Reviewer's report

Title: Diosgenin ameliorates palmitic acid-induced lipid accumulation via AMPK/ACC/CPT-1A and SREBP-1c/FAS signaling pathways in LO2 cells

Version: 0 Date: 08 Aug 2019

Reviewer: Roy Partha

Reviewer's report:

The manuscript describes an important aspect of NAFLD which is a concern for liver related disorder. There are several drugs known to control this disease but all of them are either partly able to alleviate the disease or linked to side effects. Based on these the manuscript is of interest. However it needs addressing the following concerns before it is considered further.

(1) There are evidences of several poorly formed English languages which needs through revision.

(2) I am not very much convinced with the controls used. For example use compound C, it is a partial blocker of AMPK. The author may have used some genetic blocker like siRNA.

(3) It was not clear from the manuscript if the treatment of diosgenin and the inhibitors were together or they were treated one after the other. This need to be mentioned clearly since it will impact the data.

(4) AMPK is known to inhibit ACC, also the authors shows the same in Fig. 10. But in the data (fig. 9) diosgenin was found to increase the level of p-ACC. This about a bit confusing since diosgenin is also known to increase AMPK (Fig. 10).

(5) Was there any dose dependent effect of diosgenin? Apparently it seems not. Then what was the rationality of using all the three doses in all experiments?

(5) Discussion portion needs to be more focused and with additional referencing.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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

No

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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