

July 22, 2014



Ligand Partner SAGE Therapeutics Receives Fast Track Designation for Captisol-enabled SAGE-547 to Treat Status Epilepticus

Proceeds from Sage Therapeutics' recent IPO expected to fund pipeline including Captisol-enabled SAGE-547

SAN DIEGO-- **Ligand Pharmaceuticals Incorporated (NASDAQ: LGND)** announces that its partner Sage Therapeutics Inc., a biopharmaceutical company developing novel medicines to treat life-threatening, rare central nervous system (CNS) disorders, announced today that the U.S. Food and Drug Administration (FDA) has granted fast track designation to the SAGE-547 development program. SAGE-547 is an allosteric modulator of GABA_A receptors in development for the treatment of adult patients with refractory status epilepticus who have not responded to standard regimens (super-refractory status epilepticus, or SRSE).

SAGE is currently evaluating SAGE-547 in a Phase I/II clinical trial for the treatment of SRSE. Preliminary data indicate that the first four patients enrolled in the clinical trial met the key efficacy endpoint, in that each was successfully weaned off his or her anesthetic agent while SAGE-547 was being administered. There have also been no reported drug-related serious adverse events in these four patients to date.

Sage also recently announced the pricing of an initial public offering of common stock. The intended use of proceeds are described in the related prospectus and are expected to include funding pipeline programs including SAGE-547, an intravenous agent that utilizes Ligand's Captisol® technology, among other purposes.

Ligand's partnership with Sage began in 2011 when the companies entered into a platform Captisol license agreement for the development of Captisol-enabled therapeutics for a broad range of debilitating central nervous system conditions. Ligand received an upfront payment and is eligible for future milestone payments, product royalties and revenue from the sale of Captisol for use in clinical trials and commercial products. Elements of the agreement with Sage were expanded in 2014.

"Sage illustrates the important role Ligand can play in helping our partners to develop new drug candidates," said John Higgins, President and Chief Executive Officer of Ligand. "Whether it's licensing our technology such as Captisol or our novel research discoveries, by conferring our rights under licenses, new R&D programs can advance efficiently with dedicated resources and funding. Each of these licenses holds potential for new medical and commercial markets to be opened up, with Ligand participating in the economics of a

successful program.”

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 use in drug development and formulation. This unique technology has enabled six FDA-approved products, including Onyx Pharmaceuticals' (now Amgen) Kyprolis®, Baxter International's Nexterone® and Merck's NOXAFIL® IV. There are more than 30 Captisol-enabled products currently in clinical development.

About Status Epilepticus (SE)

SE is a life-threatening seizure condition that occurs in approximately 150,000 people each year in the U.S., of which 30,000 SE patients die.¹ We estimate that there are 35,000 patients with SE in the U.S. that are hospitalized in the intensive care unit (ICU) each year. An SE patient is first treated with benzodiazepines, and if no response, is then treated with other, second-line, anti-seizure drugs. If the seizure persists after the second-line therapy, the patient is diagnosed as having refractory SE (RSE), admitted to the ICU and placed into a medically induced coma. Currently, there are no therapies that have been specifically approved for RSE; however, physicians typically use anesthetic agents to induce the coma and stop the seizure immediately. After a period of 24 hours, an attempt is made to wean the patient from the anesthetic agents to evaluate whether or not the seizure condition has resolved. Unfortunately, not all patients respond to weaning attempts, in which case the patient must be maintained in the medically induced coma. At this point, the patient is diagnosed as having SRSE. Currently, there are no therapies specifically approved for SRSE

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. 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. These forward-looking statements include comments regarding SAGE-547 and other drug candidates, data analysis and evaluation of SAGE-547, utility or potential benefits to patients, Sage's use of proceeds from its IPO, the potential commercial market for SAGE-547 and plans for continued development and further studies of SAGE-547. Actual events or results may differ from Ligand's expectations. For example, there can be no assurance that other trials or evaluations of SAGE-547 or other product candidates will be favorable or that they will confirm results of previous studies, that data evaluation will be completed or demonstrate any hypothesis or endpoint, that SAGE-547 or other product candidates will provide utility or benefits to certain patients, that any presentations will be favorably received, that SAGE-547 or other product candidates will be useful, that marketing applications will be filed or, if filed, approved, or that clinical or commercial development of these product candidates will be initiated, completed or successful or that our rights to SAGE-547 and other related product candidates will not be successfully challenged. 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 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. This caution is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995.

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Source: Ligand Pharmaceuticals Incorporated