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# Effect of Wasabi Leafstalk (*Wasabia japonica* MATS Bone Metabolism in Mouse Calvaria Tissue Culture

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The effect of wasabi leafstalk (*Wasabia japonica* MATSUM.) ext metabolism in a tissue culture system using mouse calvaria *in vitro* calvaria tissues obtained from normal mice were cultured for 48 h . $CO_2$/95% air in Dulbecco's modified Eagle's medium (high glucose

either vehicle or wasabi leafstalk extract (10, 50 and 250 μg/ml of
leafstalk extract was obtained from a homogenate with 20% ethan
wasabi leafstalk extract (10 μg/ml) caused a significant increase in
alkaline phosphatase activity in the bone tissues. With higher conc
μg/ml), however, the effect was weakened. The bone deoxyribonu
content was not significantly altered by the presence of wasabi leaf
μg/ml). The wasabi leafstalk extract-induced increase in bone calci
completely prevented by the coexistence of cycloheximide ($10^{-6}$ M
synthesis, suggesting that the effect of wasabi leafstalk extract is ba
synthesized protein component. Meanwhile, the anabolic effect on
was not seen in the presence of the ethanol extract (50 μg/ml) from
dried shiitake, gabaron tea, green tea (sencha), muskmelon, satsum
blueberry, and soy bean. The present study demonstrates that wasa
an anabolic effect on bone calcification, *in vitro*.

**Keywords:** bone metabolism, wasabi leafstalk, calcium, alkaline p
calvaria



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