

For Immediate Release

ZOSANO PHARMA, INC. ANNOUNCES PUBLICATION OF POSITIVE PHASE 2
STUDY OF ITS ZP-PTH PATCH FOR OSTEOPOROSIS THERAPY

Fremont, Calif. – November, 9, 2009 – Zosano Pharma, Inc., a privately held pharmaceutical company developing products using a novel transdermal delivery technology, announced publication in the current issue of the *Journal of Clinical Endocrinology and Metabolism* of results from a positive phase 2 study of its rapid-delivery transdermal patch (ZP-PTH) for the treatment of postmenopausal osteoporosis. The study by authors Felicia Cosman, Nancy E. Lane, Michael A. Bolognese, Jose R. Zanchetta, Pedro A. Garcia-Hernandez, Karen Sees, James A. Matriano, Kim Gaumer, and Peter E. Daddona is titled “Effect of Transdermal Teriparatide Administration on Bone Mineral Density in Postmenopausal Women.” The article is currently available [online](#) and will be in the January 2010 issue.

In the 165-patient study, the authors concluded that daily administration of ZP-PTH (teriparatide) for 24 weeks resulted in a significant gain in bone mineral density (BMD) of the lumbar spine over placebo ($p < 0.001$) and that the 40 mcg coated transdermal patch increased total hip BMD compared to both placebo and FORTEO® 20 mcg subcutaneous injection ($p < 0.05$).

“We are pleased to have the study published in this highly respected peer-reviewed journal and are encouraged that ZP-PTH has demonstrated gains in lumbar spine bone mineral density relative to FORTEO®,” commented Gail Schulze, Zosano’s board chair and CEO, “ZP-PTH combines an established bone forming agent, with Zosano’s rapid-delivery, user-friendly microprojection patch technology, and can offer patients an alternative to daily injections in a safe, effective and convenient treatment for osteoporosis. We continue to lay the groundwork for our pivotal phase 3 clinical study and in parallel are advancing a number of strategic partnering discussions.”

About the Study:

The Phase 2 study was a randomized, multi-center, blinded, multi-dose trial designed to determine safety and efficacy of the ZP-PTH rapid-delivery patch for the treatment of osteoporosis. ZP-PTH uses Zosano’s unique transdermal microprojection technology being developed as an alternative to daily injections, to deliver PTH 1-34, teriparatide (PTH), a compound proven to stimulate formation of new bone and reduce the risk of fractures.

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 13 sites across North and South America. 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.

The study results demonstrated 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 similar 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.

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 focusing on the development of its lead clinical program, the ZP-PTH rapid delivery patch for the treatment of osteoporosis. ZP-PTH is being developed as an alternative to daily injections and is based on Zosano's novel transdermal delivery technology which can deliver peptides, proteins, small molecules and vaccines by permeating the skin's outer layer and ensuring significant therapeutic effect. This proven proprietary technology offers many key benefits, including efficacy and safety comparable to approved injectables, needle-free and pain-free delivery, a self-administered patch, rapid onset of action and room temperature storage. Zosano's transdermal delivery technology has been clinically tested in more than 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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⁽¹⁾ ⁽²⁾ ⁽³⁾ Source: National Osteoporosis Foundation