Reviewer’s report

Title: The immunomodulatory activities of licorice polysaccharides (Glycyrrhiza uralensis Fisch.) in CT 26 tumor-bearing Mice

Version: 0 Date: 24 Apr 2017

Reviewer: Sudeep Gautam

Reviewer's report:

COMMENTS TO THE AUTHOR

This manuscript concerns the effect of licorice extract on T-cells activation by the upregulation of cytokines production in CT 26 tumor bearing BALB/c Mice. There are some issues with this manuscript (outlined below), the authors could consider to add to improve the study.

1. The manuscript has some typos and grammatical errors which need to be rectified in the text of the entire manuscript. Please also correct the Title of the manuscript.

2. Define all abbreviations in the text when used for the first time. What is BRMs? "In vitro and In vivo" should be written in italics.

3. Licorice extract is not active as it increases the spleen size more than 4 times after treatment as compared to normal control (Table-1). Authors should perform the blood parameter for red blood cells, white blood cells, and platelets counts.

4. Authors need to present all data in the form of graphs instead of tables. Flow cytometry data (table-3) can be presented as Scatter Graphs along with density plots. Statistical analysis should be verified. It is not clear how the measurements are compared between groups. Please, revise carefully the statistic symbols and the level of significance.

5. 500 mg/kg dose was used in the study, which is very high. How was the dose of licorice extract in mice chosen- were there preliminary experiments to justify this? How were the fractions A, B & C prepared? How were T-lymphocytes isolated from the peripheral blood. Please add this information.

6. Is the dose of licorice extract used, similar to those physiologically observed when human consume natural products?

7. The important mechanism of this paper is that licorice extract activates T-cells by the upregulation of IL-7 in the mice; however, how this happens is not addressed experimentally and probably should be.
8. Results are not presented accurately in the manuscript. Please revise it carefully. What is growth (weight) in table-2? Table-2 is just the repetition of table-1. Please also mention units in the entire manuscript, example; page-7, line 194 25.03±1.52 should be written as 25.03±1.52 gm. Same goes for all of the other values used in the study.

9. The introduction can be shortened by using only relevant references. Discussion can be improved. Some sentences from the Results and Discussion sections are required to be reframed to make them more meaningful.

**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

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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