Reviewer’s report

Title: Water extract from processed Polygonum multiflorum modulate gut microbiota and glucose metabolism on insulin resistant rats

Version: 3 Date: 14 Nov 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses one or several testable research questions? (Brief or other article types: is there a clear objective?)

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with sufficient technical rigor to allow confidence in the results?

No - there are minor issues

STATISTICS - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Has the author addressed your concerns sufficiently for you to now recommend the work as a technically sound contribution? If not, can further revisions be made to make the work technically sound?

Probably - with minor revisions
GENERAL COMMENTS: The authors have responded to most of my concerns in the response to reviewer document. However, it will help if some of it also reflects in the main manuscript (even if the journal publishes the response online).

REQUESTED REVISIONS:

1. One of my original queries was not answered: Was an OGTT attempted? If so, please include the data either in the manuscript or as supplementary file depending on journal policy.

2. Please justify in the method section why two methods of blood collection were used when a small amount of ocular vein blood sample (collected at the same time as tail vein) could have been used to test FBG as well.

3. Please include the body weight data (figure S1) either in the manuscript or as supplementary file depending on journal policy. It may help to refer back to the figure in the method section with a statement such as "the blood collection procedures did not have a significant impact on body weight". The detailed justification, as presented in the response to reviewer, is not necessary for the main manuscript, but a brief statement will certainly help.

4. Please revise figure 2 in the main submission with boxes with annotations (e.g., "LV" for lipid vacuole, "PI" for portal inflammation). The figure, as presented in the response to reviewer, has the boxes but no annotations. The figure in the manuscript does not have the boxes. Without the boxes and annotation, it is hard to see what the authors are referring to.

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.

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:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

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5. Do you have any other financial competing interests?

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If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

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