Reviewer's report

Title: Equol enhances tamoxifen's anti-tumor activity by induction of caspase-mediated apoptosis in MCF-7 breast cancer cells

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Reviewer: Daniel R. R Doerge

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The clear discrepancy between effects of equol in vitro and those in vivo make the relevance of these findings minimal. While exposure of experimental animals and humans to levels of conjugated equol (glucuronides and sulfates) can reach 10's of uM in serum, the levels of active aglycone are approximately 0.1% of total (10's of nM). The 100 uM levels of equol reported here are too far away from any plausible exposure scenario to be useful. Please refer to Allred et al., J Ag Food Chem 2005 for a discussion of the effect of metabolism on the possibilities for activity of equol ion vivo.

Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal

Quality of written English: Acceptable

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

Declaration of competing interests:

None