

Ligand Announces Multi-Program LTP Technology Licensing Agreement with Nucorion Pharmaceuticals

Newly-formed Nucorion, co-founded by Ligand, to pursue a pipeline of LTP-based programs for China and other markets

SAN DIEGO-- **Ligand Pharmaceuticals Incorporated (NASDAQ: LGND)** announces the signing of a license agreement for three programs utilizing Ligand's LTP (Liver Targeting Prodrug) technology with Nucorion Pharmaceuticals, Inc., a venture-funded biotechnology company focused on developing anti-cancer and anti-viral agents initially directed to China.

- Ligand's LTP technology is a novel prodrug technology platform designed to selectively deliver a range of active pharmaceutical agents to the liver. By directly targeting the liver, the goal is to maximize efficacy and minimize off-target drug toxicities.
- The preclinical programs under this license include: NUC-202, a targeted anti-cancer analog for the treatment of hepatocellular carcinoma; NUC-404, a targeted nucleotide analog for the treatment of hepatitis B; and NUC-101, a targeted nucleotide analog for the treatment of hepatitis C.
- Ligand is eligible to receive milestone payments as well as royalties ranging from 5% to 9% on net sales of products developed by Nucorion under this agreement.
- Ligand was a co-founder of Nucorion along with Dr. Zucai Suo, Professor of Chemistry and Biochemistry at The Ohio State University and a recognized academic leader in the fields of nucleic acid enzymology, viral replication and rational drug design.
- Nucorion was funded with \$5 million in a Series A funding round led by Silver River International Investment Ltd. Ligand invested \$1 million in the venture financing.

"LTP is a promising technology platform developed by Ligand with applicability in a range of hepatic and hepatic-mediated indications. Given the increased focus on liver-related health by drug companies and the substantial medical need in China for liver-related medicines, we are pleased to participate in this new venture and be partners with highly respected Chinese venture investors affiliated with multi-billion dollar funds," said John Higgins, Chief Executive Officer of Ligand. "Along with Captisol® and OmniAb®, LTP has the potential to contribute to the growth of Ligand's portfolio and technology offerings."

James Gu, Partner at Silver River, stated, "The LTP technology is especially well-suited for pursuing these diseases in China. Liver disease is a growing and major cause of death in China. The LTP technology targets the liver and creates a key differentiating factor for Nucorion and provides us with a promising product pipeline."

About Liver Disease in China

Liver disease is a growing and major cause of death in China, and has a substantial impact on the global burden of diseases. There are more than 90 million chronic carriers of hepatitis B virus (HBV) in China, accounting for about one-third of all HBV chronic carriers in the world¹. It is estimated that 40 million people in China are infected with the hepatitis C virus², and that 85% of the carriers may be unaware of their infection status³. Nearly 400,000 people die from liver cancer every year in China, which accounts for more than half of the deaths from liver cancer worldwide⁴.

About the LTP Technology Platform

Ligand's LTP technology is a novel prodrug technology platform designed to selectively deliver a range of active pharmaceutical agents to the liver. It works by chemically modifying a biologically active molecule into an inactive prodrug form that will be administered and later activated in the liver by certain enzymes mainly expressed in the liver. The technology can be used to improve activity and/or safety of an existing drug or to develop new agents to treat liver diseases or diseases caused by homeostasis imbalance of circulating biomolecules controlled by the liver such as lipids and glucose, and is especially applicable to metabolic and cardiovascular diseases. Ligand's LTP technology has expanded chemical class applicability and also removes certain by-products as compared to other targeting technologies.

About Nucorion Pharmaceuticals, Inc.

Nucorion Pharmaceuticals, Inc. is a venture-funded biotechnology company focused on developing anti-cancer and anti-viral agents targeted at diseases of the liver, initially directed to the Chinese market. Nucorion was co-founded by Ligand and Professor Zucai Suo of The Ohio State University (OSU), who also chairs Nucorion's Scientific Advisory Board (SAB). In addition to Dr. Suo, Nucorion's SAB includes: Jack W. Szostak Ph.D. - 2009 Nobel Laureate, Howard Hughes Medical Institute Investigator and Professor of Genetics at Harvard Medical School; Stephen J. Benkovic, Ph.D. - 2010 National Medal of Science recipient and Eberly Chair of Chemistry at Pennsylvania State University; John Kozarich, Ph.D. - Ligand Pharmaceuticals Chairman and ActivX Biosciences Chairman and President; and Lin Zhi, Ph.D. - Ligand Pharmaceuticals Vice President of Chemistry and Pharmaceutical Sciences. Nucorion has rights to certain programs leveraging the LTP technology as well as rights to certain novel analog compounds licensed from OSU. Nucorion is majority owned and funded by Silver River International Investment Ltd. Ligand is a minority shareholder of Nucorion, currently owning less than 20%. For additional information, visit www.nucorionpharma.com.

About Silver River International Investment Ltd.

Silver River International Investment Ltd. is a venture investment fund with offices in Hong Kong and Guangdong, China and a focus on the Chinese market. The firm was formed by venture and private equity investors who have extensive experience in the real estate, healthcare, hotel, mining, port, manufacturing, education, security and service industries. Silver River focuses on investments in start-up companies that are pursuing or already own intellectual property to support bringing innovative, differentiated products to market.

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 Captisol® platform technology is a patent-protected, chemically modified cyclodextrin with a structure designed to optimize the solubility and stability of drugs. OmniAb® is a patent-protected transgenic animal platform used in the discovery of fully human mono- and bispecific therapeutic antibodies. Ligand has established multiple alliances, licenses and other business relationships with the world's leading pharmaceutical companies including Novartis, Amgen, Merck, Pfizer, Celgene, Gilead, Janssen, Baxter International and Eli Lilly.

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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 include statements regarding Ligand's strategic alliance with Nucorion under which Ligand may receive milestone payments, royalties and/or equity appreciation. Actual events or results may differ from our expectations. For example, there can be no assurance that Nucorion will successfully develop or commercialize any products. Nucorion is a start-up company with an incomplete management team, and Ligand cannot control Nucorion's activities or decisions. Nucorion's intended Chinese activities carry additional risk. 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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Source: Ligand Pharmaceuticals Incorporated