Reviewer’s report

Title: Anti-osteoclastogenic activity of matairesinol via suppression of p38/ERK-NFATc1 signaling axis

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Reviewer: Sang Yeol Lee

Reviewer’s report:

This manuscript addresses new functions of matairesinol, which is a natural product found in seeds, vegetables and fruits. Although its biological functions such as anti-cancer and/or anti-fungal activities have been reported so far, its anti-osteoporotic activity has been unknown.

In this paper, authors report anti-osteoporotic activity of matairesinol and its mechanisms.

Authors report that matairesinol suppresses activations of two MAPKs, p38 and ERK, thus downregulates NFATc1, which is critical for expressions of TRAP, OSCAR, and v-ATPase0d2, genes required for osteoclastogenesis.

They also report that anti-bone resorptive activity of matairesinol is not found in mature osteoclasts, it only inhibits osteoclast differentiation by RNAKL induced NFATc1.

This manuscript present new effects of matairesinol in osteoporosis, which is a one of the major disease related with aging. I recommend this manuscript is worth to be published in this journal without major revision.

However, authors need to explain why the dosages of matairesinol applied in the assays if Fig.1 is not identical. (B and C include 0.3 micro M while D & E do not) include 0.3 micro M)

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.