October 20, 2020

Ligand Provides Highlights from Today's Investor Day Event

Updates 2020 Guidance

Introduces Preliminary Financial Outlook for 2021 to 2023

SAN DIEGO--(BUSINESS WIRE)-- **Ligand Pharmaceuticals Incorporated (NASDAQ: LGND)** announced that at today's virtual Investor Day event its senior management reviewed recent business progress and provided a financial growth outlook. Management also provided updated 2020 financial guidance and introduced a preliminary financial outlook for 2021 to 2023 including 2021 financial guidance, and discussed its three primary technology platforms.

A webcast of the event including slides is available here. Highlights of today's presentations include the following:

Business model and growth drivers:

- Management reviewed Ligand's business model and the ongoing diversification of its portfolio. Leveraging the OmniAb, Captisol and Protein Expression Technology platforms, Ligand's business model is based on providing drug discovery platforms, completing early stage drug development and partnering.
- Today Ligand has more than 130 different partners.
- Ligand highlighted more than 10 major potential pipeline events expected to take place by the end of 2021, including commercial product approvals and Phase 3 clinical trial data, as well as Phase 2 or Phase 2b clinical trial data.
- Ligand reported that strong demand for Captisol continues and it forecasts higher needs for Captisol for the manufacturing of remdesivir to treat COVID-19 in 2021.
- Ligand announced plans to consolidate its San Diego facilities into the Pfenex location, and to change corporate headquarters to Emeryville, California in 2021, the location of its OmniAb laboratories.
- The company's growth is expected to be driven by royalty revenue, with projections for a nearly three-fold increase over the next three years, reaching $95 million in royalty revenue in 2023. Approximately two-thirds of 2023 royalty revenue is expected to come from core Ligand royalty programs, and approximately one-third is expected to come from the programs acquired as part of the recent Pfenex transaction.
- Ligand summarized its merger and acquisition history, noting it has made more than 20 acquisitions and investments over the past 12 years deploying approximately $1 billion of capital.

OmniAb technology:

- Ligand reported that it is positioned to continue OmniAb's best-in-class status with

recent innovation and technology offering expansion.
- Ligand reported that more than 8,500 clinical subjects have been or are planned to be treated by partners in clinical trials with OmniAb-derived antibodies. New clinical programs are pending at Johnson & Johnson and Merck, among others.
- Ligand expects the first regulatory approvals for OmniAb-derived antibodies in 2021, with potential for as many as 10 approvals expected by 2025.

Captisol:

- Ligand's management commented that increased visibility for the Captisol platform has driven new agreements to the highest level ever, with more than 120 new research use agreements and a dozen new clinical/commercial agreements.
- Ligand and its manufacturing partners have completed capacity-expansion activities over the past six months, with cGMP manufacturing now at four sites including one in the U.S.
- In addition to its core role in intravenous formulations, Captisol is also being utilized in other routes of drug delivery including oral, inhalation and subcutaneous.
- Ligand maintains a broad global patent portfolio for Captisol with more than 400 issued patents worldwide relating to the technology with the latest expiration in 2033. Other patent applications covering methods of making Captisol could extend protection to 2040.

Protein Expression Platform:

- Ligand reviewed its recently acquired Protein Expression Technology platform, noting it has the biopharmaceutical industry's most comprehensive prokaryotic protein production platform, protected by 27 issued U.S. patents as well as substantial know-how. This proprietary platform is now validated with two approved products and two more regulatory approvals expected in 2021.
- Among a series of case studies and partnership discussions, management highlighted that the platform solved Jazz Pharmaceutical's Erwinaze supply challenges due to issues with their manufacturer, resulting in a robust process showing manufacturing consistency and efficiency. The program was completed from commencement to projected first BLA filing in approximately four years.

Internal R&D programs:

- Ligand selectively invests in internal R&D to drive partnering events with more robust licensing terms. Management highlighted the Captisol-enabled Iohexol program as a potential participant in the $1.5 billion market for contrast-imaging agents. Ligand is initiating a potential pivotal clinical trial to demonstrate a reduction in the incidence of contrast-induced acute kidney injury and image-quality equivalence to GE's Omnipaque®. The trial is expected to initiate in December 2020 and, with favorable results, lead to a 505(b)(2) regulatory filing.
- Ligand acquired the PF810 program through its acquisition of Pfenex. PF810 is a next-generation peptide therapeutic program focused on endocrinology that leverages extensive internal experience and know-how, with an IND filing targeted for 2021.
- Ligand also profiled five OmniChicken antibody programs that are primed for future partnering events.

Financial overview and outlook, and investment philosophy:

- Management highlighted Ligand's history of strong revenue growth and its expectations for continued growth in the near- and long-term. Revenue growth has contributed to significant cash flow and per-share earnings.
- Ligand raised 2020 guidance for total revenue to approximately $170 million ($33 million from royalties, $92 million from Captisol sales and $45 million from contract revenue), year-end cash of more than $300 million, gross margin of 80% to 85%, total cash expenses of $73 million to $75 million, a tax rate of 21% to 23%, and adjusted diluted EPS of $3.95. Both revenue and adjusted diluted EPS for 2020 represent growth of more than 55% compared with 2019 (excluding revenues from Q1 2019 Promacta royalty).
- The company provided a preliminary outlook for 2021 to 2023 financials, including introducing 2021 financial guidance as follows:
    - Total revenue of $285 million ($45 million from royalties, $45 million from core Captisol customers, $155 million from Captisol related to remdesivir sales and $40 million from contract revenue);
    - Q1 2021 Captisol sales of $45 million;
    - Gross margin in the range of 75% to 80%;
    - Total cash expenses in the range of $80 million to $85 million;
    - Tax rate in the range of 21% to 23%; and
    - Adjusted diluted EPS of $6.00.

- For 2023, Ligand is expecting total revenue of approximately $220 million, representing a nearly three-fold increase in royalties (with no contribution from Sparsentan or Teriparatide TE approval), approximately 30% Captisol sales growth (does not include potential contribution from remdesivir in 2023) and a nearly two-fold increase in contract revenue, all compared with 2020.
- Ligand also reported that total potential contract payments through 2036 now exceed $4.5 billion. Ligand has booked over $200 million of contract revenue over the past five years, and reported more than $400 million in risk adjusted total potential contract payments over the next five years.
- Management reviewed its capital deployment strategy, which is balanced between M&A and returning capital to stockholders. Ligand has deployed over $2 billion of capital since 2007. Ligand's external investments have focused on corporate M&A, representing 50% of capital deployment over the period, while returning capital to stockholders primarily via share buybacks, special dividends and bond repurchases also represents 50% of capital deployment over the period. Ligand noted that funding cycles and its business model create ample M&A opportunity, and that special and/or regular dividends are potential future forms of capital return.

Guest presentations:

- Monica Tijerina, PhD, Executive Director, Formulations and Process Development at Gilead Sciences, provided an overview of remdesivir for the treatment of COVID-19 and the role of Captisol in increasing solubility of the drug. She also reviewed a historical timeline of the expansion of remdesivir for the treatment of COVID-19 and remdesivir manufacturing projections for 2020.
- Matthew Davis, PharmD, Infectious Diseases Clinical Pharmacist, UCLA Ronald

Reagan Medical Center, reviewed the pharmacology of remdesivir and its structure activity relationship, the drug's safety and *in vitro* activity, current COVID-19 treatment guidelines, the role of remdesivir in the therapeutic landscape and its place on the COVID-19 severity spectrum, as well as current clinical trials that involve remdesivir. Regarding the pre-publication release of the World Health Organization's SOLIDARITY Trial that included remdesivir and three other COVID-19 treatments, Dr. Davis' views are that the data are preliminary, not peer-reviewed and incomplete, that the open-label, non-placebo-controlled trial design is a limitation of the study, and that finalized peer-reviewed results are needed to confirm these findings.

Adjusted Financial Measures

Ligand 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. Ligand'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 in the earnings releases for the year ended December 31, 2019 and second quarter ended June 30, 2020, available at https://investor.ligand.com/pressreleases. However, other than with respect to total revenues, Ligand 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 Ligand's past and future core operating performance. Additionally, adjusted earnings per diluted share is a key component of the financial metrics utilized by Ligand's board of directors to measure, in part, management's performance and determine significant elements of management's compensation.

About Ligand

Ligand is a revenue-generating biopharmaceutical company focused on developing or acquiring technologies that help pharmaceutical companies discover and develop medicines. Ligand's 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. Ligand's 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. Ligand's business model is based on doing what Ligand does best: drug discovery, early-stage drug development, product reformulation and partnering. Ligand partners 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 Pfenex Expression Technology® is a robust, validated, cost-effective and scalable approach to recombinant protein production, and is especially well-suited for complex, large-scale protein production that cannot be made by more traditional systems. 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.

Follow Ligand on Twitter @Ligand_LGND.

Forward-Looking Statements

This press 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 forward-looking statements include, without limitation, statements regarding: financial projections and outlook, remdesivir projections, expectations regarding research and development programs, potential uses of capital, the timing of the initiation or compilation of preclinical studies and clinical trials by Ligand and its partners, and expectations regarding product approvals and launches by Ligand or its partners and the timing thereof. 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 be unable to successfully integrate operations from acquired businesses, including Pfenex, or may face other difficulties as a result of acquisitions such as strain on operational resources; additional disruptions to Ligand's or its partners' business as a result of the COVID 19 pandemic; the risk that the closing conditions of the transaction to divest the Vernalis business may not be satisfied; Ligand has wide discretion on its use of capital and may choose not to engage in any share repurchases, declare any dividends or pursue acquisitions or internal develop programs; financial projections are based on current estimates and Ligand may not achieve its guidance in 2020 or thereafter; Kyprolis®, EVOMELA® and Zulresso™ may not perform as expected; Ligand relies on collaborative partners for milestone and royalty payments, royalties, materials revenue, contract payments and other revenue projections; the possibility that Ligand's and its partners' drug candidates might not be proved to be safe and efficacious and uncertainty regarding the commercial performance of Ligand's and/or its partners' products; and other risks described in Ligand's prior press releases and filings with the SEC. 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 Ligand's prior press releases and public periodic filings with the Securities and Exchange Commission available at www.sec.gov. Ligand disclaims responsibility for any statement by a person other than its employees and the views expressed by persons other than Ligand employees do not necessarily reflect the views of Ligand. Ligand disclaims any intent or obligation to update these forward-looking statements beyond the date of this press release. This caution is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995.

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