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Ligand Presents New Preclinical Data on its Lead SARM Molecule LGD-4033 at the

Gerontological Society of America Annual Meeting

SAN DIEGO, Nov 20, 2009 (BUSINESS WIRE) **Ligand Pharmaceuticals Incorporated (NASDAQ: LGND)** today announced that data from a preclinical study on its selective androgen receptor modulator (SARM) LGD-4033 was featured in a poster presentation at the 62nd Annual Meeting of the Gerontology Society of America in Atlanta. LGD-4033 exhibited desirable *in vivo* efficacy on skeletal muscle and bone measurements in animal models of male hypogonadism and postmenopausal osteoporosis.

The key findings include:

- LGD-4033 increased bone mineral density and bending strength (an indicator of resistance to fracture) in osteopenic female rats, a model of post-menopausal osteoporosis, by increasing the rate of new bone formation and reducing bone turnover. Statistically significant improvements in bone mineral density were observed after 12 weeks of administering LGD-4033 at doses as low as 0.03 mg/kg/day in cortical bone and 0.3 mg/kg/day in cancellous bone.

- LGD-4033 potently increased the skeletal muscle mass and the average diameter of the individual muscle fibers in both hypogonadal and hormonally-normal rats. Muscle fiber diameter is known to correlate with the maximum contractile force that can be generated by a muscle fiber, suggesting greater muscle strength following LGD-4033 administration.

- Unlike the potent full agonist activity observed with the increase in skeletal muscle and bone, LGD-4033 treatment resulted in a significant reduction in prostate mass at all doses tested (up to 100 mg/kg/day). Steroidal androgens are known to cause prostate hyperplasia. The reduction in prostate mass, together with an increase in muscle and bone formation, represents a unique and desirable tissue-selective profile of LGD-4033.

According to Martin D. Meglasson, Ph.D., Ligand s Vice President of Discovery Research, SARMs are promising drugs to treat the serious problem of muscle wasting that occurs in patients with a variety of disorders, including cancer cachexia and sarcopenia in the elderly. The findings reported today demonstrate that LGD-

4033 has the potential to be an important new option for these patients by offering improved safety compared to currently available drugs based on its tissue selective effect. As muscle wasting and osteoporosis are common co-morbidities in the elderly, LGD-4033 may be particularly beneficial to frail, elderly patients by improving their mobility and quality-of-life, and reducing the risk of fall-related bone fractures.

About SARMs

Testosterone, oxandrolone and nandrolone are currently marketed steroidal androgens for male hypogonadism and weight gain after major surgery. Ligand s SARMs are non-steroidal molecules, expected to produce the therapeutic benefits of testosterone with improved safety, tolerability and patient acceptance due to tissue-selective mechanisms of action and oral routes of administration. The clinical applications for SARMs include the treatment of multiple muscle wasting disorders (e.g., sarcopenia, cachexia and frailty), the treatment of osteoporosis, male hypogonadism and female sexual dysfunction.

Ligand has discovered orally active, non-steroidal SARM compounds based on tissue-specific gene expression and other functional, cell-based technologies. Phase I clinical studies of LGD-4033 were initiated in June 2009. In the Phase I single ascending dose study, LGD-4033 was well tolerated with no serious adverse events observed and pharmacokinetic properties which were consistent with once daily oral dosing. The Phase I multi-dose study is in progress.

To view the poster visit Ligand s Web site at http://investors.ligand.com/events.cfm.

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, anemia, asthma, rheumatoid arthritis and psoriasis. Ligand s proprietary drug discovery and development programs are based on advanced cell-based assays, gene-expression tools, ultra-high throughput screening and one of the world s largest combinatorial chemical libraries. Ligand has strategic alliances with major pharmaceutical and biotechnology companies, including Bristol-Myers Squibb, Celgene, Cephalon, GlaxoSmithKline, Merck and Pfizer. With more than 20 molecules in various stages of development, Ligand utilizes proprietary technologies for identifying drugs with novel receptor and enzyme drug targets.

Caution Regarding 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 statements include those related to clinical trials of LGD-4033, other SARM-related drugs, market size and potential, LGD-4033 s profile, efficacy, potency, selectivity, and competitiveness, and the strength of Ligand s product portfolio. Actual events or results may differ from our expectations. For example, there can be no assurance that LGD-4033 or other potential drugs will progress through clinical development or receive required regulatory approvals within the expected time lines or at all, that clinical trials will confirm any characteristics or profile described in this press release, that there will be a market of any size for LGD-4033, or that LGD-4033 or any drugs will be beneficial to patients or successfully marketed. 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. 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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