Reviewer's report

Title: Extra-Virgin Olive Oil (EVOO)-derived Secoiridoids and lignans: Two new families of anti-HER2 (erbB-2) phytochemicals

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Reviewer: Luigi Ricciardiello

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The authors report a new mechanism of HER2 blockage induced by phenolic compounds obtained from phenols-rich EVOO. The findings are important and convincing, indicating a possible role of these compounds in chemotherapy. The employed methods are appropriate and the data is strengthened by the use of several HER2 inhibitors (siRNA, Lapatinib and MG132) clearly demonstrating a direct effect of the phenolic compounds in a dose/dependent manner. The manuscript is very well written and the data are strong to support the conclusions.

The only comment that I would like the authors to address is on the mechanism of apoptosis induced by polyphenols after blockade of HER2. Is this mechanism similar to the mechanism obtained after blockage with Herceptin (trastuzumab)? In the report by Brodowicz et al. (BJC 2001), the authors report 97% of apoptotic cells in SKBR3 cells treated with Trastuzumab for 96 hours. Have the authors tested any synergistic effect among the phenolic compounds on apoptosis and cell proliferation?

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.

Declaration of competing interests:

I declare that I have no competing interests