comprehensive income (loss) are as follows (in thousands):

	Foreign Currency Translation Adjustments	Net Unrealized Gain (Loss) on Marketable Securities	Accumulated Other Comprehensive Income (Loss)
Balance as of December 31, 2015	$ (605)	$ (5,478)	$ (6,083)
Other comprehensive income (loss), net	(1,186)	4,427	3,241
Balance as of December 31, 2016	(1,791)	(1,051)	(2,842)
Other comprehensive income, net	4,274	1,989	6,263
Balance as of December 31, 2017	$ 2,483	$ 938	$ 3,421

The details of the components of other comprehensive income (loss) are as follows (in thousands):

	Year Ended December 31,		
	2017	2016	2015
Other comprehensive income:			
Foreign currency translation adjustments (1)	$ 4,274	$ (1,186)	$ (605)
Net change in unrealized gain (loss) on marketable securities:			
Unrealized gain (loss) on marketable securities (2)	1,989	(1,063)	(5,388)
Reclassification adjustment for loss included in net loss (3)	—	5,490	—
Total other comprehensive income (loss)	$ 6,263	$ 3,241	$ (5,993)

(1) Foreign currency translation adjustments are not adjusted for income taxes as they relate to permanent investments in the Company's international subsidiary.

(2) Unrealized gain (loss) on marketable securities is net of income taxes of $1.0 million and $0.3 million for the years ended December 31, 2017 and 2016, respectively. There was no income tax effect recorded on unrealized gain (loss) for the year ended December 31, 2015.

(3) Amounts reclassified from accumulated other comprehensive income or loss are included in other-than-temporary impairment loss on the consolidated statements of operations. There was no income tax effect on this reclassification adjustment for the year ended December 31, 2016 as it does not create taxable income in future years.

13. Income Taxes

The Company recorded an income tax benefit of $6.0 million on a pre-tax loss of $443.1 million for the year ended December 31, 2017. The tax benefit recognized for the year ended December 31, 2017 primarily relates to the net loss incurred by the Company's German subsidiary.

In connection with the Celgene Collaboration Agreement and 2015 Celgene SPA, the Company does not expect that the $849.8 million in consideration allocable to the sale of the Company's shares and future rights to purchase shares of common stock of the Company under the 2015 Celgene SPA will result in gain or loss in accordance with the IRC. The Company determined that the $150.2 million consideration allocable to the upfront payment for the Celgene Collaboration Agreement is fully taxable, partially in 2015, with the remainder in 2016. In connection with the Celgene CD19 License, the Company determined that the $50.0 million option exercise fee is fully taxable, partially in 2016, with the remainder in 2017.

Loss before income taxes is attributable to the following tax jurisdictions (in thousands):

	Year Ended December 31,		
	2017	2016	2015
United States	$ 426,738	$ 245,156	$ 236,028
Foreign	16,369	11,081	6,108
Loss before income taxes	$ 443,107	$ 256,237	$ 242,136

The components of the benefit for income taxes are as follows (in thousands):

	Year Ended December 31,		
	2017	2016	2015
Current:			
United States	$ (15)	$ 40	$ —
Total current	(15)	40	—
Deferred:			
United States	$ 1,036	$ 6,985	$ 1,100
Foreign	4,980	3,632	1,660
Total deferred	6,016	10,617	2,760
Benefit for income taxes	$ 6,001	$ 10,657	$ 2,760

The Tax Cuts and Jobs Act ("U.S. Tax Act") was enacted on December 22, 2017. In accordance with SEC SAB No. 118, *Income Tax Accounting Implications of the Tax Cuts and Jobs Act* ("SAB 118") the Company's accounting for the impact of the U.S. Tax Act represents reasonable estimates based on its analysis to date and is considered to be provisional and subject to revision as further regulatory guidance related to the U.S. Tax Act is expected to be issued in 2018, which may result in changes to the Company's current estimate. Any revisions to the estimate impacts of the U.S. Tax Act will be recorded no later than the fourth quarter of 2018.

The U.S. Tax Act reduces the U.S. federal corporate tax rate from 35% to 21% beginning in 2018. The impact of the U.S. Tax Act for the Company is a $146.5 million reduction in the Company's net deferred tax asset to reflect the new statutory rate. The rate adjustment to the deferred tax assets, a discrete item for the quarter, is fully offset by a decrease in the valuation allowance so there is no rate impact to the Company.

Starting in 2018, companies may be subject to global intangible low tax income ("GILTI") which is a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations as well as the base erosion anti-abuse tax ("BEAT") under the U.S. Tax Act. GILTI will be effectively taxed at a tax rate of 10.5%. Due to the complexity of the GILTI tax rules, companies are allowed to make an accounting policy choice of either (1) treating taxes due on future U.S. inclusions in taxable income related to GILTI as a current-period expense when incurred or (2) factoring such amounts into a company's measurement of its deferred taxes under SAB 118. The Company has not yet made an election with respect to GILTI. The

Company will continue to review the GILTI and BEAT rules to determine their applicability to the Company as the rules become effective.

As of December 31, 2017 and 2016, the Company had U.S. federal net operating loss ("NOL") carryforwards of approximately $476.6 million and $249.4 million, respectively, which are available to reduce future taxable income. The Company also had U.S. federal and state tax credits of $85.5 million and $34.2 million as of December 31, 2017 and 2016, respectively, which may be used to offset future tax liabilities. The NOL and tax credit carryforwards will begin to expire in 2033. The NOL and tax credit carryforwards may become subject to an annual limitation in the event of certain cumulative changes in the ownership interest. This could limit the amount of tax attributes that can be utilized annually to offset future taxable income or tax liabilities. The Company undertook a formal IRC Section 382 study in 2016. Based on this study, the Company concluded that it has experienced such "ownership changes" but its ability to use its U.S. NOLs and tax credit carryforwards is not subject to a material annual limitation. However, subsequent ownership changes may further affect the limitation in future years. The Company also has German NOL carryforwards of $30.2 million and $13.4 million as of December 31, 2017 and 2016, respectively, which have an indefinite carryforward period.

A reconciliation of income taxes computed using the U.S. federal statutory rate to that reflected in operations follows:

	Year Ended December 31,		
	2017	2016	2015
Federal statutory tax	35.0%	35.0%	35.0%
Foreign tax rate differential	(0.1)	(0.1)	(0.1)
Valuation allowance	(6.3)	(35.1)	(36.2)
Tax credits	7.5	5.5	3.8
Impact of U.S. Tax Act	(33.1)	—	—
Other	(1.6)	(1.1)	(1.4)
Total	1.4%	4.2%	1.1%

The principal components of the Company's net deferred tax liabilities are as follows (in thousands):

	December 31,	
	2017	2016
Deferred tax assets:		
Net operating loss carryforwards	$ 110,403	$ 85,154
Tax credit carryforwards	85,480	34,243
Acquired technology	44,795	61,866
Success payments	34,457	34,804
Stock compensation	14,362	12,803
Deferred revenue	25,683	45,770
Other	9,723	7,649
Gross deferred tax assets	324,903	282,289
Valuation allowance	(306,545)	(271,635)
Deferred tax assets, net of valuation allowance	18,358	10,654
Deferred tax liabilities:		
Acquired technology	(11,679)	(10,218)
Other	(7,282)	(5,588)
Deferred tax liabilities	(18,961)	(15,806)
Net deferred tax liabilities	$ (603)	$ (5,152)

The Company adopted ASU 2016-09 in 2017. As a result, the net operating loss deferred tax asset increased by $7.1 million as a result of the inclusion of the net operating losses related to excess tax benefits. The increase in the deferred tax asset was offset by a full valuation allowance.

The valuation allowance relates primarily to net U.S. deferred tax assets from operating losses, research and development tax credit carryforwards, amounts paid and accrued to enter into various agreements for which the tax treatment requires capitalization and amortization, success-based payments that are accrued but not yet paid for tax purposes, and deferred revenue associated with the Celgene Collaboration Agreement. The Company's deferred tax liability relates primarily to acquired technology.

The Company maintains a full valuation allowance on its net U.S. deferred tax assets. The assessment regarding whether a valuation allowance is required considers both positive and negative evidence when determining whether it is more-likely-than-not that deferred tax assets are recoverable. In making this assessment, significant weight is given to evidence that can be objectively verified. In its evaluation, the Company considered its cumulative loss in recent years and its forecasted losses in the near-term as significant negative evidence. Based upon a review of the four sources of income identified within ASC 740, *Accounting for Income Taxes* , the Company determined that the negative evidence outweighed the positive evidence and a full valuation allowance on its U.S. net deferred tax assets will be maintained. The Company will continue to assess the realizability of its deferred tax assets going forward and will adjust the valuation allowance as needed. Increases in the valuation allowance were $34.9 million and $88.0 million for the years ended December 31, 2017 and 2016, respectively. The Company has determined that it is more-likely-than-not that it will realize the benefit of the losses for its German subsidiary and has not recorded a valuation allowance against the German deferred tax assets.

The Company determines its uncertain tax positions based on a determination of whether and how much of a tax benefit taken by the Company in its tax filings or positions is more-likely-than-not to be sustained upon examination by the relevant income tax authorities. The Company is generally subject to examination by the U.S. federal and local income tax authorities for all tax years in which a loss carryforward is available and is subject to examination in Germany for four years. The examination by the U.S. federal and local income tax authorities of the Company's German subsidiary for the years ended December 31, 2013 through December 31, 2015 closed with no material adjustments.

The Company applies judgment in the determination of the consolidated financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. As of December 31, 2017 and 2016, the Company's uncertain tax positions were immaterial.

14. Net Loss per Share

Basic and diluted net loss per share attributable to common stockholders is calculated by dividing net loss attributable to common stockholders by the weighted average number of common shares outstanding during the period, without consideration for common stock equivalents. The Company's potentially dilutive shares, which include unvested PSAs, unvested PSUs, unvested restricted stock, unvested RSUs, options to purchase common stock, and potential shares issued for success payments, are considered to be common stock equivalents and are only included in the calculation of diluted net loss per share when their effect is dilutive.

The amounts in the table below were excluded from the calculation of diluted net loss per share attributable to common stockholders for the periods indicated due to their anti-dilutive effect (in thousands):

	Year Ended December 31,		
	2017	2016	2015
Unvested PSAs and PSUs	1,626	—	—
Unvested restricted stock and RSUs	1,894	3,055	5,477
Options to purchase common stock	11,587	8,521	5,219
Estimated number of shares issuable for success payments (1)	—	—	204
Total	15,107	11,576	10,900

(1) Represents the number of shares that would have been issued if the success payment valuation date had been December 31 of each year presented. The number of shares issued, for purposes of this presentation, is calculated by dividing the success payment by the stock price per share on the valuation date.

As of December 31, 2017 and 2016, the Company's stock price was below the threshold that would require additional payments to FHCRC or MSK, therefore no shares are included.

In December 2015, success payments to FHCRC were triggered in the amount of $75.0 million, less indirect cost offsets of $3.3 million and a success payment to MSK was triggered in the amount of $10.0 million, less indirect cost offsets of $1.0 million. The Company elected to make the payments in shares of its common stock and thereby issued 1,601,085 shares to FHCRC in December 2015 and 240,381 shares to MSK in March 2016. For purposes of this presentation, the number of shares to be issued as of December 31, 2015 was calculated by dividing the success payment achieved by the price of the Company's common stock on December 31, 2015.

15. Commitments and Contingencies

Leases

The Company has entered into various non-cancelable lease agreements for its office, laboratory, and manufacturing spaces with original lease periods expiring between 2019 and 2026. The Company has a lease for office and laboratory space in a building located in Seattle, Washington, which serves as its corporate headquarters. The lease is for approximately 266,800 square feet of space, with an initial term expiring in May 2024.

The following table summarizes the Company's future minimum lease commitments as of December 31, 2017 (in thousands):

Year ending December 31:		
2018	$	13,615
2019		15,967
2020		16,814
2021		16,321
2022		16,698
Thereafter		26,273
Total minimum lease payments	$	105,688

Rent expense for the years ended December 31, 2017, 2016, and 2015 was $10.5 million, $5.6 million, and $2.3 million, respectively.

Litigation

From time to time, the Company may become involved in litigation or proceedings relating to claims arising from the ordinary course of business.

Beginning on July 12, 2016, three putative securities class action complaints were filed against the Company and several of its officers. On October 7, 2016, these complaints were consolidated into a single action titled "In re Juno Therapeutics, Inc." On October 19, 2016, the Court appointed a lead plaintiff. On December 12, 2016, the lead plaintiff filed an amended complaint.

The putative class in the amended complaint is composed of all purchasers of the Company's securities between May 9, 2016 and November 22, 2016, inclusive. The amended complaint names as defendants the Company, its chief executive officer, its chief financial officer, and its chief medical officer and generally alleges material misrepresentations and omissions in public statements regarding patient deaths in the Company's Phase II clinical trial of JCAR015 and the safety of JCAR015, violations by all named defendants of Section 10(b) of the Exchange Act, and Rule 10b-5 thereunder, as well as violations of Section 20(a) of the Exchange Act by the individual defendants. The amended complaint seeks compensatory damages of an undisclosed amount. On February 2, 2017, the Company and the individual defendants filed a motion to dismiss the complaint.

On June 14, 2017, the defendants' motion to dismiss was denied. On September 15, 2017, plaintiffs filed a motion to certify the proposed class. On October 20, 2017, the Company and the individual defendants filed a non-opposition to the motion for class certification. On October 24, 2017, the Court issued an order granting the lead plaintiff's motion for class certification. On October 24, 2017, the Court also entered a scheduling order providing deadlines, including that discovery must be completed by March 18, 2019; all dispositive motions must be filed by April 16, 2019; and mediation, if requested by the parties, must be held by May 31, 2019. The Court scheduled a 2-3 week trial to commence on July 15, 2019.

In addition, on September 8, 2017, a stockholder filed a purported derivative action on behalf of the Company against two of the Company's executive officers and certain members of our board of directors in the federal district court for the Western District of Washington. The complaint alleges claims for breaches of fiduciary duties arising out of the same issues that are the subject of the securities class action, as well as claims for breaches of fiduciary duties and under the federal securities laws related to the Company's compensation for non-employee directors. A similar action was also filed in the Western District of Washington on November 6, 2017. The second action also included claims for alleged insider trading and violations of Section 10(b) of the Securities Exchange Act. On December 5, 2017, the Court consolidated the two purported derivative actions by stipulated motion. On December 19, 2017, Defendants moved to transfer the consolidated action to the District of Delaware, but pursuant to a stipulated motion, on January 31, 2018, the Court stayed all proceedings in the consolidated action pending the results of the tender offer by Purchaser for all of the Company's common stock.

On January 4, 2018, another purported derivative suit was filed in the District of Delaware. This action is similar to the earlier derivative suits but also includes claims for waste of corporate assets and unjust enrichment. On February 27, 2018, the parties submitted a stipulation and proposed order staying all proceedings in the consolidated action pending the results of the tender offer by Purchaser for all of the Company's common stock.

On August 22, 2017, City of Hope filed a lawsuit against the Company, *City of Hope v. Juno Therapeutics, Inc.* , Case No. 2:17-cv-06201-RGK, in the federal district court for the Central District of California. The complaint alleges that the Company has materially breached its exclusive license agreement with City of Hope by failing to seek consent for an alleged sublicense of the Company's rights under such license to Celgene, and by failing to pay fees owed in connection with that alleged sublicense. The City of Hope license requires the Company to pay City of Hope 15% of sublicense revenues, defined as "all consideration received by [the Company] in return for the grant of rights to manufacture, use, offer for sell, or sell a Licensed Product, other than consideration in the form of: (i) running royalties calculated as a function of Net Sales and payment, (ii) payment or reimbursement to [the Company] of costs actually incurred by [the Company] in conducting clinical trials of a Licensed Product, and (iii) reimbursement for actual Patent Expenses due pursuant to this Agreement." In its request for relief, City of Hope seeks compensatory damages in an amount "no less than 15% of all consideration received by [the Company] pursuant to the [Celgene] Collaboration Agreement, [Celgene] Share Purchase Agreement, and Celgene Option Exercise," i.e., the Celgene CD19 License. The complaint also seeks a declaratory judgment that the Company materially breached the City of Hope license. On August 31, 2017, the Company filed an answer and counterclaim in the lawsuit, denying City of Hope's allegations of breach of contract, asserting several affirmative defenses, and bringing various counterclaims, including claims for breach of contract and breach of the covenant of good faith and fair dealing, and seeking, among other things, a declaratory judgment that City of Hope has no grounds to terminate the City of Hope license. City of Hope filed an amended complaint on September 21, 2017, seeking a further declaration that the City of Hope license has terminated, which Juno answered on October 5, 2017. On January 10, 2018, the Company moved to amend its counterclaims, seeking to file an additional counterclaim against City of Hope for breach of contract and a counterclaim against a third-party, Mustang Bio, Inc., for tortious interference with contract. That motion is currently pending.

The Company has not recorded any liability as of December 31, 2017 since any potential loss is not probable or reasonably estimable given the preliminary nature of the proceedings.

16. Related-Party Transactions

The Company is party to the Celgene Collaboration Agreement, the 2015 Celgene SPA, a voting agreement, and a registration rights agreement with Celgene, who is a holder of more than 5% of the Company's common stock. See Note 5, Collaboration and License Agreements. Additionally, on January 21, 2018, the Company entered into a Merger Agreement with Celgene, pursuant to which, among other things, subject to the terms and subject to the conditions of the Merger Agreement, Celgene will commence a tender offer to acquire all of the Company's outstanding shares of common stock. For additional information regarding the Merger Agreement refer to Note 19, Subsequent Events.

The Company is also party to a license and strategic alliance agreement with JW Cayman and its affiliates, and is a holder of more than 5% of JW Cayman's outstanding equity. See Note 5, Collaboration and License Agreements.

17. Employee Benefit Plan

In January 2014, the Company adopted a 401(k) retirement and savings plan (the "401(k) Plan") covering all employees. The 401(k) Plan allows employees to make pre- and post-tax contributions up to the maximum allowable amount set by the IRS. The Company's contributions to the 401(k) Plan are discretionary and are based on specified percentages of employee contributions.

18. Selected Quarterly Financial Data (Unaudited)

The following table contains quarterly financial information for the years ended December 31, 2017 and 2016 (in thousands, except per share data). The unaudited quarterly information has been prepared on a basis consistent with the audited consolidated financial statements and includes all adjustments that the Company considers necessary for a fair presentation of the information shown. The operating results for any fiscal quarter are not necessarily indicative of the operating results for a full fiscal year or for any future period and there can be no assurances that any trend reflected in such results will continue in the future.

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Year Ended December 31, 2017				
Revenue	$ 19,327	$ 21,268	$ 44,816	$ 26,460
Loss from operations (1)	$ (84,323)	$ (103,440)	$ (121,803)	$ (138,208)
Net loss	$ (82,197)	$ (100,740)	$ (118,133)	$ (136,036)
Net loss per share, basic and diluted	$ (0.79)	$ (0.96)	$ (1.12)	$ (1.19)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Year Ended December 31, 2016				
Revenue	$ 9,775	$ 27,602	$ 20,826	$ 21,153
Loss from operations (2)	$ (79,901)	$ (61,524)	$ (58,469)	$ (55,710)
Net loss	$ (71,138)	$ (64,767)	$ (56,897)	$ (52,778)
Net loss per share, basic and diluted	$ (0.72)	$ (0.64)	$ (0.56)	$ (0.51)

(1) Included in loss from operations in the year ended December 31, 2017 are the following (in thousands):

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Year Ended December 31, 2017				
Non-cash success payment expense	$ 7,399	$ 17,169	$ 37,250	$ 6,921
Non-cash contingent consideration expense (gain)	$ 452	$ 2,747	$ 806	$ (7)
Amortization of intangible asset	$ —	$ 2,418	$ 2,418	$ 2,418
Upfront payments related to the acquisition of technology	$ —	$ —	$ —	$ 10,308

(2) Included in loss from operations in the year ended December 31, 2016 are the following (in thousands):

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Year Ended December 31, 2016				
Non-cash success payment expense (gain)	$ (6,583)	$ 3,465	$ (17,640)	$ (11,716)
Non-cash contingent consideration expense (gain)	$ (1,012)	$ (4,499)	$ 336	$ (4,549)
Non-cash expense related to milestones paid to Opus Bio	$ 23,227	$ —	$ —	$ —
Upfront payments related to the acquisition of technology	$ —	$ —	$ 15,000	$ —

19. Subsequent Events

Merger Agreement

On January 21, 2018, the Company entered into the Merger Agreement with Celgene and Purchaser, pursuant to which, among other things, subject to the terms and subject to the conditions of the Merger Agreement, Purchaser has commenced the Offer to acquire all of the Company's outstanding shares of common stock at a purchase price of $87.00 per share, net to the seller in cash, subject to reduction for any applicable withholding taxes (the "Offer Price"). Following the completion of the Offer and subject to the terms and conditions of the Merger Agreement, Purchaser will merge with and into the Company, with the Company surviving as a wholly-owned subsidiary of Celgene Corp., pursuant to the procedures provided for under Section 251(h) of the Delaware General Corporation Law without any stockholder approvals (the "Merger"). At the effective time of the Merger (the "Effective Time"), each outstanding share of the Company's common stock, other than any shares owned by (i) Juno (or held in its treasury), (ii) Celgene Corp., Purchaser, or any other direct or indirect wholly-owned subsidiary of Celgene Corp., or (iii) any stockholders who are entitled to and who properly exercise and perfect appraisal rights under Delaware law (and have neither withdrawn nor lost their rights), will be automatically converted into the right to receive an amount in cash equal to the Offer Price, without interest. The Company's board of directors has, by unanimous vote of those directors present, approved the Merger Agreement, the Merger and the other transactions contemplated by the Merger Agreement.

Pursuant to the terms of the Merger Agreement, each outstanding unvested Company stock option ("Option"), each outstanding award of Company time-based RSUs, and each outstanding award of Company time-based restricted stock awards ("RSAs"), (i) if granted twelve (12) months or more prior to the Effective Time, will become vested pursuant to their respective terms or, if greater, with respect to 25% of the total number of shares of the Company's common stock subject to such award, (ii) if granted following the date of the Merger Agreement but prior to the Effective Time, will become vested pursuant to their respective terms or, if greater, with respect to 25% of the total number of shares of the Company's common stock subject to such award (the "Pre-Closing Non-Performance Awards"), or (iii) if granted less than twelve (12) months prior to the Effective Time (other than the Pre-Closing Non-Performance Awards), will become vested pursuant to their respective terms or, if greater, with respect to that number of shares of the Company's common stock subject thereto, such that, following such vesting, the award will be unvested with respect to that number of shares of the Company's common stock which would have become vested and resulted in the award being 100% vested had the holder of the award remained continuously employed for an additional twenty-four months following the Effective Time; provided, that, with respect to any awards referred to in subsections (i) and (iii) above, if, as of the 24-months anniversary of the Effective Time, any portion of such awards remains unvested, such unvested portion will become immediately vested on such 24-months anniversary date, provided that the employee has remained employed through such 24-months anniversary date. All such awards that become vested or that are otherwise vested as of immediately prior to the Offer Acceptance Time (as defined in the Merger Agreement) will be cancelled and converted into the right to receive an amount in cash equal to the product of (i) the number of shares of the Company's common stock subject to such vested award and (ii) the Offer Price (reduced by the applicable exercise price in the case of Company Options).

The Merger Agreement provides that Options, RSUs and RSAs that are outstanding immediately prior to the Offer Acceptance Time but unvested after giving effect to the vesting acceleration described above will be assumed by Celgene Corp. and will be subject to the same terms and conditions (except with respect to the vesting schedule), as applied to each such equity-based award immediately prior to the Effective Time, provided that the number of shares subject to such equity-based awards (and the

exercise price in the case of the Options) will be adjusted based on the "Exchange Ratio". The "Exchange Ratio" means an amount equal to the quotient obtained by dividing (i) the Offer Price, by (ii) the volume weighted average price per share of Celgene Corp.'s common stock on The Nasdaq Global Select Market for the fifteen consecutive trading days ending on the complete trading day immediately prior to the Offer Acceptance Time.

The Merger Agreement also provides that all Company PSUs and all Company PSAs will vest as to 50% of the total number of PSUs or PSAs (as applicable) subject to such awards, and such vested portion will be cancelled and converted into the right to receive an amount in cash equal to the product of (i) such 50% vested portion of the award, and (ii) the Offer Price. The remaining 50% of the PSUs and PSAs will be assumed by Celgene Corp. and will be subject to the same terms and conditions as were applicable to such awards immediately prior to the Offer Acceptance Time, provided that the number of shares subject to such equity-based awards (and the exercise price in the case of the Options) will be adjusted based on the Exchange Ratio, except that (i) 60% of such remaining award will vest on the one-year anniversary of the Effective Time and (ii) 40% of such remaining award will vest on the earlier of (A) the second anniversary of the Effective Time and (B) the first approval by the FDA of JCAR017.

The completion of the Offer would trigger a success payment valuation measurement date, and success payments of $100.0 million and $70.0 million, less indirect cost offsets, would be owed to FHCRC and MSK, respectively. For additional information regarding success payments, refer to Note 5, Collaboration and License Agreements.

JW Cayman

In February 2018, JW Cayman closed the first tranche of its Series A financing from outside investors. For additional information, refer to Note 5, Collaboration and License Agreements.

UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL STATEMENTS

The unaudited pro forma condensed combined financial information presented below is based on, and should be read in conjunction with (i) Celgene Corporation's ("Celgene," "we," "our," "us," or the "Company") historical consolidated financial statements, and the related notes thereto, included in our Annual Report on Form 10-K for the year ended December 31, 2017, and (ii) Juno Therapeutics, Inc.'s ("Juno") historical financial statements, and the related notes thereto, included in this Form 8-K/A. The unaudited pro forma condensed combined balance sheet gives effect to the acquisition, as if it had occurred on December 31, 2017 and combines the historical balance sheets of Celgene and Juno as of December 31, 2017. The unaudited pro forma condensed combined statement of operations is presented as if the acquisition had occurred on January 1, 2017 and combines the historical results of operations of Celgene and Juno for the year ended December 31, 2017.

The historical consolidated financial information has been adjusted to give effect to pro forma events that are (1) directly attributable to the acquisition, (2) factually supportable and (3) with respect to the statement of operations, expected to have a continuing impact on the combined results of operations. The unaudited pro forma condensed combined financial information should be read in conjunction with the accompanying notes.

The unaudited pro forma condensed combined financial information has been presented for informational purposes only and is not necessarily indicative of what the Company's financial position or results of operations actually would have been had the acquisition been completed as of the dates indicated. In addition, the unaudited pro forma condensed combined financial information does not purport to project the future financial position or operating results of Celgene.

The unaudited pro forma condensed combined financial statements do not reflect the realization of potential cost savings, or any related restructuring or integration costs that may result from the integration of Juno. Although Celgene believes that certain cost savings may result from the acquisition, there can be no assurance that these cost savings will be achieved.

The unaudited pro forma condensed combined financial statements are based on estimates and assumptions, are presented for illustrative purposes only and are not necessarily indicative of the consolidated financial position or results of operations in future periods or the results that actually would have been realized if the acquisition had been completed as of the dates indicated.

CELGENE CORPORATION AND SUBSIDIARIES
UNAUDITED PRO FORMA CONDENSED COMBINED BALANCE SHEET
As of December 31, 2017
(In Millions)

	Celgene (Historical)	Juno (Historical)	Pro Forma Adjustments	See Note 5	Pro Forma Combined
Assets					
Current Assets:					
Cash and cash equivalents	$ 7,013	$ 233	$ (3,527)	a	$ 3,719
Marketable securities available-for-sale	5,029	493	(3,576)	a, c	1,946
Accounts receivable, net of allowances	1,921	14	(14)	b	1,921
Inventory	541	—	—		541
Other current assets	388	13	—		401
Total current assets	14,892	753	(7,117)		8,528
Property, plant and equipment, net	1,070	133	—		1,203
Long-term marketable securities available-for-sale	—	248	(248)	e	—
Intangible assets, net	8,436	75	8,165	d	16,676
Goodwill	4,866	222	2,906	d	7,994
Other non-current assets	877	4	248	e	1,129
Total assets	$ 30,141	$ 1,435	$ 3,954		$ 35,530
Liabilities and Stockholders' Equity					
Current Liabilities:					
Short-term borrowings and current portion of long-term debt	$ —	$ —	$ —		$ —
Accounts payable	305	13	—		318
Accrued expenses and other current liabilities	2,523	81	332	b, e, f	2,936
Success payment liabilities	—	92	(92)	e	—
Contingent consideration	—	2	(2)	e	—
Income taxes payable	84	—	—		84
Current portion of deferred revenue	75	21	(21)	b	75
Total current liabilities	2,987	209	217		3,413
Deferred revenue, net of current portion	34	100	(100)	b	34
Income taxes payable	2,490	—	—		2,490
Contingent consideration, less current portion	—	23	(23)	e	—
Deferred tax liabilities	1,327	—	1,554	d	2,881
Tenant improvement allowance, deferred rent, and other long-term liabilities	—	46	(46)	g	—
Other non-current liabilities	544	—	33	e	577
Long-term debt, net of discount	15,838	10	2,969	a, e	18,817
Total liabilities	23,220	388	4,604		28,212
Stockholders' Equity					
Preferred stock	—	—	—		—
Common stock	10	—	—	h	10
Common stock in treasury	(20,243)	—	—		(20,243)
Additional paid-in-capital	13,806	2,312	(2,312)	i	13,806
Retained earnings (Accumulated deficit)	13,061	(1,268)	1,848	j	13,641
Accumulated other comprehensive income	287	3	(186)	k	104
Total stockholders' equity	6,921	1,047	(650)		7,318
Total liabilities and stockholders' equity	$ 30,141	$ 1,435	$ 3,954		$ 35,530

See Notes to Unaudited Pro Forma Condensed Combined Financial Statements

CELGENE CORPORATION AND SUBSIDIARIES
UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS
For the Year Ended December 31, 2017
(In Millions, except per share amounts)

	Celgene (Historical)	Juno (Historical)	Pro Forma Adjustments	See Note 5	Pro Forma Combined
Revenue:					
Net product sales	$ 12,973	$ —	$ —		$ 12,973
Other revenue	30	112	(86)	l	56
Total revenue	13,003	112	(86)		13,029
Expenses:					
Cost of goods sold (excluding amortization of acquired intangible assets)	461	—	—		461
Research and development	5,915	452	(121)	l, q, r	6,246
Selling, general and administrative	2,941	108	—		3,049
Amortization of acquired intangible assets	329	—	84	m	413
Acquisition related (gains) charges, net	(1,350)	—	69	r	(1,281)
Total costs and expenses	8,296	560	32		8,888
Operating income (loss)	4,707	(448)	(118)		4,141
Other income and (expense):					
Interest and investment income, net	105	8	(60)	n	53
Interest (expense)	(522)	—	(118)	o	(640)
Other income (expense), net	24	(3)	—		21
Income (loss) before income taxes	4,314	(443)	(296)		3,575
Income tax provision (benefit)	1,374	(6)	(281)	p	1,087
Net income (loss)	$ 2,940	$ (437)	$ (15)		$ 2,488
Net income per share:					
Basic	$ 3.77				$ 3.19
Diluted	$ 3.64				$ 3.08
Weighted average shares:					
Basic	779.2				779.2
Diluted	808.7				808.7

See Notes to Unaudited Pro Forma Condensed Combined Financial Statements

1. Description of Transaction

On January 21, 2018, Celgene and Juno signed a definitive agreement in which Celgene agreed to acquire Juno for $87.00 per share in cash, through a tender offer. Upon completion of the acquisition on March 6, 2018, Juno became a subsidiary of Celgene. Total consideration for the acquisition was approximately $10.4 billion, consisting of $9.1 billion for common stock outstanding, $966 million for the fair value of our investment in Juno and $367 million for the portion of equity compensation attributable to the pre-combination service period. In addition, the fair value of the awards attributed to the post-combination service period was $666 million, which will be recognized as compensation expense over the requisite service period in the post-combination financial statements of Celgene. As a result of the acquisition, Celgene acquired $818 million of cash, cash equivalents and marketable securities resulting in a total transaction value of approximately $8.6 billion, net of cash, cash equivalents and marketable securities acquired. Celgene funded the transaction through a combination of existing cash, cash equivalents, marketable securities and a portion of the February 2018 issuance of $4.5 billion of senior notes.

2. Basis of Presentation

The unaudited pro forma condensed combined financial information was prepared using the acquisition method of accounting, and was based on the historical financial statements of Celgene and Juno. The unaudited pro forma condensed combined balance sheet gives effect to the acquisition, as if it had occurred on December 31, 2017 and combines the historical balance sheets of Celgene and Juno as of December 31, 2017. The unaudited pro forma condensed combined statement of operations is presented as if the acquisition had occurred on January 1, 2017 and combines the historical results of operations of Celgene and Juno for the year ended December 31, 2017.

The historical consolidated financial information has been adjusted in the accompanying unaudited pro forma condensed combined financial information to give effect to pro forma events that are (i) directly attributable to the acquisition, (ii) factually supportable, and (iii) with respect to the unaudited pro forma condensed combined statement of operations, are expected to have a continuing impact on the consolidated results.

3. Accounting Policies

The unaudited pro forma condensed combined financial statements do not assume any differences in accounting policies as Celgene is not aware of any differences that would have a material impact on the combined financial statements. Certain amounts from the historical consolidated financial statements of Juno have been reclassified to conform their presentation to that of Celgene. See footnote 5(e).

4. Purchase Price Consideration and Preliminary Purchase Price Allocation

The total purchase price consideration is calculated as follows (in millions; except for share data):

Number of Juno common shares outstanding as of March 6, 2018 (excluding those owned by Celgene)		104,614,284
Cash price per share	$	87.00
Cash consideration	$	9,101
Fair value of Juno equity awards attributed to pre-combination service period (1)		367
Fair value of Celgene's investment in Juno		966
Total purchase price consideration	$	10,434

(1) The portion of equity compensation attributable to the post-combination service period is $666 million which will be recognized as compensation expense over the requisite service period in the post-combination financial statements of Celgene.

A preliminary estimate of the fair value of the assets acquired and the liabilities assumed by Celgene for this acquisition, reconciled to the purchase price consideration is shown below. The final allocation of the purchase price will be determined at a later date and is dependent on a number of factors, including the final valuation of Juno's tangible and intangible assets acquired and liabilities assumed. The final valuation of assets acquired and liabilities assumed may be materially different than the value of assets acquired and liabilities assumed for purposes of the estimated pro forma adjustments.

Allocation of purchase price (in millions):		
Tangible assets and liabilities:		
Working capital (1)	$	268
Property, plant and equipment, net		133
Other non-current assets		252
Deferred tax liabilities		(1,554)
Other non-current liabilities		(33)
Total net tangible assets		(934)
Intangible assets:		
In-process research and development (IPR&D)		6,980
Technology platform intangible asset		1,260
Goodwill		3,128
Total intangible assets		11,368
Total allocated purchase price consideration	$	10,434

(1) Includes cash and cash equivalents, marketable securities available-for-sale, accounts receivable, other current assets, accounts payable, accrued expense and other current liabilities.

5. Pro Forma Adjustments

Adjustments included in the column under the heading "Pro Forma Adjustments" are primarily based on preliminary estimates of fair value.

For purposes of these unaudited pro forma condensed combined financial statements, the net book value of property, plant and equipment is assumed to approximate fair value. There are no fair value adjustments to leases or other contracts included herein. Further analysis will be performed to confirm these estimates or make adjustments in the final purchase price allocation, as necessary.

These unaudited pro forma condensed combined financial statements contemplate the use of Celgene's cash on hand and the sale of Celgene investments in marketable securities available-for-sale to finance the acquisition, as well as Celgene's use of financing arrangements. Celgene funded the transaction through a combination of existing cash, cash equivalents, marketable securities and a portion of the February 2018 issuance of $4.5 billion of senior notes.

For purposes of preparing these unaudited pro forma condensed combined financial statements, we assumed the following adjustments:

Pro Forma Condensed Combined Balance Sheet as of December 31, 2017

(a) Assumes the following sources and uses of cash (in millions):

Assumed sources of cash:		
Issuance of long-term debt to fund the acquisition	$	3,000
Sale of marketable securities available-for-sale		3,068
Total assumed sources of cash		6,068
Assumed uses of cash:		
Long-term debt issuance costs (1)		21
Acquisition costs (2)		106
Cash consideration (3)		9,468
Total assumed uses of cash		9,595
Net cash pro forma adjustment	$	(3,527)

(1) Represents financing-related transaction fees incurred on the issuance of the long-term debt to fund the acquisition, all of which were recorded as a direct deduction from the face value of the senior notes issued in February 2018.

(2) To record Celgene's and Juno's acquisition transaction costs of $41 million and $65 million, respectively. The unaudited pro forma condensed combined balance sheet reflects the costs as a reduction of cash with a corresponding decrease to retained earnings for Celgene's costs.

(3) Cash consideration represents (1) the number of Juno common shares outstanding as of March 6, 2018 (excluding those owned by Celgene) at the offer price of $87.00 per share and (2) the fair value of Juno equity awards attributed to the pre-combination service period. See Purchase Price Consideration table in footnote 4.

(b) The elimination of amounts reflected on the historical consolidated balance sheets from transactions between Celgene and Juno (in millions):

Company	Classification	Pro Forma Adjustment
Juno	Accounts receivable, net of allowances	$ (14)
Celgene	Accrued expenses and other current liabilities	(14)
Juno	Current portion of deferred revenue	(21)
Juno	Deferred revenue, net of current portion	(100)

(c) Reflects an increase of $458 million in the fair value of Celgene's investment in Juno to $966 million, which is based on the offer price of $87.00 per share with a corresponding increase to retained earnings. See footnote 5(j). In addition, Celgene's investment in Juno was eliminated in the preliminary purchase price allocation.

(d) Represents adjustments to record the preliminary estimated fair value of intangible assets of $8,240 million, which is an increase of $8,165 million over Juno's book value of intangible assets prior to the acquisition.

Identified intangible assets expected to be acquired consist of the following (in millions):

IPR&D	$	6,980
Technology platform intangible asset		1,260
Total	$	8,240

The fair value estimate for all identifiable intangible assets is preliminary. The final determination of the fair value of the technology platform intangible asset, as well as its estimated useful life, remains subject to change. The finalization may have a material impact on the valuation of intangible assets and the purchase price allocation.

Goodwill represents the excess of the purchase price over the preliminary fair value of the underlying net tangible and identifiable intangible assets, net of liabilities. Goodwill acquired is estimated to be $3,128 million. The estimated goodwill to be recognized is attributable primarily to the broadening of our product portfolio and research capabilities in the hematology and oncology therapeutic area, the assembled workforce and the deferred tax consequences of the IPR&D asset recorded for financial statement purposes. The goodwill created in the acquisition is not expected to be deductible for tax purposes and is subject to material revision as the purchase price allocation is completed. This includes an adjustment to deferred income tax liabilities of $1,554 million resulting from pro forma acquisition adjustments for the assets and liabilities to be acquired. In addition, Juno's historical goodwill of $222 million was eliminated in the preliminary purchase price allocation.

(e) Certain amounts from the historical consolidated financial statements of Juno have been reclassified to conform their presentation to that of Celgene as follows (in millions):

Juno Classification		(Decrease)	Celgene Classification		Increase
Long-term marketable securities available-for-sale	$	(248)	Other non-current assets	$	248
Success payment liabilities		(92)	Accrued expenses and other current liabilities		92
Contingent consideration		(2)	Accrued expenses and other current liabilities		2
Contingent consideration, less current portion		(23)	Other non-current liabilities		23
Long-term debt, net of discount		(10)	Other non-current liabilities		10

(f) Assumes the following pro forma adjustments to accrued expenses and other current liabilities (in millions):

Fair value adjustment to increase accrued expenses and other current liabilities (See 4)	$	232
Estimated separation related cash payments and reimbursement payments for excise taxes (See 5(j))		20
	$	252

(g) Reflects the preliminary fair value adjustment to tenant improvement allowance, deferred rent and other long-term liabilities (See 4).

(h) Reflects the elimination of Juno's historical common stock as part of the acquisition.

(i) Reflects the elimination of Juno's historical additional paid-in-capital as part of the acquisition.

(j) Assumes the following pro forma adjustments to retained earnings (in millions):

Elimination of Juno's historical accumulated deficit	$	1,268
Estimated Celgene acquisition transaction costs (See 5(a)(2))		(41)
Increase in fair value of Celgene's investment in Juno (See 5(c))		458
Elimination of historical Celgene unrealized gain on Celgene's investment in Juno (See 5(k))		281
Estimated separation related cash payments and reimbursement payments for excise taxes (See 5(f))		(20)
Estimated income tax expense on pro forma adjustments		(98)
	$	1,848

(k) Assumes the following pro forma adjustments to accumulated other comprehensive income (in millions):

Elimination of historical Celgene unrealized gain, net of tax on Celgene's investment in Juno	$	(183)
Elimination of Juno's historical accumulated other comprehensive income		(3)
	$	(186)

Pro Forma Condensed Combined Statement of Operations for the Year Ended December 31, 2017

(l) Reflects the elimination of amounts reflected in the historical consolidated statement of operations from transactions between Celgene and Juno.

(m) The adjustment made to amortization of acquired intangible assets includes $84 million for the fiscal year ended December 31, 2017 of additional amortization expense due to the identification of a technology platform intangible asset in the preliminary purchase price allocation discussed in footnote 5(d) above.

Pro forma amortization has been estimated on a preliminary basis, which may materially differ upon finalizing the purchase price allocation and the useful life of the acquired technology platform intangible asset. For each increase or decrease of $100 million to the pro forma adjustment to the technology platform intangible asset, assuming a weighted average useful life of 15 years, amortization expense included in amortization of acquired intangible assets would increase or decrease by $7 million for the fiscal year ended December 31, 2017.

(n) Reflects an estimate of foregone interest income on cash, cash equivalents and marketable securities based on the sale of marketable securities available-for-sale as a source of liquidity to fund the acquisition.

(o) Interest expense consists of interest expense, amortization of debt issuance costs and other recurring financing costs associated with the $3.0 billion of debt incurred to fund the acquisition, with a weighted-average annual interest rate of 3.8% and $21 million in debt issuance costs. A change of 1/8 of a percent (0.125%) in the interest rate assumed for these pro forma purposes would result in a $4 million change in pro forma interest expense for the year ended December 31, 2017.

(p) Statutory tax rates were applied, as appropriate, to each pro forma adjustment based on the jurisdiction in which the adjustment is expected to occur. The total effective tax rate of the combined company could be significantly different depending on the post-acquisition geographical mix of income and other factors. The unaudited pro forma condensed combined balance sheet gives effect to the acquisition, as if it had occurred on December 31, 2017, and reflects the U.S. corporate tax rate (21%) that was enacted on December 22, 2017 as part of U.S. tax reform. The pro forma adjustments to the Income tax provision (benefit) in the unaudited pro forma condensed combined statement of operations reflect that the deferred tax impacts of the acquisition were recorded at the U.S. corporate tax rate of 21%, and do not include a tax benefit for the reduction in the U.S. corporate tax rate from 35% to 21% as a result of U.S. tax reform.

(q) Reflects the elimination of Juno's historical amortization expense of $7 million.

(r) Reflects the reclassification of Juno's historical success payment expense of $69 million from research and development to acquisition related (gains) charges, net to conform to the Celgene presentation.