THE UNIVERSITY of TEXAS
HEALTH SCIENCE CENTER AT HOUSTON
Office of Technology Management

NOVEL BISPHOSPHONATE FORMULATION WITH THERAPEUTIC USE IN OSTEOPOROSIS

Market: There is a large market demand for therapeutic compounds addressing bone disease. Osteoporosis, osteitis deformans, or Paget's disease, bone metastasis, multiple myeloma, and others result in bone fragility. It is noted that metastases to the bone occur in up to 75% of breast and prostate cancers. Of the above listed bone diseases, osteoporosis is a major indication with thirty-five million people in the seven major pharmaceutical markets (U.S., France, Germany, Italy, Spain, UK, and Japan) afflicted by osteoporosis. With this type of demand, it is not surprising that a recent analysis projects the 2006 bone disease therapeutic market will exceed $11.6 billion (MarketResearch.com, 2005).

Competitors and Current Problems: Bisphosphonates, a class of drugs that inhibits the resorption of bone, commands this market. While highly effective, bisphosphonates do have significant side effects. These include nausea, abdominal pain, loose bowel movements, irritation, and even ulcers of the stomach and esophagus. An additional problem is low bioavailability. Half of an administered dose of some bisphosphonates is cleared by the kidneys unused, with some compounds having only five percent bioavailability.

The Technology: A University of Texas Health Science Center scientist developed a novel class of bisphosphonates in a unique formulation. The new compounds demonstrate a 2- to 20-fold increased bioavailability depending on the compound. The increased bioavailability may lead to a less frequent dosing regimen. Further, the new compounds showed decreased gastrointestinal toxicity in animal studies. Specifically, gastric lesions were reduced 2 fold and gastric bleeding reduced 6 fold. The technology is subject to a strong patent position, which protects compositions, methods of manufacture, and methods of use to prevent and treat bone disease.

NON-CONFIDENTIAL TECHNOLOGY DESCRIPTION

The preceding is intended to be a non-confidential summary of a novel technology created at the University of Texas Health Science center at Houston (UTHSCH), for which the University has obtained patent protection.

UTHSCH Ref. No. 2000-0013
Inventors: Dr. Lenard M. Lichtenberger
Patent Status: Issued US 6,943,155 and additional pending applications
License Available: world-wide; exclusive or non-exclusive

To obtain further information about this technology, please contact:
Office of Technology Management, 7000 Fannin, Suite 720, Houston, TX, 77030
Phone: (713) 500-3369 Fax: (713) 500-0331
Email: uthsch-otm@uth.tmc.edu