Reviewer’s report

Title: Neoboutonia melleri var velutina Prain: in vitro and in vivo hepatoprotective effects of the aqueous stem bark extract on acute hepatitis models

Version: 0 Date: 18 Aug 2017

Reviewer: Wan Yong Ho

Reviewer's report:

This study evaluated the in vitro and in vivo hepatoprotective effect of Neoboutonia velutina on acute hepatitis models. The study contains interesting information, however, below are some major points that need to be improved by the authors:

- The title must be rewritten, the current one is not suitable.

- This manuscript needs some English editing. In addition, the concept of the manuscript is not consistent throughout the manuscript. Authors should clearly describe and discuss the various effects (ie anti inflammation, antioxidant and liver protection) throughout the manuscript.

- In vitro assay on HepG2 cell line should include a positive control.

- Details on the in vivo CCl4 and Concanavalin-A challenges are unclear. The current elaboration is ambiguous as to when CCl4 or Concanavalin-A was given to the mice. Explaining using a table or bullet form of the treatment received by respective groups would be more helpful.

- The purported assay for sample collection must be clearly stated. For example, authors should state clearly the assays that will be performed using the organs collected after the challenges.

- The samples used for respective assay should also be clearly indicated. For instance, authors must clearly indicate whether TAC and DPPH were evaluated based on extract samples or extract- treated animal organ samples.
- Authors should evaluate the in vivo antioxidant activity using assays that are more suitable for in vivo models (particularly on the serum and liver homogenate) such as GSH, CAT, SOD, FRAP, etc.

- Primer sequence and assay condition for RT-PCR and qPCR must be reported.

- Level of CYP 450 must be quantified.

- Quality of histology image is not acceptable. All details stated by authors in the figure legend cannot be observed from the images. Thus, authors must improve the histology images.

- Discussion must be rewritten. Most of the elaboration provide superficial explanation on the trend of the results. Authors should discuss the functions of the various biochemical markers, assayed activities and histological observation in greater depth in relation to hepatitis or liver injury and how NVH can be proven to alleviate liver injury based on the findings. Besides, the authors should also compare the activities such as antiinflammation, antioxidant and hepatoprotection effect based upon the phytoconstituents of NVH as assessed from this study. The current discussion does not provide a good glimpse of connection between the various assessments performed.

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.

No

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

No
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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