April 6, 2020

# Ligand Provides a Corporate Update and Announces May 6th as the Date for First Quarter Earnings Call

SAN DIEGO--(BUSINESS WIRE)-- **Ligand Pharmaceuticals Incorporated (NASDAQ: LGND)** provides a general corporate update, as follows:

“As the business environment has evolved in response to the pandemic, Ligand has remained sharp with our operations and our partners have been highly productive over the past few weeks,” said John Higgins, Chief Executive Officer of Ligand Pharmaceuticals. “Last week we completed an acquisition, we just signed a deal for a novel FAAH inhibitor out of our Vernalis unit, two partners recently closed important financings and over the past month partners have begun additional COVID-19 initiatives. Our OmniAb® business is advancing with a recent NDA filing in China and positive Phase 2a data just announced. Notably, we are working to ensure our Captisol® production meets the needs of our global partners. Finally, despite the volatile capital markets, we have used cash during the first quarter to buy back nearly a third of our outstanding convertible bonds at what we believe were attractive valuations.”

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**OmniAb® Business Update**

Ligand’s partners are actively progressing two OmniAb antibody discovery programs for the potential treatment of COVID-19. One multinational big pharma partner has initiated a program using OmniChicken® and another partner is focused on antibodies derived from OmniRat®.

Gloria Biosciences submitted an application for marketing approval to the Chinese National Medicines Products Administration for OmniAb-derived zimberelimab for the treatment of classical Hodgkin lymphoma.

Immunovant announced positive results from its ongoing Phase 2a proof-of-concept study of OmniAb-derived IMVT-1401 in thyroid eye disease. IMVT-1401 is a novel investigational anti-FcRn antibody delivered by subcutaneous injection. The results showed a 65% mean reduction in total IgG observed from baseline to end of treatment, with a pharmacodynamic response nearly identical to modeled predictions for the dosing regimen tested in the trial. IMVT-1401 was generally well-tolerated.

Ligand’s partner Pandion Therapeutics closed an $80 million financing on March 31, 2020 and announced that proceeds will support the advancement of their pipeline of modular proteins and bi-functional antibodies for the treatment of autoimmune diseases. Ligand

entered into an OmniAb Platform agreement with Pandion in January 2020.

## Captisol® Business Update

During the first quarter Ligand announced it is supplying Captisol to partners evaluating remdesivir in clinical trials as a potential treatment for COVID-19. Ligand continues to meet Captisol requirements to support remdesivir clinical trials and manufacturing scale-up. Our partner Gilead Sciences announced that it has accelerated manufacturing timelines to increase the supply of the drug before knowing whether remdesivir is safe and effective in patients with COVID-19. Multiple clinical trials for remdesivir are underway, involving thousands of patients with COVID-19 across the world. Public information indicates initial clinical trial data will be available over the next several weeks.

Ligand's Captisol technology has applicability in a broad array of therapeutic indications. Captisol is used in approved treatments such as Amgen's Kyprolis and Acrotech/CASI's Evomela to treat patients with multiple myeloma, a life-threatening cancer, and is utilized in Sage Therapeutics' Zulresso, which was recently approved by the FDA for mothers suffering from post-partum depression.

Ligand's Captisol network is served by manufacturing plants in two European countries and five distribution facilities around the globe, all of which remain fully operational. Ligand has substantial capacity to supply Captisol manufactured according to cGMP and our focus is to ensure sufficient supply to meet all existing and future partner needs, and to supply Gilead should remdesivir be demonstrated to be safe and effective to treat COVID-19. Ligand is also evaluating plans with its supply partner to further increase capacity by bringing additional sites online if needed.

## Vernalis Business Update

Ligand recently entered into an exclusive worldwide license agreement with Neuritek Therapeutics to develop and commercialize V158866, a novel, oral, selective fatty acid amide hydrolase (FAAH) inhibitor that was discovered using the Vernalis Design Platform (VDP). Neuritek plans to develop V158866 for post-traumatic stress disorder and other CNS diseases. Under the terms of the agreement, Ligand will receive an upfront license fee and is eligible to receive a financing-related milestone, development and commercialization milestones and tiered royalties on net sales in the mid-to-high single digits. On March 31, 2020, Neuritek announced it had secured approximately $27 million in a capital commitment from the GEM group, GEM Global Yield LLC SCS.

Recent third-party academic drug analyses suggest a potential role for heat shock protein 90 (Hsp90) inhibitors in treating COVID-19 infection. Based on these studies, we are evaluating potential collaborations or partnerships relating to intravenous luminespib (AUY-922) as a potential treatment for patients with COVID-19. Luminespib is a Phase 2-ready Hsp90 inhibitor, previously investigated in clinical trials for cancer.

## Acquisition Update

On April 1, 2020 Ligand closed its acquisition of the core assets of Icagen's North Carolina operations, including two significant partnered programs, proprietary ion channel screening and assay platforms, x-ray fluorescence capabilities, custom screening technologies and six

preclinical-stage internal programs applicable to a range of indications including diabetes, Parkinson's disease, pain and others. The two partnered programs are a collaboration with Roche to develop and commercialize therapies for neurological diseases, which includes research funding, up to $274 million in potential milestone payments and tiered royalties on net sales, and a collaboration with the Cystic Fibrosis Foundation (CFF) Collaboration to discover therapeutics to treat patients with cystic fibrosis caused by specific genetic mutations. The CFF collaboration allows for up to $11 million in research funding, up to $59 million in milestone payments and tiered royalties on net sales.

**Capital Deployment and Strategy Update**

Ligand estimates that, as of March 31, 2020, its cash and cash equivalents were approximately $735 million and outstanding convertible debt was approximately $516 million. First quarter estimated cash and cash equivalents is lower compared to the end of 2019, primarily because over the past several weeks Ligand repurchased $234 million in principal amount of its convertibles notes at a price of $203 million, and repurchased 473,000 common shares for $37 million. These estimated amounts are preliminary and are subject to completion of financial and quarterly closing procedures.

We have a successful track record of acquiring innovative companies and subsequently growing revenue, increasing our partnered portfolio, and leveraging technology and customer synergies. Given our significant financial resources and talented operating team, we believe we are well positioned to pursue acquisitions and new opportunities to expand our business.

**First Quarter 2020 Earnings Conference Call**

Ligand announced plans to report first quarter 2020 financial results and hold an earnings conference call on May 6, 2020 after market close. Details about the conference call will be announced approximately two weeks in advance.

**About Ligand Pharmaceuticals**

Ligand is a 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, Gilead Sciences and Baxter International. For more information, please visit www.ligand.com.

**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. These include statements regarding: Ligand's estimated cash and debt amounts as of March 31, 2020; the timeline for manufacturing remdesivir and timing of initial data from ongoing clinical trials of remdesivir to treat patients with COVID-19; the expected use of proceeds from Pandion's financing; Ligand's expectation that it will have sufficient supply of Captisol to meet all existing and future partner needs; Ligand's plans to pursue collaborations relating to intravenous Luminespib (AUY-922) as a potential treatment for patients with COVID-19; and anticipated benefits of the Neuritek license agreement and Icagen asset acquisition. Actual events or results may differ from Ligand's expectations due to risks and uncertainties inherent in Ligand's business, including, without limitation; Ligand's partners may not order as much Captisol as Ligand expects; remdesivir is not yet licensed or approved anywhere globally and has not been demonstrated to be safe or effective for any use, including treatment of COVID-19; Ligand may not be able to provide sufficient supply of Captisol to meet all existing and future partner needs, including Gilead; the recent outbreak of the COVID-19 coronavirus may disrupt 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 affect our results of operations and financial condition; Ligand may not receive expected revenue from royalties, Captisol material sales and license fees and milestone revenue; results of any clinical study may not be timely, favorable or confirmed by later studies; products under development by Ligand or its partners may not receive regulatory approval; there may not be a market for the product(s) even if successfully developed and approved; 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; Ligand may not be able to successfully implement its strategic growth plan and continue the development of its proprietary programs; Ligand may not be successful in securing collaborations for Luminespib; estimated cash and debt amounts may change following completion of its financial statements and quarterly review, such estimated amounts do not present all information necessary for an understanding of Ligand's financial condition as of March 31, 2020; and the anticipated benefits of the Neuritek license agreement or Icagen acquisition may not be realized or may be affected by competition or other external events. 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 important risk factors affecting Ligand can be found in Ligand's 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 press release, except as required by law. This caution is

made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995.

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