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Ligand Licensee Onyx Pharmaceuticals Receives FDA Accelerated Approval of Kyprolis™ (carfilzomib) for Injection

SAN DIEGO-- **Ligand Pharmaceuticals Incorporated (NASDAQ: LGND)** today announced that its licensee, Onyx Pharmaceuticals (Nasdaq: ONXX), received accelerated approval from the U.S. Food and Drug Administration (FDA) for Kyprolis™ (carfilzomib) for Injection, a proteasome inhibitor indicated for the treatment of patients with multiple myeloma who have received at least two prior therapies, including bortezomib and an immunomodulatory agent, and have demonstrated disease progression on or within 60 days of completion of the last therapy. The indication for Kyprolis is based on response rate. Currently, no data are available for Kyprolis that demonstrate an improvement in progression-free survival or overall survival.

Kyprolis is formulated with Ligand's Captisol®, which improves drug solubility and enables a reduced drug load. Ligand is entitled to receive a $600,000 milestone payment from Onyx Pharmaceuticals; Ligand also is required to make a payment of $3.5 million toward the former stockholders of CyDex Pharmaceuticals, which Ligand acquired in 2011.

"We are very pleased with the FDA's decision and congratulate Onyx on this significant achievement," said John Higgins, President and Chief Executive Officer of Ligand Pharmaceuticals. "Our Captisol license agreement with Onyx is a highly valuable asset for Ligand, and we look forward to the near-term launch of the product. The approval of Kyprolis further demonstrates the clinical advantages and commercial potential of Captisol."

The approval of Kyprolis was based on the results of the Phase 2b 003-A1 study, a single-arm, multicenter clinical trial that enrolled 266 patients with multiple myeloma, who had received a median of five prior anti-myeloma regimens. The primary efficacy endpoint was overall response (ORR) and determined by an Independent Review Committee using the International Myeloma Working Group (IMWG) criteria. ORR was 22.9% and median response duration was 7.8 months.

Safety data were evaluated in 526 patients with relapsed and/or refractory multiple myeloma who received single-agent carfilzomib. There were 37 deaths on study, or 7% of patients. The most common causes of death, other than disease progression, were cardiac (5 patients), end-organ failure (4 patients), and infection (4 patients). Important warnings and precautions include cardiac arrest, congestive heart failure, myocardial ischemia; pulmonary hypertension, pulmonary complications, infusion reactions, infusion reactions, tumor lysis syndrome, thrombocytopenia, hepatic toxicity and embryo-fetal toxicity. The most common serious adverse reactions were pneumonia, acute renal failure, pyrexia, and congestive heart failure. The most common adverse reactions (incidence of 30% or greater) observed in clinical trials of patients with multiple myeloma were fatigue, anemia, nausea,

thrombocytopenia, dyspnea, diarrhea, and pyrexia. Serious adverse reactions were reported in 45% of patients.

Full prescribing information is available at http://www.onyx.com.

About Captisol

Captisol is a patent-protected, chemically modified cyclodextrin with a structure designed to optimize the solubility and stability of drugs. Captisol was invented and initially developed by scientists at the University of Kansas' Higuchi Biosciences Center for specific use in drug development and formulation. This unique technology has enabled six FDA-approved products, including Onyx Pharmaceuticals' Kyprolis(TM), Pfizer's Vfend(R)IV and Baxter International's Nexterone(R). There are currently more than 20 Captisol-enabled products in development, including The Medicines Company's MDCO-157 project and Rib-X's Delafloxacin program.

Important Safety Information Regarding Kyprolis™ (carfilzomib) for Injection

Death due to cardiac arrest has occurred within a day of Kyprolis administration. Patients with New York Heart Association Class III and IV heart failure, myocardial infarction in the preceding 6 months, and conduction abnormalities uncontrolled by medications were not eligible for the clinical trials. These patients may be at greater risk for cardiac complications.

Pulmonary arterial hypertension (PAH) was reported in 2% of patients treated with Kyprolis and was Grade 3 or greater in less than 1% of patients. Dyspnea was reported in 35% of patients enrolled in clinical trials. Grade 3 dyspnea occurred in 5%; no Grade 4 events, and 1 death (Grade 5) was reported.

Infusion reactions, characterized by a spectrum of systemic symptoms including fever, chills, arthralgia, myalgia, facial flushing, facial edema, vomiting, weakness, shortness of breath, hypotension, syncope, chest tightness, or angina can occur immediately following or up to 24 hours after administration of Kyprolis. Administration of dexamethasone prior to Kyprolis reduces the incidence and severity of reactions. Tumor lysis syndrome (TLS) occurred following Kyprolis administration in < 1% of patients. Patients with multiple myeloma and a high tumor burden should be considered to be at greater risk for TLS.

Thrombocytopenia following Kyprolis administration resulted in a dose reduction in 1% of patients and discontinuation of treatment with Kyprolis in < 1% of patients.

Cases of hepatic failure, including fatal cases, have been reported (< 1%). Kyprolis can cause elevations of serum transaminases and bilirubin.

There are no adequate and well-controlled studies in pregnant women using Kyprolis. Females of reproductive potential should be advised to avoid becoming pregnant while being treated with Kyprolis.

About Ligand Pharmaceuticals

Ligand is a biopharmaceutical company with a business model that is based upon the concept of developing or acquiring royalty revenue generating assets and coupling them to a lean corporate cost structure. Ligand’s goal is to produce a bottom line that supports a

sustainably profitable business. By diversifying the portfolio of assets across numerous technology types, therapeutic areas, drug targets, and industry partners, we offer investors an opportunity to invest in the increasingly complicated and unpredictable pharmaceutical industry. In comparison to its peers, we believe Ligand has assembled one of the largest and most diversified asset portfolios in the industry with the potential to generate revenue in the future. These therapies address the unmet medical needs of patients for a broad spectrum of diseases including diabetes, hepatitis, muscle wasting, Alzheimer's disease, dyslipidemia, anemia, asthma and osteoporosis. Ligand's Captisol platform technology is a patent protected, chemically modified cyclodextrin with a structure designed to optimize the solubility and stability of drugs. Ligand has established multiple alliances with the world's leading pharmaceutical companies including GlaxoSmithKline, Merck, Pfizer, Eli Lilly & Company, Baxter International, Bristol-Myers Squibb, Celgene, Onyx Pharmaceuticals, Lundbeck Inc., The Medicines Company, Curis, Inc. and Rib-X Pharmaceuticals. Please visit www.captisol.com for more information on Captisol. For more information on Ligand, please visit www.ligand.com.

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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 statements include those related to the potential launch and commercial sales of Kyprolis. Actual events or results may differ from our expectations. There can be no assurance Onyx, or any of our other partners will continue clinical development of any compound(s); that clinical development will be successful; that future clinical trial data will be favorable or that such trials will confirm any improvements over other products or lack of negative impacts; that drugs will receive required regulatory approvals or that they will be commercially successful therapies, provide new options or be successfully marketed; that our partner portfolio will continue to mature, that our business will continue to grow or that shareholder value will increase, that the FDA will accept any filing, that any future milestone or royalty payments will be received, or that if any future milestones or royalties are received that they will not be subject to sharing obligations with any third party. Our stock price could be harmed if any of these events or trends fails to occur, is delayed or otherwise differs from expectations. Additional information concerning these and other risk factors affecting Ligand's business can be found on the company's prior press releases as well as in public periodic filings with the Securities and Exchange Commission, available via www.ligand.com. Ligand disclaims any intent or obligation to update these forward-looking statements beyond the date of this release. This caution is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995.

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