

August 3, 2020



Ligand Reports Second Quarter 2020 Financial Results

Raises 2020 Financial Guidance

Conference Call with Slides Begins at 8:30 a.m. Eastern Time Today

SAN DIEGO--(BUSINESS WIRE)-- **Ligand Pharmaceuticals Incorporated (NASDAQ: LGND)** today reported financial results for the three and six months ending June 30, 2020 and provided an operating forecast and program updates. Ligand management will host a conference call with slides today beginning at 8:30 a.m. Eastern time to discuss this announcement and answer questions.

“Outstanding second quarter financial results and operating execution have laid the foundation for our strong outlook for the rest of 2020 and beyond. We are exceeding our plans and expectations across the board, despite the challenges created by the pandemic. Our role in supporting treatments for COVID-19 includes numerous OmniAb[®], Captisol[®] and Vernalis-based product candidates. In particular, sales of Captisol to partners advancing remdesivir for the treatment of COVID-19 are driving upside to the business, and we expect Captisol demand to increase significantly over the next couple of years,” said John Higgins, Chief Executive Officer of Ligand. “Given our outlook for Captisol, in early June we announced to all of our customers Ligand’s plans to deploy up to \$60 million over the next year to increase our annual production capacity more than eight-fold.”

Higgins continued, “Our partnered product portfolio continues to grow and advance toward major late-stage milestones marked in particular by successes with OmniAb, Ligand’s industry-leading antibody discovery platform. We now have more than 80 OmniAb-related partnered programs, representing over 40% of our pipeline and an active news flow of late-stage and regulatory events. We continue to be very active with new technology licensing, we closed the acquisition of our new ion-channel discovery unit, and we expanded the collaboration with Roche for CNS-related targets. Lastly, revenue performed well across all segments, and going forward we expect continued growth in our royalty revenue due to commercial expansion, increased use based on new clinical data and potential new product launches. With our high-quality portfolio of partnered programs and a strong balance sheet, Ligand looks to future growth with confidence and optimism. We anticipate hosting a major investor update and business outlook through a Virtual Analyst Day in the next few months.”

Second Quarter 2020 Financial Results

Total revenues for the second quarter of 2020 were \$41.4 million, compared with \$25.0 million for the same period in 2019. Royalties for the second quarter of 2020 were \$7.2 million, compared with \$6.6 million for the same period in 2019. Royalties for the second quarter of 2020 and 2019 primarily consisted of royalties from Kyprolis[®] and EVOMELA[®].

Captisol sales were \$24.5 million for the second quarter of 2020, compared with \$8.5 million for the same period in 2019, primarily reflecting higher sales of Captisol for use with remdesivir. Service revenue was \$4.6 million for both the second quarter of 2020 and 2019. Contract revenue was \$5.2 million for the second quarter of 2020, compared with \$5.3 million for the same period in 2019.

Cost of goods sold was \$7.6 million for the second quarter of 2020, compared with \$2.4 million for the same period in 2019, with the increase primarily attributable to higher sales of Captisol. Amortization of intangibles was \$3.9 million for the second quarter of 2020, compared with \$3.5 million for the same period in 2019, with the increase attributable to the Icagen acquisition in April 2020. Research and development expense was \$12.7 million for the second quarter of 2020, compared with \$12.2 million for the same period of 2019, with the increase primarily attributable to the Icagen acquisition in April 2020. General and administrative expense was \$10.1 million for the second quarter of 2020, compared with \$11.0 million for the same period in 2019, with the decrease primarily attributable to lower legal and travel expenses.

Net income for the second quarter of 2020 was \$22.1 million, or \$1.32 per diluted share, compared with net loss of \$(14.4) million, or \$(0.74) per share, for the same period in 2019. Net income for the second quarter of 2020 included a \$23.5 million net non-cash gain from the value of Ligand's short-term investments, while net loss for the second quarter of 2019 included a \$(15.1) million net non-cash loss from the value of Ligand's short-term investments. Adjusted net income for the second quarter of 2020 was \$16.7 million, or \$1.00 per diluted share, compared with \$13.9 million, or \$0.68 per diluted share, for the same period in 2019. Please see the table below for a reconciliation of net income/(loss) to adjusted net income.

As of June 30, 2020, Ligand had cash, cash equivalents and short-term investments of \$810 million.

Year-to-Date Financial Results

Total revenues for the six months ended June 30, 2020 were \$74.6 million, compared with \$68.5 million for the same period in 2019. Royalties for the six months ended June 30, 2020 were \$13.7 million and primarily consisted of royalties from Kyprolis[®] and EVOMELA[®]. Royalties for the six months ended June 30, 2019 were \$26.2 million and included \$14.2 million in royalties from Promacta; Ligand sold its Promacta license to Royalty Pharma as of March 6, 2019. Captisol sales were \$45.6 million for the six months ended June 30, 2020, compared with \$17.5 million for the same period in 2019. Service revenue was \$7.9 million for the six months ended June 30, 2020, compared with \$8.4 million for the same period in 2019. Contract revenue was \$7.3 million for the six months ended June 30, 2020, compared with \$16.4 million for the same period in 2019, with the change driven by the timing of partner events.

Cost of goods sold was \$12.3 million for the six months ended June 30, 2020, compared with \$6.3 million for the same period in 2019, with the increase primarily attributable to higher sales of Captisol. Amortization of intangibles for the six months ended June 30, 2020 was \$7.4 million, compared with \$7.0 million for the same period in 2019, with the increase attributable to the Icagen acquisition. Research and development expense was \$24.6 million for the six months ended June 30, 2020, compared with \$23.5 million for the same period of

2019, with the increase primarily attributable to the Icagen acquisition. General and administrative expense was \$19.3 million for the six months ended June 30, 2020, compared with \$22.1 million for the same period in 2019, with the decrease primarily attributable to lower legal and travel expenses during the first half of 2020, and higher acquisition and integration costs associated with Vernalis during the same period last year.

Net loss for the six months ended June 30, 2020 was \$(2.0) million, or \$(0.13) per share, compared with net income of \$651.9 million, or \$31.34 per diluted share, for the same period in 2019. Net loss for the six months ended June 30, 2020 included a net non-cash loss in the value of Ligand's short-term investments of \$(6.2) million, while net income for the same period in 2019 was impacted by an after-tax gain of approximately \$640 million on the sale of the Promacta license. Adjusted net income for the six months ended June 30, 2020 was \$31.9 million, or \$1.89 per diluted share, compared with \$38.6 million, or \$1.86 per diluted share, for the same period in 2019. Please see the table below for a reconciliation of net income/(loss) to adjusted net income.

2020 Financial Guidance

Ligand is raising its 2020 financial guidance. Ligand now expects 2020 total revenues to be approximately \$165 million and adjusted diluted EPS to be \$4.10, up from previous guidance for total revenues of approximately \$140 million and adjusted diluted EPS of \$3.65.

Second Quarter 2020 and Recent Business Highlights

Captisol® Business Updates

Ligand's Captisol business unit achieved its highest quarterly sales ever in the second quarter of 2020 and shipped Captisol to over 40 partners for R&D and commercial use during the quarter. Ligand's Captisol network is currently served by cGMP manufacturing plants in two European countries and five distribution facilities around the globe, all of which have remained fully operational during the COVID-19 pandemic. Anticipating substantial continued demand for Captisol, Ligand announced to its customers in June that it is investing up to \$60 million to significantly expand annual manufacturing capacity for Captisol. In recent years annual production capacity has been approximately 60 metric tons (MT). The currently planned and in-process investments are projected to increase Ligand's annual Captisol production capacity to approximately 500 MT and expand sites for the final manufacturing step to additional geographies including the United States.

Gilead Sciences is an important Ligand partner given the need for Captisol to solubilize remdesivir (Veklury®), an anti-viral agent made available as the first new treatment for severe COVID-19 in the U.S. under an Emergency Use Authorization granted on May 1st. The drug has now been authorized or approved for use in numerous countries around the world. Gilead announced the formation of a consortium of generic pharmaceutical companies to manufacture remdesivir for the developing world. Ligand has supplied, established initial agreements or is in supply discussions with those companies, and is prepared to meet the Captisol needs of all companies manufacturing remdesivir.

As Ligand ramps up production of Captisol, it has made the decision to conduct a pivotal trial for Captisol-enabled lohexol (CE-lohexol) that Ligand believes could serve as the basis for potential registration of the product candidate. CE-lohexol is an iodine-based contrast agent

for hospital-based imaging procedures. Ligand has the operating and financial resources to advance this program and expects to initiate the trial by the end of this year. The market for iodinated contrast agents is substantial, with approximately 20 million imaging procedures per year in the U.S., representing an estimated \$1.5 billion in sales. The objective of the CE-lohexol clinical trial will be to demonstrate a reduction in the incidence of contrast-induced acute kidney injury and an equivalent image quality compared to GE's Omnipaque®.

OmniAb® Platform Updates

OmniAb is Ligand's three species antibody platform for the discovery of mono- and bi-specific therapeutic human antibodies. As of the second quarter of 2020, there were more than 80 OmniAb-related Shots on Goal in our partnered portfolio, representing over 40% of our pipeline. OmniAb users have filed or been issued more than 35 U.S. and international patents or patent applications claiming OmniAb-derived antibodies as the primary invention, including Merck KGaA, Genmab, Janssen, Roche, Celgene and others. There are 47 active or recently completed clinical trials that include an OmniAb-derived antibody, including a number of new clinical trial starts in the first half of 2020 at all phases of development.

Multiple partners reported clinical or regulatory progression of OmniAb-derived antibodies in the second quarter including Immunovant, CStone Pharmaceuticals, Arcus Biosciences, Harbour BioMed and Gloria Biosciences, which submitted a marketing application for OmniAb-derived zimberelimab. At the ASCO annual meeting in June, clinical data from OmniAb programs were highlighted by Genentech, Janssen and Gloria. Additionally, three Ligand partners (Takeda, Immunoprecise and Aldevron) are currently pursuing development of therapeutic antibodies that were discovered with OmniAb for the treatment of COVID-19. Ligand continues to innovate and invest in the OmniAb platform with internal R&D efforts, academic collaborations and through corporate acquisitions.

Other Business Updates

Ligand completed its acquisition of the core assets of Icagen's North Carolina operations, adding two significant partnered programs – one each with Roche and the Cystic Fibrosis Foundation – proprietary ion channel screening and assay platforms, x-ray fluorescence capabilities, custom screening technologies and six preclinical internal programs. In addition, following the completion of the transaction Ligand expanded its collaboration with Roche, adding a second major partnered program to the collaboration. Also during the quarter, Vernalis expanded its oncology research collaboration with Servier to jointly identify and enable new therapeutic targets, extending to a new three-year research collaboration.

Several partners also had significant regulatory, financing and business updates during the second quarter including Verona Pharma confirming with the FDA its Phase 3 plans for its nebulized ensifentrine.

Ligand provides regular updates on individual partner events through its Twitter account, @Ligand_LGND.

Adjusted Financial Measures

The Company reports adjusted net income and adjusted net income per diluted share in addition to, and not as a substitute for, or superior to, financial measures calculated in

accordance with GAAP. The Company's financial measures under GAAP include share-based compensation expense, amortization of debt-related costs, amortization related to acquisitions and intangible assets, changes in contingent liabilities, mark-to-market adjustments for amounts relating to its equity investments in public companies, excess tax benefit from share-based compensation, gain on the sale of Promacta and others that are listed in the itemized reconciliations between GAAP and adjusted financial measures included at the end of this press release. However, other than with respect to total revenues, the Company only provides financial guidance on an adjusted basis and does not provide reconciliations of such forward-looking adjusted measures to GAAP due to the inherent difficulty in forecasting and quantifying certain amounts that are necessary for such reconciliation, including adjustments that could be made for changes in contingent liabilities, changes in the market value of its investments in public companies, stock-based compensation expense and effects of any discrete income tax items. Management has excluded the effects of these items in its adjusted measures to assist investors in analyzing and assessing the Company's past and future core operating performance. Additionally, adjusted earnings per diluted share is a key component of the financial metrics utilized by the Company's board of directors to measure, in part, management's performance and determine significant elements of management's compensation.

Conference Call

Ligand management will host a conference call with slides today beginning at 8:30 a.m. Eastern time (5:30 a.m. Pacific time) to discuss this announcement and answer questions. To participate via telephone, please dial (833) 325-0071 from the U.S. or (720) 405-1612 from outside the U.S., using the conference ID 1697855. To participate via live or replay webcast, a link is available at www.ligand.com. Slides to accompany the conference call are available [here](#).

About Ligand Pharmaceuticals

Ligand is a revenue-generating biopharmaceutical company focused on developing or acquiring technologies that help pharmaceutical companies discover and develop medicines. Our business model creates value for stockholders by providing a diversified portfolio of biotech and pharmaceutical product revenue streams that are supported by an efficient and low corporate cost structure. Our goal is to offer investors an opportunity to participate in the promise of the biotech industry in a profitable, diversified and lower-risk business than a typical biotech company. Our business model is based on doing what we do best: drug discovery, early-stage drug development, product reformulation and partnering. We partner with other pharmaceutical companies to leverage what they do best (late-stage development, regulatory management and commercialization) to ultimately generate our revenue. Ligand's OmniAb[®] technology platform is a patent-protected transgenic animal platform used in the discovery of fully human mono- and bispecific therapeutic antibodies. The Captisol platform technology is a patent-protected, chemically modified cyclodextrin with a structure designed to optimize the solubility and stability of drugs. The Vernalis Design Platform (VDP) integrates protein structure determination and engineering, fragment screening and molecular modeling, with medicinal chemistry, to help enable success in novel drug discovery programs against highly-challenging targets. Ab Initio[™] technology and services for the design and preparation of customized antigens enable the successful discovery of therapeutic antibodies against difficult-to-access cellular targets. Ligand has

established multiple alliances, licenses and other business relationships with the world's leading pharmaceutical companies including Amgen, Merck, Pfizer, Sanofi, Janssen, Takeda, Servier, Gilead Sciences and Baxter International. For more information, please visit www.ligand.com.

Follow Ligand on Twitter @Ligand_LGND.

Forward-Looking Statements

This news release contains forward-looking statements by Ligand that involve risks and uncertainties and reflect Ligand's judgment as of the date of this release. Words such as "plans," "believes," "expects," "anticipates," and "will," and similar expressions, are intended to identify forward-looking statements. These forward-looking statements include, without limitation, statements regarding: Ligand's expectation that Captisol demand will increase significantly over the next couple of years and its ability to supply Captisol to Gilead and other partners, including Ligand's ability to increase production capacity; the potential opportunities for Ligand and its partners related to development of COVID-19 treatments; whether the planned clinical trial of CE-lohexol can serve as a basis for registration with the FDA; the timing of product launches by Ligand or its partners; and guidance regarding the full-year 2020 financial results. Actual events or results may differ from Ligand's expectations due to risks and uncertainties inherent in Ligand's business, including, without limitation: Ligand may not receive expected revenue from royalties, Captisol sales, contract and service revenue; the COVID-19 pandemic has disrupted Ligand's and its partners' business, including delaying manufacturing, preclinical studies and clinical trials and product sales, and impairing global economic activity, all of which could materially and adversely impact Ligand's results of operations and financial condition; Ligand may not achieve its guidance for 2020; remdesivir may be later shown to not be effective or safe for the treatment of COVID-19 and/or the FDA may revise or revoke its emergency use authorization for remdesivir for the treatment of COVID-19 in patients hospitalized with severe disease if the FDA determines that authorization no longer meets the statutory criteria for issuance; alternative COVID-19 therapies or vaccines may be approved or the risk of coronavirus infection could significantly diminish, any of which could materially and adversely affect the commercial opportunity for remdesivir; there may not be a market for the product(s) even if successfully developed and approved; Ligand may be unable to scale-up the supply of Captisol or at acceptable prices; Ligand is currently dependent on single source sole supplier for Captisol and failures by such supplier may result in delays or inability to meet the Captisol demands of its partners; Amgen, Acrotech Biopharma or other Ligand partners, may not execute on their sales and marketing plans for marketed products for which Ligand has an economic interest; Ligand or its partners may not be able to protect their intellectual property and patents covering certain products and technologies may be challenged or invalidated; Ligand's partners may terminate any of its agreements or development or commercialization of any of its products; Ligand may not generate expected revenues under its existing license agreements and may experience significant costs as the result of potential delays under its supply agreements; Ligand and its partners may experience delays in the commencement, enrollment, completion or analysis of clinical testing for its product candidates, or significant issues regarding the adequacy of its clinical trial designs or the execution of its clinical trials, which could result in increased costs and delays, or limit Ligand's ability to obtain regulatory approval; unexpected adverse side effects or inadequate therapeutic efficacy of Ligand's product(s) could delay or prevent regulatory approval or

commercialization; and ongoing or future litigation could expose Ligand to significant liabilities and have a material adverse effect on the company. The failure to meet expectations with respect to any of the foregoing matters may reduce Ligand's stock price. Additional information concerning these and other risk factors affecting Ligand can be found in prior press releases available at www.ligand.com as well as in Ligand's public periodic filings with the Securities and Exchange Commission available at www.sec.gov. Ligand disclaims any intent or obligation to update these forward-looking statements beyond the date of this release, including the possibility of additional contract revenue we may receive. This caution is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995.

Other Disclaimers and Trademarks

The information in this press release regarding certain third-party products and programs, including Kyprolis, an Amgen product and EVOMELA, an Acrotech Biopharma product, comes from information publicly released by the owners of such products and programs. Ligand is not responsible for, and has no role in, the development of such products or programs.

Ligand owns or has rights to trademarks and copyrights that it uses in connection with the operation of its business including its corporate name, logos and websites. Other trademarks and copyrights appearing in this press release are the property of their respective owners. The trademarks Ligand owns include Ligand[®], Captisol[®] and OmniAb[®]. Solely for convenience, some of the trademarks and copyrights referred to in this press release are listed without the ®, © and ™ symbols, but Ligand will assert, to the fullest extent under applicable law, its rights to its trademarks and copyrights.

LIGAND PHARMACEUTICALS INCORPORATED CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(Unaudited, in thousands, except per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Revenues:				
Royalties	\$ 7,181	\$ 6,626	\$ 13,746	\$ 26,164
Captisol	24,468	8,549	45,577	17,508
Service revenue	4,582	4,559	7,939	8,442
Contract revenue	5,189	5,253	7,319	16,357
Total revenues	41,420	24,987	74,581	68,471
Operating costs and expenses:				
Cost of Captisol	7,644	2,405	12,327	6,263
Amortization of intangibles	3,875	3,505	7,410	7,008
Research and development	12,732	12,213	24,623	23,502
General and administrative	10,069	10,994	19,333	22,082
Total operating costs and expenses	34,320	29,117	63,693	58,855

Gain from sale of Promacta license	—	—	—	812,797
Income from operations	7,100	(4,130)	10,888	822,413
Gain (loss) from short-term investments	23,460	(15,061)	(6,231)	4,488
Interest expense, net	(4,244)	273	(8,062)	(2,724)
Other expense, net	1,803	890	1,109	508
Total other income (loss), net	21,019	(13,898)	(13,184)	2,272
Income (loss) before income taxes	28,119	(18,028)	(2,296)	824,685
Income tax benefit (expense)	(6,033)	3,609	251	(172,767)
Net income (loss):	\$ 22,086	\$ (14,419)	\$ (2,045)	\$ 651,918
Basic net income (loss) per share	\$ 1.38	\$ (0.74)	\$ (0.13)	\$ 32.60
Shares used in basic per share calculation	16,055	19,558	16,292	20,000
Diluted net income (loss) per share	\$ 1.32	\$ (0.74)	\$ (0.13)	\$ 31.34
Shares used in diluted per share calculations	16,694	19,558	16,292	20,799

LIGAND PHARMACEUTICALS INCORPORATED
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited, in thousands)

	June 30, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash, cash equivalents and short-term investments	\$ 809,880	\$ 1,069,867
Accounts receivable, net	41,874	30,387
Inventory	3,702	7,296
Income taxes receivable	2,679	11,361
Other current assets	5,489	4,734
Total current assets	863,624	1,123,645
Deferred income taxes, net	26,411	25,608
Goodwill and other identifiable intangible assets, net	318,664	305,677
Commercial license and other economic rights, net	10,606	20,090
Other assets	23,631	19,895
Total assets	\$ 1,242,936	\$ 1,494,915

LIABILITIES AND STOCKHOLDERS' EQUITY

Current liabilities:

Accounts payable and accrued liabilities	\$ 18,931	\$ 12,256
Current contingent liabilities	1,416	2,607
Deferred revenue	11,023	2,139
Total current liabilities	31,370	17,002
2023 convertible senior notes, net	449,672	638,959
Long-term contingent liabilities	10,005	6,335
Deferred income taxes, net	23,340	32,937
Other long-term liabilities	33,546	32,450
Total liabilities	547,933	727,683
Total stockholders' equity	695,003	767,232
Total liabilities and stockholders' equity	\$ 1,242,936	\$ 1,494,915

LIGAND PHARMACEUTICALS INCORPORATED ADJUSTED FINANCIAL MEASURES

(Unaudited, in thousands, except per share amounts)

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Net income (loss)	\$ 22,086	\$ (14,419)	\$ (2,045)	\$ 651,918
Share-based compensation expense	7,359	6,571	13,012	11,918
Non-cash interest expense ⁽¹⁾	5,239	7,553	12,442	15,002
Amortization related to acquisitions and intangible assets	3,875	3,505	7,410	7,008
Amortization of commercial license and other economic rights ⁽²⁾	(225)	3,016	3,505	5,453
Change in contingent liabilities ⁽³⁾	11	(394)	(356)	994
Acquisition and integrations costs ⁽⁴⁾	—	134	—	445
Loss (gain) from short-term investments	(23,460)	15,061	6,231	(4,488)
Other	125	—	383	(855)
Income tax effect of adjusted reconciling items above	1,706	(7,135)	(7,705)	(7,142)
Excess tax benefit from share-based compensation ⁽⁵⁾	(55)	—	(941)	(1,371)
	16,661	13,892	31,936	678,882

Gain from sale of Promacta license, net of tax	—	—	—	(640,265)
Adjusted net income	\$ 16,661	\$ 13,892	\$ 31,936	\$ 38,617
Diluted per-share amounts attributable to common shareholders:				
Net income (loss)	\$ 1.32	\$ (0.74)	\$ (0.13)	\$ 31.34
Share-based compensation expense	0.44	0.34	0.80	0.57
Non-cash interest expense ⁽¹⁾	0.31	0.39	0.76	0.72
Amortization related to acquisitions and intangible assets	0.23	0.18	0.45	0.34
Amortization of commercial license and other economic rights ⁽²⁾	(0.01)	0.15	0.22	0.26
Change in contingent liabilities ⁽³⁾	—	(0.02)	(0.02)	0.05
Acquisition and integrations costs ⁽⁴⁾	—	0.01	—	0.02
Loss (gain) from short-term investments	(1.41)	0.77	0.39	(0.22)
Other	0.01	—	0.02	(0.04)
Income tax effect of adjusted reconciling items above	0.11	(0.36)	(0.47)	(0.34)
Excess tax benefit from share-based compensation ⁽⁵⁾	—	—	(0.06)	(0.07)
Adjustment for shares excluded due to anti-dilution effect on GAAP net loss	—	(0.03)	(0.07)	—
	1.00	0.68	1.89	32.64
Gain from sale of Promacta license, net of tax	—	—	—	(30.78)
Adjusted net income	\$ 1.00	\$ 0.68	\$ 1.89	\$ 1.86
GAAP - Weighted average number of common shares-diluted	16,694	19,558	16,292	20,799
Add: Shares excluded due to anti-dilutive effect on GAAP net loss	—	768	625	—
Adjusted weighted average number of common shares-diluted	16,694	20,326	16,917	20,799

(1) Amounts represent non-cash debt related costs that are calculated in accordance with the authoritative accounting guidance for convertible debt instruments that may be settled in cash.

(2) For the three months ended June 30, 2020, the amount represents the amortization of commercial license and other economic rights to revenue. For the three months ended June 30, 2019, the amounts represent the amortization of commercial license and other economic rights to revenue and research and development expenses in the amounts of \$(162) and \$3,178, respectively. For the six months ended June 30, 2020, the amounts represent the amortization of commercial license and other economic rights to revenue and research and development expenses in the amount of \$997 and \$2,508, respectively. For the six months ended June 30, 2019, the amounts represent the amortization of commercial license and other economic rights to revenue and research and development expenses in the amount of \$1,083 and \$4,370, respectively.

(3) Amounts represent changes in fair value of contingent consideration related to Crystal, CyDex and Metabasis transactions.

(4) Amounts represent severance costs and certain contract termination costs in connection with the acquisition of Vernalis plc.

(5) Excess tax benefits from share-based compensation are recorded as a discrete item within the provision for income taxes on the consolidated statement of operations as a result of the adoption of an accounting pronouncement (ASU 2016-09) on January 1, 2017. Prior to the adoption, the amount was recognized in additional paid-in capital on the consolidated statement of stockholders' equity.

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