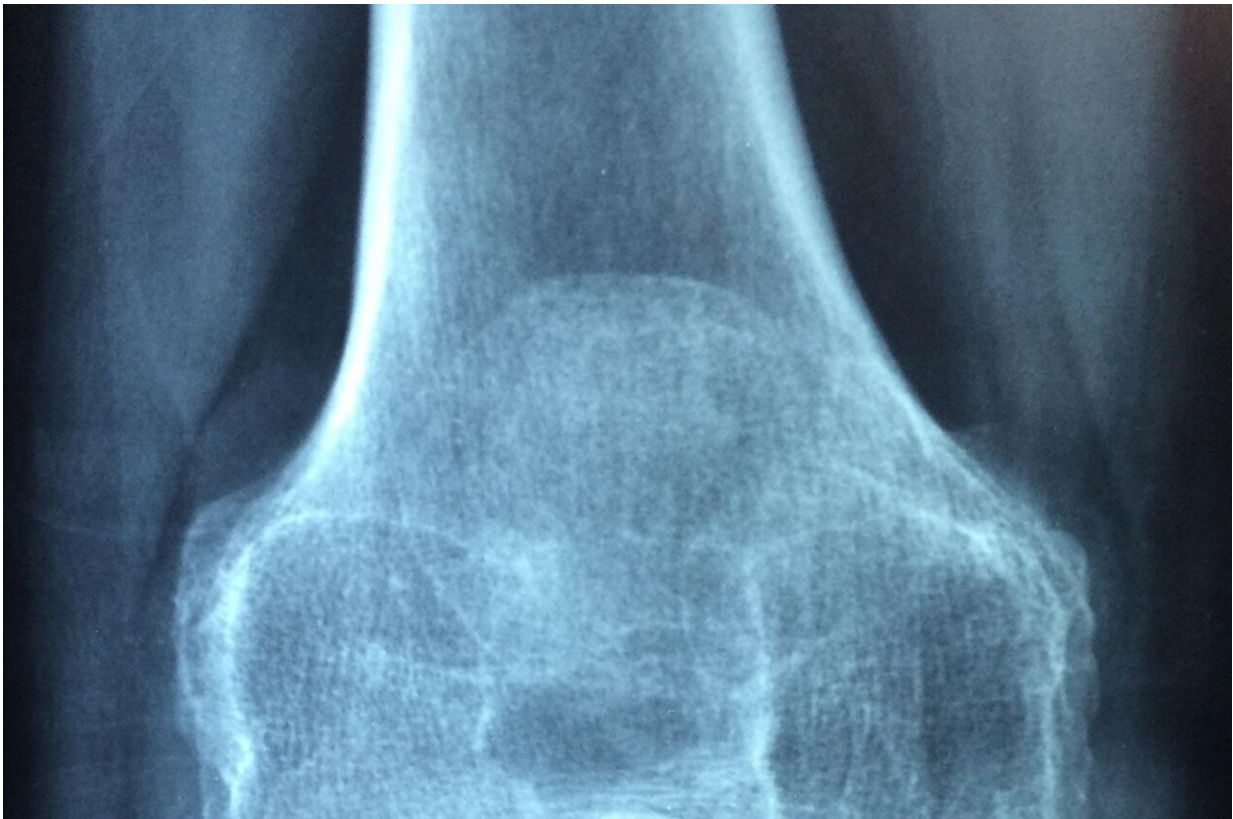


Researchers identify protein that may help protect against osteoporosis

August 9 2023



Credit: Pixabay/CC0 Public Domain

New research published in *The FASEB Journal* indicates that increasing the expression of a particular gene may help to prevent bone loss associated with postmenopausal osteoporosis.

For the study, investigators examined which genes are involved in turning precursor cells called [bone marrow](#)-derived mesenchymal stem cells (BMSCs) into cells that play a crucial role in bone formation. The screen identified a gene that encodes high mobility group AT-hook 1 (Hmga1), a protein that controls the expression of a variety of other genes.

In experiments conducted in rats, expression of Hmga1 increased during bone formation but decreased when rats' ovaries were removed (mimicking menopause). Treating ovariectomized rats with extra Hmga1 partially reversed [bone loss](#) in the animals.

"Our study demonstrated that Hmga1 prevents bone loss by promoting the osteogenic differentiation of BMSCs in osteoporosis rats, suggesting that Hmga1 could be an important therapeutic target for osteoporosis," said corresponding author Yihe Hu, Ph.D., of Zhejiang University, in China.

More information: Hmga1-overexpressing lentivirus 1 protects against osteoporosis by activating the Wnt/ β -catenin 2 pathway in the osteogenic differentiation of BMSCs, *The FASEB Journal* (2023). [DOI: 10.1096/fj.202300488R](https://doi.org/10.1096/fj.202300488R)

Provided by Wiley

Citation: Researchers identify protein that may help protect against osteoporosis (2023, August 9) retrieved 27 April 2024 from <https://medicalxpress.com/news/2023-08-protein-osteoporosis.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.