Reviewer’s report

Title: Coix lacryma-jobi var. ma-yuen Stapf sprout extract has anti-metastatic activity in colon cancer cells in vitro

Version: 0 Date: 06 Sep 2017

Reviewer: Yongxiang Chen

Reviewer’s report:

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Coix lacryma-jobi var. ma-yuen (Rom.Caill.) Stapf has been used in China as an herbal medicine. Although this plant has been used as a diuretic, stomachic, analgesic, anti-arthritic, and anti-spasmodic agent, and may reduce liver fat accumulation and protect cells from tumor-stimulating compounds, it is unknown if Coix lacryma-jobi var. ma-yuen Stapf sprout extract (CLSE) has an anti-metastatic effect in colon cancer. The authors determined the anti-metastatic effect of CLSE on colon cancer cells. Based on the results, the authors concluded that CLSE could inhibit migration, invasion, and adhesion of colon cancer cells and tube formation by HUVECs via repression of the ERK1/2 and AKT pathways under hypoxic conditions. Therefore, CLSE may be used to treat patients with colon cancer. Specific comments:

1. Coix cultivars were obtained from the National Institute of Crop Science (Miryang, Republic of Korea). Coix lacryma-jobi var. ma-yuen (Rom.Caill.) Stapf sprout extract (CLSE) was manufactured by the Rural Development Administration (Chungbuk, Republic of Korea). How to make a quality control of the herbal source for the study?

2. The methods and references for the identification, collection and extraction of CLSE preparation should be provided in more detail.

3. In additional to colon cancer cells, will CLSE cause any cytotoxicity to "normal" cells?

4. Why DFO was used to induce cancel cell migration?

5. Phospho-p65 rather than phosphor-NF-kB should be labelled for Figure 4.

6. The possible major compounds and mechanisms on the anti-cancer effects of CLSE should be discussed.

7. Are there any potential side effects of herbal-based approach? Please discuss the safety of these herbal preparations.
8. The authors should discuss the severe limitations of their approach and give future directions for research in the field of anti-cancer research with traditional medicine.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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