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## **Ligand Forms Strategic Drug Development Alliance with Chiva Pharmaceuticals**

Ligand to potentially receive over \$100 million in milestone and royalty payments and expects to receive a 10% equity position in Chiva

Chiva to develop selected clinical stage HepDirect programs of Ligand in China

SAN DIEGO-- Ligand Pharmaceuticals Incorporated (NASDAQ: LGND) announced today that it has entered into a strategic relationship with Chiva Pharmaceuticals, Inc. to develop multiple Ligand assets and technology in China and potentially worldwide. Chiva is being granted licenses to begin immediate development in China of Ligand's two clinical-stage HepDirect programs, Pradefovir for hepatitis B and MB01733 for hepatocellular carcinoma. Additionally, Ligand is granting Chiva a non-exclusive HepDirect technology license for the discovery, development and worldwide commercialization of new compounds in hepatitis B (HepB), hepatitis C (HepC) and hepatocellular carcinoma (HCC).

Chiva is developing these programs to address the high unmet medical need in China's fast growing pharmaceutical market. The Chinese government is offering financial support to pharmaceutical companies like Chiva who can develop innovative therapies in China for public health needs such as infectious disease and oncology.

Under the terms of the agreement, Ligand has the potential to earn over \$100 million in milestones and royalties on potential sales. In addition, Ligand has the potential to receive a 10% equity position in Chiva and will also receive an undisclosed percentage of any sublicensing revenue generated from sublicensing of collaboration compounds to third parties in a major world market. Ligand is entitled to receive initial 2011 license payments that total \$1 million.

"This strategic partnership with Chiva is a major event as it creates our first significant opportunity to introduce Ligand's products and drug discovery capability in China, which is the world's fastest-growing pharmaceuticals market. In addition, this is a substantive transaction where we have created new value and upside potential from recently acquired assets. Less than a year ago, we brought into Ligand a basket of assets through our acquisition of Metabasis, and now this deal validates our ability to leverage our acquisitions and business platform to generate new deals and upside," said John L. Higgins, President and Chief Executive Officer of Ligand Pharmaceuticals.

"The assets and technology that we have licensed to Chiva are especially well-suited to address unmet medical needs in China. After speaking with multiple Chinese companies about this type of alliance, we selected Chiva based on the quality of its U.S.-trained development team. Chiva's leadership also includes senior scientists who have extensive development experience with novel drugs. We look forward to a productive, long-term relationship with Chiva, and are excited about the potential to add development alliances

throughout Asia," added Higgins.

#### Ligand-Chiva Programs

The following technology and programs are included in Ligand's license to Chiva:

-- Pradefovir is a HepDirect™ pro-drug of PMEA, which is the same active metabolite, produced by the FDA-approved HepB drug adefovir dipivoxil (Hepsera(R)). The pro-drug enables higher concentrations of the drug in the liver, the primary site of replication for the hepatitis B virus, and lower concentrations in the kidney where significant dose-limiting toxicities arise. Pradefovir displayed strong anti-HepB activity in Phase II studies conducted in the U.S. and Ligand has been attempting to find a partner for further development.

Hepatitis B is a potentially fatal disease that can lead to complications such as cirrhosis and primary liver cancer. Approximately 2 billion people worldwide are estimated to have hepatitis B, with 350 million to 400 million people estimated to be chronically infected. (Source: WHO hepatitis B prevalence 2008). In China, where the infection rate is rapidly growing, it is estimated that 8% of the population is infected, with nearly 30 million people requiring treatment.

-- MB07133 is a HepDirect pro-drug of the intermediate form of cytarabine (araC) 5'-monophosphate, which is designed to deliver a high concentration of the active form of the drug for the treatment of hepatocellular carcinoma. MB07133 displayed a strong response rate on intra-hepatic tumor regression in a Phase I/II study conducted in the U.S.

HCC is the most common form of liver cancer, and is responsible for approximately 90% of the primary liver cancers in adults. Liver cancer is the sixth most common cancer in the world and the third leading cause of cancer-related deaths globally. (Source: Hepatitis Foundation International Web site; Liver Cancer Consequence of Hepatitis).

-- HepDirect™ is a pro-drug technology that targets delivery of certain drugs to the liver by using a proprietary chemical modification that renders a drug biologically inactive until cleaved by a liver-specific enzyme. HepDirect may improve efficacy and/or safety of certain drugs and can be applied to marketed or new drug products.

#### About Metabasis

Ligand acquired Pradefovir, MB07133 and the HepDirect technology through its acquisition of Metabasis in January 2010. Individuals and entities who hold the General Contingent Value Rights (CVR) that were issued at the time of Ligand's acquisition of Metabasis are expected to receive cash payments at or shortly after July 1, 2011, pursuant to the terms of the General CVR agreement. The holders of the General CVRs would also become entitled to additional cash amounts if and after Ligand receives actual milestone payments, royalties or sublicensing revenue under the License Agreement with Chiva. The General CVRs entitle holders to potential future cash payments with the sale or partnering of specified Metabasis programs, among other triggering events.

## About Chiva Pharmaceuticals, Inc.

With headquarters in Los Altos Hills, Calif., Chiva Pharmaceuticals, Inc. is an affiliate of Hainan Kaihua Pharmaceutical Co., Ltd. ("Hainan"), a global pharmaceutical company specializing in bringing the best standard of care to the Chinese market, and on making drugs developed in China available to the world. Chiva's and Hainan's goal is to build a leading pharmaceutical company in China that competes on the world stage.

## About Ligand Pharmaceuticals

Ligand discovers and develops novel drugs that address critical unmet medical needs of patients for a broad spectrum of diseases including hepatitis, muscle wasting, Alzheimer's disease, dyslipidemia, diabetes, anemia, COPD, asthma, rheumatoid arthritis and osteoporosis. Ligand's proprietary drug discovery and development programs are based on advanced cell-based assays, tissue-specific receptor ligand interactions and gene-expression tools. Among our peers, we believe Ligand has assembled one of the largest portfolio of assets including commercial therapies developed in partnership with pharmaceutical companies. Ligand has established multiple alliances with the world's leading pharmaceutical companies including GlaxoSmithKline, Merck, Pfizer, Bristol-Myers Squibb and AstraZeneca, and more than 30 programs in various stages of development. For more information, please visit [www.ligand.com](http://www.ligand.com).

## Caution Regarding Forward-Looking Statements

This news release may contain certain forward-looking statements by Ligand which involve risks and uncertainties and reflect the parties' judgment as of the date of this release. Actual events or results may differ from these expectations. There can be no assurance that the license and stock purchase agreements will be successful or continued; that the equity position in Chiva will be of any value; that Ligand will receive any future payments for the development, licensing and/or commercialization of any active compounds and/or candidates; that product candidates will receive required regulatory approvals or that they will be commercially successful therapies, provide new options or be successfully marketed; or that our business will grow or that shareholder value will increase. Results will be dependent on the efforts of Chiva over which Ligand has no control. The failure to meet expectations with respect to any of the foregoing matters may reduce Ligand's stock price. Additional important factors that may affect future results are detailed in prior press releases available via [www.ligand.com](http://www.ligand.com) as well as in Ligand's public periodic filings with the Securities and Exchange Commission at [www.sec.gov](http://www.sec.gov). 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.

Source: Ligand Pharmaceuticals Incorporated