Reviewer's report

Title: Anti-proliferative and anti-adhesive effects of four plant extracts on the breast cancer cell line MCF-7

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Reviewer: Hsueh-Wei Chang

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Major comments:
1. [material and method- Cell cycle analysis] “For statistical analysis, … the sub-G1-peak of the histogram as apoptotic ones.”# It is not suitable to use the subG1 as apoptotic detection. The “Annexin V”-based flow cytometry is more suitable.
2. [Fig. 1] The authors just provide the raw data without statistics and data in figure or table for the cell cycle distribution. I suggest the authors to add the mean+- SD for each data to show the possible cell arrest or not in addition to the flowJo figures.
3. [Fig. 2] The subG1-based apoptotic detection cannot completely match to the proliferation. AnnexinV may be better for apoptosis detection. For example to JCP1, the 25 and 50 µg/ml have both higher apoptosis and proliferation in an inconsistent way. For PS, the 25 µ/ml have both maximum apoptosis and proliferation.
4. [Table 2] The values for these measurements have to provide rather than the positive or negative symbol.
5. The role of anti-adhesive effects on proliferation is not clear. It may be discussed further.

Minor comments:
1. [Background] “In this study, four plants were collected for evaluation of their antitumor activities with respect to anti-proliferative and pro-apoptotic properties.” But the title is “Anti-proliferative and anti-adhesive effects of four plant extracts on the breast cancer cell line MCF-7”. Therefore, it may change to “anti-adhesive effects” in the background.
2. [Result-Fig. 3] “The ZI extract exhibited the lowest rate of cell detachment and only a few dead cells, which correlated with the results of the cell cycle measurements where the ZI extract at a concentration of 10 µg/ml showed a significantly increased proliferative phase.”# Please add the values for them to show how it is correlated with the results.
3. [Result-Fig. 5] Before this sentence “PS and ZI extracts displayed similar toxicity to both cell lines.”, I suggest the authors to the sentence “The IC50 values for JCP1, PS, ZI and JCP2 for MCF-10A cells were @, @, @ and @ µg/ml, respectively” where @ are the values.
4. [Result-Fig. 5] The JCP1 and JCP2 seem to more toxic to normal cell than cancer cells. It also needs to mention in this result for Fig. 5.

5. [Table 1 legend] “IC50 values for MCF-7 cells”# “IC50 values at 48 h for MCF-7 cells”

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

**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' below