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Ligand's Partner Spectrum Pharmaceuticals Reports Captisol-Enabled Melphalan Meets Primary Endpoint in Pivotal Trial

SAN DIEGO-- **Ligand Pharmaceuticals Incorporated (NASDAQ: LGND)** announces that its Captisol-enabled™ (propylene glycol-free) Melphalan (CE Melphalan) development and commercial partner Spectrum Pharmaceuticals (NASDAQ: SPPI) has reported that their pivotal trial of CE Melphalan met its primary endpoint.

According to Spectrum Pharmaceuticals, CE Melphalan is being developed as a novel version of the well-established conditioning treatment in autologous transplant for patients with multiple myeloma. CE Melphalan does not contain propylene glycol, an ingredient of currently available products which has been associated with renal and cardiac side effects.

In its pivotal trial, CE Melphalan met its primary endpoint. The improved stability profile of CE Melphalan could lead to rapid adoption in the transplant conditioning market. Spectrum Pharmaceuticals expects to file a New Drug Application (NDA) with the U.S. Food and Drug Administration (FDA) in the third quarter of 2014, and plans to launch this drug with its existing hematology/oncology sales force next year pending approval.

"We congratulate the team at Spectrum Pharmaceuticals on their success in running a thoughtful pivotal trial with a favorable outcome," said John Higgins, Ligand's President and Chief Executive Officer. "With a specialty sales force already in place, we look forward to the launch and commercial success of this valuable asset."

According to Spectrum Pharmaceuticals, the Phase 2 pivotal trial was a multicenter trial evaluating safety and efficacy. The primary objective of the study was to determine the overall safety and toxicity profile in multiple myeloma patients receiving 200 mg/m^2 of CE Melphalan as myeloablative therapy prior to autologous stem cell transplantation (ASCT). The secondary objectives evaluated the efficacy of CE Melphalan in this patient population as measured by multiple myeloma response rate (according to International Myeloma Working Group (IMWG) criteria), and the rates of myeloablation and engraftment. The primary endpoint of this Phase 2 trial was met, and additional analyses are currently underway.

About Captisol-Enabled Melphalan

Captisol-enabled, PG-free melphalan is a novel intravenous formulation of melphalan being investigated for the multiple myeloma transplant setting, for which it has been granted an Orphan Drug Designation by the FDA. This formulation eliminates the use of propylene

glycol, which has been reported to cause renal and cardiac side effects that limit the ability to deliver higher doses of therapeutic compounds. The use of the Captisol® technology to reformulate melphalan also improves its stability and is anticipated to allow for slower infusion rates and longer administration durations, potentially enabling clinicians to safely achieve a higher dose intensity for pre-transplant chemotherapy.

About Captisol®

Captisol is a patent-protected, chemically modified cyclodextrin with a structure designed to optimize the solubility and stability of drugs. The original form of Captisol was invented and initially developed by scientists in the laboratories of Dr. Valentino Stella 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®, Baxter International's Nexterone® and Merck's NOXAFIL IV. There are more than 30 Captisol-enabled products currently in clinical development.

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 seek to 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, Onyx Pharmaceuticals (a subsidiary of Amgen Inc.), Merck, Pfizer, Baxter International, Lundbeck Inc., Eli Lilly & Co. and Spectrum Pharmaceuticals. Please visit www.captisol.com for more information on Captisol and www.ligand.com for more information on Ligand.

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Forward-Looking Statements

This news release contains certain 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 potential future regulatory approval and launch of products and product candidates, including Spectrum Pharmaceuticals' CE Melphalan, and future financial performance, market potential and other developments regarding Ligand and Spectrum Pharmaceuticals' CE Melphalan. Actual events or results may differ from our expectations. There can be no assurance that Spectrum Pharmaceuticals' CE Melphalan will achieve commercial success, that any of our 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 negative impacts; that drugs will receive required regulatory approvals or that they will be commercially successful, 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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