Reviewer’s report

Title: Water extract of the fruits of Alpinia oxyphylla inhibits osteoclast differentiation and bone loss

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Reviewer: Chun Hay Ko

Reviewer’s report:

The authors have just mentioned that water extract of the fruits of Alpinia oxyphylla inhibits osteoclast differentiation and bone loss. They intended to define their research question into events relevant to RANKL-induced osteoclastogenesis but not some specific clinical conditions, such as post-menopausal osteoporosis or cancer metastasis related bone destruction. This piece of work seems like a proof-of-concept paper and the clinical implication is moderate.

Major Compulsory Revisions#

1. There is lack of information about the authentication of the fruits of Alpinia oxyphylla. Standardization of the raw materials and the water extract WEAO using HPLC, ULPC or LC-MS is essential for medicinal research. The yield of the extract should be given-

2. As mentioned before, the systemic RANKL injection model is not a good animal model to mimic clinical events such as estrogen-deficient osteopenia (osteoporosis) or localized bone destruction (osteoarthritis or lytic bone metastasis). They can choose the other model to enhance the clinical value of the paper. Besides, the authors need to justify why they choose oral administration of WEAO (0.25 g/kg twice daily) for 5 days. 500mg/kg per day is quite high for human (HED = 40mg/kg extract).

3. The authors have put much effort in data elaboration instead of ‘real’ discussion. It is better to discuss (1) what is (are) the main chemical components of the fruit of Alpinia oxyphylla responsible for its biological actions; (2) how their work could be applied and used as preventive medicine; (3) and the rationale of whole study design.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests