Author’s response to reviews

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

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Author’s response to reviews:

13 January 2020

Dear the Editor,

Please find attached a revised version of our manuscript “Water extract from processed Polygonum multiflorum modulate gut microbiota and glucose metabolism on insulin resistant rats”, which we would like to resubmit for publication in the journal of BMC Complementary and Alternative Medicine.

Your comments and those of the reviewers were highly insightful and enabled us to greatly improve the quality of our manuscript. In the following pages are our point-by-point responses to each of the comments of the reviewers. The modified parts of the article are marked in red font for easy viewing.
We hope that the revisions in the manuscript and our accompanying responses will be sufficient to make our manuscript suitable for publication in the journal of BMC Complementary and Alternative Medicine.

We shall look forward to hearing from you at your earliest convenience.

Yours sincerely, Jie Yu

Response to Editor’s Comments

* 1. Please consider the list of authors as it currently stands with reference to our guidelines regarding qualification for authorship (http://www.biomedcentral.com/submissions/editorial-policies#authorship).

Currently, the contributions of all authors do not automatically qualify them for authorship. In the section “Authors’ contributions”, please provide further clarifications on their contributions, and see our guidelines for authorship below.

An 'author' is generally considered to be someone who has made substantive intellectual contributions to a published study. Authors are expected to fulfil the criteria below (adapted from McNutt et al., Proceedings of the National Academy of Sciences, Feb 2018, 201715374; DOI: 10.1073/pnas.1715374115; licensed under CC BY 4.0):

Each author is expected to have made substantial contributions to the conception OR design of the work; OR the acquisition, analysis, OR interpretation of data; OR the creation of new software used in the work; OR have drafted the work or substantively revised it

AND to have approved the submitted version (and any substantially modified version that involves the author's contribution to the study);

AND to have agreed both to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.

Acquisition of funding, collection of data or general supervision of the research group, alone, does not usually justify authorship.

If these guidelines are not met, we would request the following change of authorship form be filled out and sent to our editorial office - https://resource-cms.springernature.com/springer-cms/rest/v1/content/7454878/data/v5
Anyone who contributed towards the article who does not meet the criteria for authorship can be acknowledged in the ‘Acknowledgements’ section.

Responds: Thanks to the editor's precious advice. We have reproved further clarifications on their contributions and attached the author agreement as supplementary material.

* 2. Please state in the figure legends whether the image in figure 1 is your own or taken from another source.

If taken from another source please acknowledge the source in the figure legend, and if it is under copyright also state the written permission given to use and adapt it.

If the above conditions are not met the image needs to be removed. Please note the editors may request proof of permission at any time.

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Responds: Thanks to the editor's precious advice. We have replaced some of the pictures in Figure 1 to ensure that all the graphics in Figure 1 are not from other sources. We guarantee that Figure 1 can be published as our own graphic.

* 3. Please include the uncropped microscopy images of the individual panel figures in Figure 2 as a supplementary file. Please also include the uncropped blot images for Figure 4 as a supplementary file. Please ensure that all controls and ladders can be clearly seen.

Please clearly label all uncropped images so that they can be linked to the cropped images in the manuscript.

Responds: Thanks to the editor's precious advice. We have provided the original images in Figures 2 and Figures 4 in the supplementary material (Figures S2 and Figures S3).

Response to Peer-reviewers’s Comments

Reviewer 2 (Reviewer 4):

PEER REVIEWER COMMENTS:

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.

Responds: Thanks to the reviewer's precious advice. We conducted the OGTT experiment in the last week of the experiment, and have added relevant descriptions to the article (Page-7 paragraph-1 line-3). “Oral glucose tolerance test was performed one day before the end of the experiment. The rats were given 50% glucose solution and obtained blood samples via the tail vein, the blood glucose values were measured sequentially with blood glucose meter at 0 h, 0.5 h, 1 h, 1.5 h and 2 h after glucose dosing. Draw the Oral glucose tolerance test (OGTT) curve and calculate the area under the curve”, and have added the experimental results to the supplementary materials (Fig.S2 )

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.

Responds: Thanks to the reviewer's precious advice. When measuring FBG, we did not follow the tail vein blood collection method in the strict sense. Blood glucose meter is a quick and convenient method for detecting blood glucose all over the world. Use of such a glucometer would minimize blood volume requirements (only one or two drops) for the measurement of glucose in small laboratory animals. We used the blood glucose meter to gently prick the tail of the rat. Related statements have been added to the article (Page-6 paragraph-4 line-6). “The blood glucose meter (ACCU-Check blood glucose meter, Roche Diagnostics, Shanghai, China) is used by gently prick the tail of the rat, and the FBG levels will be quickly measured in the 4th, 8th, and 12th week”.

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.

Responds: Thanks to the reviewer's precious advice. According to the opinion, we have added weight data as figure S1 to supplementary materials. Related statements have been added to the article (Page-8 paragraph-1 line-1). “At the end of the experiment, no significant difference in body weight was observed between groups, and the blood collection procedures did not have a significant impact on body weight”.

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.

Responds: Thank you so much for your academic guidance and advice. In order to make the picture clear and intelligible, we have added annotations in Figure 2. The red box represents the lipid vacuole, and the blue box represents the portal inflammation.