

ZOSANO PHARMA, INC. ANNOUNCES POSITIVE RESULTS OF PHASE 2 OSTEOPOROSIS STUDY

ZP-PTH Patch Demonstrates Increase in Lumbar Spine and Hip Bone Mineral Density

Fremont, Calif. – October 27, 2008 – Zosano Pharma, Inc., a privately held pharmaceutical company developing a novel transdermal delivery technology, today announced positive results from its phase 2, randomized, multi-center, double-blind, multi-dose study designed to determine safety and efficacy of its ZP-PTH rapid delivery patch for the treatment of osteoporosis. The product delivers PTH 1-34, teriparatide (PTH), a compound that has been proven to stimulate formation of new bone and reduce the risk of fractures. The ZP-PTH patch uses a unique transdermal technology being developed as an alternative to daily injections.

The primary objective of the study was to assess safety and evaluate the effect of three doses of ZP-PTH on lumbar spine bone mineral density (BMD) after 24 weeks relative to placebo in postmenopausal women with osteoporosis. Secondary study objectives were to evaluate the effect of three doses of ZP-PTH on total hip, femoral neck and forearm BMD relative to placebo and injectable Forteo®. The study enrolled 165 patients between 50 and 81 years of age with severe osteoporosis and was conducted at multiple sites across North and South America.

The study results demonstrate that daily administration of all three doses of ZP-PTH for 24 weeks resulted in a significant gain in BMD of the lumbar spine over placebo ($p < 0.001$). The ZP-PTH 40 mcg patch, which effectively delivers 16 mcg of PTH, was comparable to the Forteo® 20 mcg injection, in mean percent change from baseline in lumbar spine BMD (4.97% versus 3.55%). Treatment with ZP-PTH 40 mcg also showed a significant increase in total hip mean percent change from baseline in BMD (+1.33%) compared to placebo (-0.634%) and Forteo® (0.094%), both at $p < 0.05$. All ZP-PTH doses were well tolerated with no systemic adverse events different from Forteo®. There were no clinically significant sustained occurrences of hypercalcemia in any treatment group.

The study results were presented in a poster session today at the American College of Rheumatology Annual Meeting in San Francisco by Dr. Nancy E. Lane, director and endowed professor, aging center, medicine and rheumatology, at the University of California at Davis Medical Center on behalf of the study's participating investigators.

"PTH via daily injection is currently the only approved osteoporosis therapy shown to stimulate new bone formation and the ZP-PTH patch delivery technology has the potential to offer patients a safe and effective alternative to daily injection" commented Dr. Lane. "This study demonstrated that ZP-PTH resulted in gains not only in lumbar spine bone mineral density, but also in total hip BMD relative to Forteo®, an outcome that may be attributable to its unique transdermal delivery profile. The hip is one of the most common points of fracture in patients with osteoporosis, so this particularly promising outcome warrants further investigation" concluded Dr. Lane.

"ZP-PTH combines PTH, an established bone forming agent, with Zosano's user-friendly transdermal patch technology to offer a promising therapeutic alternative for the treatment of osteoporosis" stated Gail Schulze, Zosano's board chair and CEO. "These strong results underscore our confidence in this product and we are preparing for our phase 3 program in order to further demonstrate its safety and efficacy."

Study design

The study was performed in 15 centers in three countries (United States, Argentina and Mexico) and enrolled 165 postmenopausal women aged 50-81 (mean age of 64 years) who had been diagnosed with osteoporosis.

Subjects were randomized to one of five treatment groups: ZP-PTH 20 mcg, 30 mcg, 40 mcg, or ZP placebo patch or Forteo® 20 mcg injection. All study participants were taught self-administration techniques and thereafter self-administered their medication. The ZP-PTH or placebo patch was applied to the lateral abdomen, alternating left and right sides on a daily basis and worn for 30 minutes, and the Forteo® 20 mcg/daily injection was administered in the abdomen or thigh.

Study participants were assessed monthly for six months after randomization. BMD measurements of common osteoporosis sites were performed at baseline and at six months. An additional BMD measurement of the lumbar spine was performed at a three-month visit.

The primary efficacy variable was the mean percent change from baseline in lumbar spine BMD at week 24 of dosing for active ZP-PTH patch treatment groups compared to ZP placebo patch.

About Osteoporosis

Osteoporosis is a disease characterized by low bone mass and the deterioration of bone tissue, leading to bone fragility and an increased susceptibility to fractures. While any bone can be affected, fractures of the hip, spine and wrist are especially common. Osteoporosis is a major public health issue, affecting 55% of people 50 years or older in the U.S.⁽¹⁾ Approximately 80% of those affected are women.⁽²⁾ By 2025, experts predict that osteoporosis-related fractures will be responsible for an estimated \$25.3 billion in medical costs⁽³⁾, an economic burden comparable to other major chronic diseases.

About Zosano Pharma, Inc.

Zosano Pharma, Inc. is a privately held pharmaceutical company developing a novel transdermal delivery technology for a broad range of therapeutic indications. Its lead clinical program, the ZP-PTH rapid delivery patch for the treatment of osteoporosis, is being developed as an alternative to daily injections. Zosano's transdermal delivery technology is capable of delivering peptides, proteins, small molecules and vaccines by permeating the skin's outer layer and ensuring significant therapeutic effect. This proven proprietary technology offers several key benefits, including efficacy and safety comparable to approved injectables, needle-free delivery, a self-administered patch, rapid onset of action and room temperature storage. Zosano's transdermal delivery technology has been clinically tested in over 400 patients with four different peptides and a vaccine. Zosano aims to develop products both independently and through strategic licensing and co-development arrangements. Founded in 2006 as an ALZA Corporation spin-out led by Nomura Phase4 Ventures, Zosano is funded by New Enterprise Associates, Nomura Phase4 Ventures, HBM BioVentures and ProQuest Investments. For more information, please visit www.zosanopharma.com.

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