

Researchers discover new treatment for osteoporosis

November 21 2013

University of Sydney researchers have discovered a promising treatment for osteoporosis, which is easily delivered in water soluble form.

After more than four years of investigation, researchers from the Ageing Bone Research Program (Sydney Medical School's Nepean campus), have found the treatment has shown very promising results in animal experiments.

The compound is called picolinic acid, a product derived of the essential amino acid tryptophan.

Lead researcher Professor Gustavo Duque said the odorless compound can be easily dissolved in water.

"This is a major step in the development of a completely new type of medication for [osteoporosis](#). Instead of stopping [bone destruction](#), our compound instead stimulates bone formation," he said.

"The product is easily dissolved in water, has a higher level of absorption and did not induce any side effects in the treated mice.

"When this medication was administered in the water of normal and menopausal mice, picolinic acid strongly and safely increased [bone mass](#) in normal mice and rescued bone from menopause-associated osteoporosis."

Professor Duque said the team had patented the compound and will expand their trials to humans in the near future in a bid to address the increasing numbers of people developing the condition.

"Osteoporosis affects an estimated 300 million people worldwide. One in three women over 50 will experience osteoporotic fractures, as will one in five men.

"Despite the current treatments available, by 2050, the worldwide incidence of hip fracture in men is projected to increase by 310 percent and 240 percent in women.

"This increase is explained by the low rate of diagnosis and treatment for osteoporosis, as well as some concerns about the potential side effects of the current treatments.

"There are also close similarities between the majority of the osteoporosis medications in terms of their anti-fracture effect and mechanism of action."

According to Professor Duque, there is a reduction in [bone formation](#) as part of the aging process that predisposes people to osteoporosis.

"In this case we are targeting the real problem by stimulating the bone forming cells to work and produce more bone, thus increasing [bone](#) mass and hopefully preventing new fractures," he said.

Provided by University of Sydney

Citation: Researchers discover new treatment for osteoporosis (2013, November 21) retrieved 6 May 2024 from <https://medicalxpress.com/news/2013-11-treatment-osteoporosis.html>

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