Reviewer’s report

Title: Synergistic Anti-proliferation Effects between Gambogic Acid and Docetaxel in Gastrointestinal Cancer Cells

Version: 1 Date: 26 October 2011

Reviewer: Seong-Gyu Ko

Reviewer’s report:

Zou and coll. presented an interesting paper concerning the synergistic effects of Gambogic acid with Docetaxel on the anti-proliferation in gastrointestinal cancer cell lines and also showed some key molecules expression related to apoptosis. The topic appears to be intriguing, since the needs is mounting suggesting an important role of natural products in cancer research area. The paper is very well written and the figures presented look reliable. However the Authors should address several concerns to make the manuscript suitable for publication on Journal of BMC Complementary and Alternative Medicine.

1. The authors showed the synergistic enhancement of apoptotic cell death using combination therapy of GA and Doc in Figure 1. I could not find the synergistic anti-proliferation effects in some cell lines and doses. Will you describe your opinion in this fact like cell type specific reason or dose selection?

2. The authors showed the reduced expression of predictive markers for the sensitivity of taxane-based chemotherapy such as beta-tubulin and tau. You described Doc binds to beta-tubulin and exerts its growth inhibition through G2/M arrest. Even though the authors showed the strong evidence for the synergistic anti-proliferation effects using GA and Doc, you should show more detailed molecular changes of cell cycle-related and apoptosis related molecules. You can show the FACS data and expression of Bcl2 family, caspase proteins, cyclin, cyclin dependent kinase and cyclin dependent kinase inhibitors.

3. The authors showed the down regulation of Doc related gene expression by GA treatment in Figure 5. You should show the changes of gene expression of GA and Doc combination treatment.

4. What is the reason you chose the dose of 0.25uM (GA) in Figure 3 and Figure 5. In Figure 4, you did not describe the treatment doses.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.