Methyl Oleoyl Serine for Improving Bone Parameters (Yissum)

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Itai Bab, HUJI, Faculty of Dental Medicine, Bone laboratory
Raphael Mechoulam, HUJI, School of Pharmacy, Medicinal chemistry & Natural products

New drugs both reduce bone loss and increase bone mass

Categories	Bone, osteoporosis, fatty acids/lipidomics
Development Stage	Proof of concept – small animals
Patent Status	PCT published: WO 2009/125409

Highlights

- Many medical conditions, such as osteoporosis and skeletal injuries, are associated with loss of bone tissue.
- Bone mass is determined by a continuous remodeling process in which the mineralized matrix is removed by osteoclasts and subsequently replaced with newly formed bone tissue produced by osteoblasts.
- Fatty acid amides of amino acids are produced endogenously in bone and have been found to play a significant role in this process.
- Of these fatty acid amides, N-oleoyl-L-serine (OS) had the highest stimulatory activity in osteoblast proliferation assays. It also inhibits osteoclast formation and stimulates osteoclast apoptosis.
- In intact and osteoporotoc mice, OS effectively increases bone mass by enhancing bone formation and markedly restraining bone resorption.

Our Innovation

Fatty acid amides of amino acids, such as N-oleoyl-L-serine (OS), as the basis for drugs for the simulation of bone growth and repair and the prevention of bone loss. OS is a novel lipid regulator of bone remodeling and represents a new lead to antiosteoporotic drug discovery.

Key Features

- Reduces bone loss as well as increasing bone mass
- Advantageous to currently available therapies, which are essentially either pro-formative or anti-resorptive
- Naturally occurring compounds
- Low cost of synthetic production

Development Milestones

Seeking licensing cooperation and funding for continuing research

The Opportunity

Applications for osteoporosis, healing of fractures and other skeletal injuries as well as orthopaedic and dental implantation.

Contact for more information:

Shoshana Keynan ✉, VP, Head of Business Development, Healthcare, +972-2-6586683

Yissum Research Development Company of the Hebrew University of Jerusalem

Hi-Tech Park, Edmond J. Safra Campus, Givat-Ram, Jerusalem P.O. Box 39135, Jerusalem 91390
Israel Telephone: 972-2-658-6688, Fax: 972-2-658-6689