Author's response to reviews

Title: Hypoglycemic effect of polysaccharides with different molecular weight of Pseudostellaria heterophylla

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Author's response to reviews: see over
Cover letter

Dear editor,

Thank you for your guidance.

The cover letter gives a point-by-point response to the comments of editor and two referees.

Response to Dr. S.J.S. Flora

Thank Dr. S.J.S. Flora, thank you very much for giving me this chance.

We have adopted critical suggestions of two referees and thoroughly revised our manuscript. Some spelling, grammatical and syntactic errors have been corrected in manuscript. Especially in “Abstract”, some spelling errors and poor sentences have modified; in “Multiplex protein biomarker analysis results” section, we have added some specific data to ensure research content integrity; in “Conclusions” section, we have detailed analysis to the experimental data and results. The quality of the whole manuscript is improved, I hope it suit to publication in this journal.

Response to Referee1

Thank Referee1 very much for your guidance.

1. Manuscript needs spelling, grammatical and syntactic corrections.

Reply: Some spelling, grammatical and syntactic errors have been corrected; the quality of the whole manuscript is improved, As far as possible with it suit to publication in this journal.

2. In Abstracts, Background section “The polysaccharides with different molecular weight were compared for hypoglycemic active on two animal models both high does
alloxan induced type1 diabetic mellitus (T1DM) and high-fat/lower does streptozotocin induced type2 diabetic mellitus (T2DM)” should be corrected The polysaccharides with four different molecular weight were compared for hypoglycemic active on two animal models both high does alloxan induced type1 diabetic mellitus (T1DM) mice and high-fat/lower does streptozotocin induced type2 diabetic mellitus (T2DM) rats.

Reply: Sentence has been corrected as “Four polysaccharides with different molecular weight……”

3. Background section is too long. It should be intensively shortened and be made more concise less than 2/3.

Reply: Background section has been abbreviated.

4. Table 2,”Relative to model control” should be indicating how many days, it is not clear.

Reply: “Relative to model control” should be indicating how many days, it is 30th Day, has been added.

5. Figure 3A is hard to understand. Detailed layout of each biomarker should be provided.

Figure3A legends has been added more detailed information. Follow as “Serum was filled in 96-well plate collected CCD images of biomarkers from a ProArray Analysis System. Respective capture-antibodies are spotted in arrays within each well. 8 spots are for standard curve, each standard sample test in triplicates (left area). 6 group rat’s serum samples displayed the concentration profiles by quantitative
chemiluminescence (right area). Samples test in duplicates, control test in duplicates for two different concentrations.”

**Response to Referee2**

Thank Referee2 very much for your guidance.

“The authors did not have convincing data to prove and testify their conclusions. The quality of the whole manuscript is not good enough for publication in this journal”.

**Reply:** In “Conclusions” section, we have detailed analysis to the experimental data and results in revision. The quality of the whole manuscript is improved, I hope it suit to publication in this journal.

1. The animal experimental design is not compatible with the results. In the methods part, authors mentioned that there are 7 groups including PF80, but actually no results were addressed about this group.

**Reply:** “PF80” actually was “PH-TP”, so PH-TP group appeared on results. We have deleted “PF80” in revision, unified the symbol as “PH-TP group”.

2. Abstracts part which needs to be modified because of too many mistakes. For example, line 2: molecular weight size, line6: combine, line 7-9, line 18: lead, and line 19: inhibite.

**Reply:** line 2: “weight” has been deleted; line6: “combine” has been modified as “combined”; line 18: “lead” has been deleted; line 19: “inhibite” has been modified as “inhibited”. We have modified many errors in whole manuscript.

3. Figure legends need more detailed information.

**Reply:** Figure3A~C legends have been supplemented information, follow as:
**Figure 3A** Serum was filled in 96-well plate collected CCD images of biomarkers from a ProArray Analysis System. Respective capture-antibodies are spotted in arrays within each well. 8 spots are for standard curve, each standard sample test in triplicates (left area). 6 group rat’s serum samples displayed the concentration profiles by quantitative chemiluminescence (right area). Samples test in duplicates, control test in duplicates for two different concentrations.

**Figure 3B** The analysis results of 3 biomarkers Acrp30, IL-1β, and IL-10 in serum of T2DM rats after *Pseudostellaria heterophylla* polysaccharide (PF-40) treatment.

**Figure 3C** The analysis results of 3 biomarkers CRP, TNF-α and leptin in serum of T2DM rats after *Pseudostellaria heterophylla* polysaccharide (PF-40) treatment.

4. Figure 3: There is no significant change of Acrp30 and TNF-α between model and positive group, so authors can not drew conclusions as they mentioned in the abstracts part.

**Reply:** Excuse me, I cannot agree with you on this point.

Indeed, “there is no significant change of Acrp30 and TNF-α between model and positive group”, but Acrp30 was found significantly increased and TNF-α decreased in the group of PF40. PF40 has more advantages than positive group in this respect.

Juan Hu