

## Ligand Announces Phase IIb Results With DARA

SAN DIEGO-- Ligand Pharmaceuticals Incorporated (NASDAQ:LGND) (the "Company" or "Ligand") today announced positive preliminary results from the Phase IIb study for PS433540, the first-in-class Dual Acting Receptor Agonist (DARA) that targets the angiotensin and endothelin receptors.

The 261-patient, randomized, double-blind, placebo- and active-controlled study evaluated safety and efficacy at three different doses in subjects with Stage 1 and Stage 2 hypertension over 12 weeks of treatment. PS433540 was found to be safe and well tolerated and demonstrated statistically significant greater reductions in blood pressure than placebo. The high dose of PS433540 produced a statistically significantly greater reduction in blood pressure than the active comparator, irbesartan which was tested at its highest approved dose.

### Summary of Phase IIb Trial Results

- Patients were randomized to once-daily doses of PS433540 at 200 mg, 400 mg, or 800 mg doses, placebo, or irbesartan at a 300 mg dose for 12 weeks.
- PS433540 at 200 mg, 400 mg and 800 mg reduced systolic blood pressure by 13 mm Hg, 14 mm Hg, and 23 mm Hg, respectively. For diastolic blood pressure, the reductions with PS433540 were 7, 9, and 14 mm Hg respectively. All doses reduced blood pressure statistically significantly greater than placebo.
- The angiotensin receptor blocker (ARB) irbesartan reduced systolic blood pressure by 11 mm Hg and diastolic blood pressure by 7 mm Hg. The response to irbesartan was consistent with the published literature.
- The 800 mg daily dose of PS433540 produced a statistically significant reduction in systolic and diastolic blood pressure as compared to irbesartan. The other dose levels of PS433540 were not statistically significantly different from irbesartan.
- For PS433540, the percentages of patients who reached a blood pressure goal of less than 140/90 at 12-weeks were 36%, 52%, and 62% with the 200 mg, 400 mg and 800 mg doses, respectively; by comparison, 32% of irbesartan patients and 9% of placebo patients reached the goal for blood pressure control at the end of 12 weeks. The 800 mg dose of PS433540 showed a statistically significantly higher percentage of patients achieving blood pressure control compared to irbesartan.
- PS433540 was generally well tolerated and there were no serious adverse events associated with therapy. Headache was most frequent in the placebo group (17%), while edema was most frequent on the 800 mg dose (11%). Other adverse events occurred less frequently. One subject in the placebo group had liver function elevations greater than three times the upper limit of normal.

In previously completed Phase I clinical trials in normal subjects, PS433540 was well

tolerated, demonstrated a pharmacokinetic profile consistent with once-daily oral administration, and fully blocked an increase in blood pressure in an angiotensin challenge test at either 250 mg or 500 mg dose levels.

In a previously completed Phase IIa clinical trial in hypertensive patients, PS433540 at either 200 mg or 500 mg once-daily produced a statistically significantly greater reduction in blood pressure compared to placebo. The drug was well tolerated by patients. Most of the adverse events reported were mild or moderate in severity and included headaches and minor musculoskeletal and respiratory complaints. There were no increases in liver enzymes above two times the upper limit of normal.

#### Plans for DARA

PS433540 (DARA) is a program Ligand acquired as part of its acquisition of Pharmacoepia in December 2008. Given the drug's unique mechanism of action targeting the angiotensin and endothelin receptors, DARA has the potential for treating diabetic nephropathy. Going forward, Ligand plans to pursue discussions with potential collaborators to partner the program based on the data obtained up to this point. While Ligand is pleased with the outcome of this Phase IIb trial, there can be no assurance the Company will be able to secure a partnership for the program.

#### About Ligand Pharmaceuticals

Ligand discovers and develops new drugs that address critical unmet medical needs of patients with muscle wasting, frailty, hormone-related diseases, osteoporosis, inflammatory diseases and anemia. Ligand's proprietary drug discovery and development programs are based on its leadership position in gene transcription technology.

#### Forward-Looking Statements

This press release contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, that involve risks and uncertainties and reflect Ligand's judgment as of the date of this press release. These statements include those regarding data analysis and evaluation of PS433540, utility or potential benefits to patients, plans for continued development and further studies of PS433540 for the treatment of diseases associated with hypertension and diabetic nephropathy. Actual events or results may differ from our expectations. For example, there can be no assurance that other trials or evaluations of PS433540 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 PS433540 will provide utility or benefits to certain patients, that any presentations will be favorably received, that PS433540 will be useful as a single agent or in combination with other drugs, 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 PS433540 will not be successfully challenged. Our stock price may suffer as a result of the failure of any trials to be completed or meet their endpoints or if any actual events differ from our expectations. Additional information concerning these and other risk factors affecting Ligand can be found in prior press releases as well as in public periodic filings with the Securities and Exchange Commission, available via [www.ligand.com](http://www.ligand.com). 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.

Source: Ligand Pharmaceuticals Incorporated