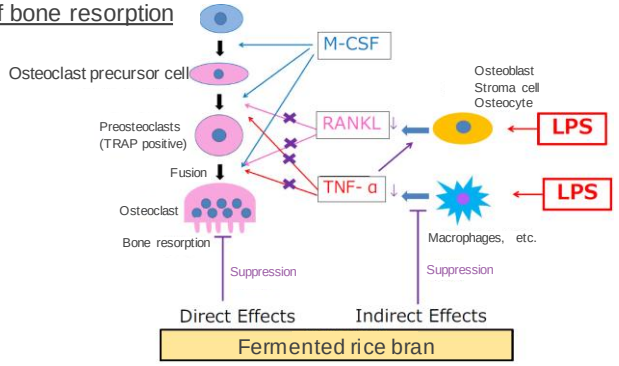
Tohoku Univ. Technology

Inhibitor of bone resorption

To prevent and control of the progression of bone resorption with food

Mechanism of inhibition of bone resorption



Overview

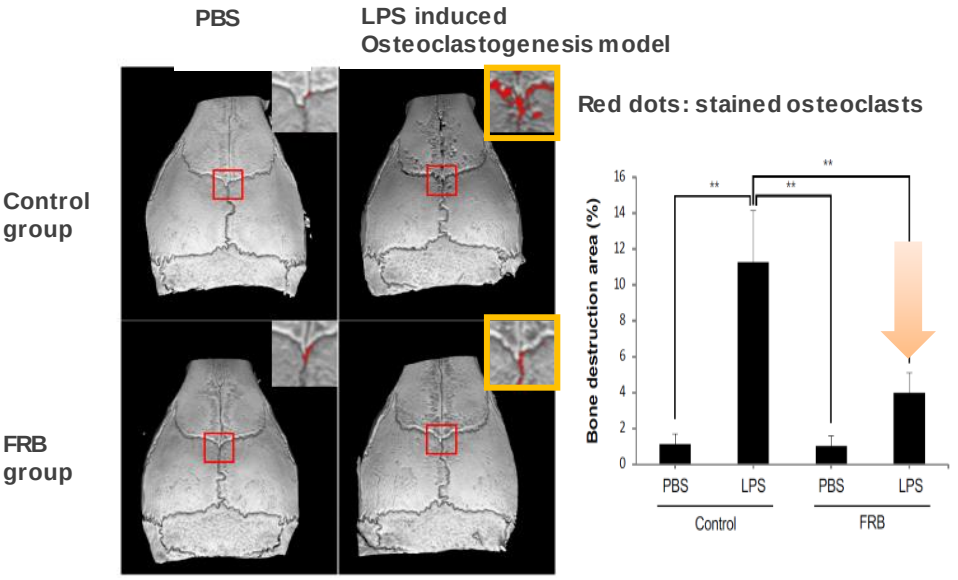
Rheumatoid arthritis and periodontal disease are known to cause bone resorption due to inflammation. Although various drugs have been administered, it is desirable to inhibit and prevent bone resorption through food intake, which is easier and more convenient.

In this invention, we found that two-step fermented rice bran (FRB) inhibits the formation of osteoclasts caused by inflammation and suppresses bone resorption. Furthermore, the mechanism of the suppression was confirmed, and the route to directly and indirectly suppress the formation of osteoclasts was elucidated.

Possible Application

- Food with functional claims and food for specified health uses
- Pharmaceutical composition for prevention and treatment of bone resorption due to inflammation

Bone resorption experiments in the mouse calvaria



The fermented rice bran (FRB) diet group showed significantly reduced bone resorption compared with the LPS-treated group on the control diet.

Publication

[1] Noguchi T, Kitaura H, et al., Nutrients. 2023, 15(13):3044.

IP Data

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