Reviewer's report

Title: Herbal formula SC-E1 suppresses lipopolysaccharide-stimulated inflammatory responses through activation of Nrf2/HO-1 signaling pathway in Raw 264.7 macrophages

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Reviewer: Chien-Yun Hsiang

Reviewer's report:

This manuscript reports the anti-inflammatory effects and mechanisms of SC-E1 on LPS-stimulated macrophages. Data showed that SC-E1 inhibited LPS-induced NO secretion, iNOS expression, and pro-inflammatory cytokine production. SC-E1 also suppressed the LPS-induced NF-κB activation and MAPK pathway. In addition, SC-E1 induced HO-1 expression via the nuclear translocation of Nrf2.

There are some questions needed to be addressed.

1. What is SC-E1? It seems that SC-E1 is a new combination of five herbs. Have SC-E1 been used for the treatment of inflammatory diseases in clinics? The rationality of this study on the anti-inflammatory effects of herbal formula SC-E1 is being questioned.

2. In Abstract: "The pharmacological and biological effects of SC-E1 on the production of pro-inflammatory cytokines, inflammatory mediators, and related products were determined by ELISA and western blotting." The detailed pharmacological and biological effects cannot be clarified just by cell lines.

3. Page 5, Line 16-23. The cited article was doing the literature review without solid scientific evidences for additional or synergistic effect among simple herbal drug of one formula. Please provide the solid evidences, such as the meta-analysis or RCT trial study for proving this hypothesis.

4. Page 6, Line 3-9. anti-hyperglycemic, and anti-inflammatory activities 28054981 [21-23]. In addition, the anti-inflammatory effects of Platycodon grandiflorum were investigated 15748625 [24-26]. What is "28054981" and "15748625"?
5. The Western blot data in Figure 5, 6, and 7 should be quantified. The repeat number should be supplemented.

6. In Conclusion: "Overall, SC-E1 should be considered as a new prescription for treating inflammatory diseases." This conclusion cannot be made just by cell experiments. Mice experiments should be performed to verify the in vivo anti-inflammatory effects of SC-E1.

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.

Unable to assess

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
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Needs some language corrections before being published
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