

Response to Peer-reviewers's Comments

The main corrections in the paper and the responds to the peer-reviewers' comments are as follows:

Reviewer #1: The manuscript written by Wei J-D et al. analyzed the mechanism of Polygonatum kingianum (PK) for alleviating high-fat diet (HFD)-induced nonalcoholic fatty liver disease (NAFLD). They performed ultra-high performance liquid chromatography/mass spectrometry and analyzed the mitochondrial metabolomics profiling. They found that PK can alleviate HFD-induced NAFLD by regulating riboflavin metabolism, increasing flavin mononucleotide content and further improving mitochondrial functions. Since NAFLD is a disease that become a serious health problem in many countries, the data are important. However, there are some concerns that need to be addressed.

1. PK might contain lots of bioactive component besides polysaccharides. If there are candidate ingredients for alleviating NAFLD, they should be discussed and mentioned.

Response: More candidate ingredients in PK have been presented in the manuscript (Introduction).

2. All the figures are difficult be understood, and should be explained in more detail.

Response: The figures have been explained in more detail (which has been shown in

Figure Legends).

3. Histological effect of PK should be shown.

Response: As described by the review, it is a good idea to show the histological effect of PK. However, the histological effect of PK has been presented in the published research paper (Figure 2; *Biomed Pharmacother*,2019,117:109083) which reported our previous studies. The alleviating effect of PK against NAFLD has been presented in this manuscript (Introduction) and the published paper has been cited in our manuscript (Reference 6).

4. Differences between PK and simvastatin should be explained.

Response: Differences between PK and simvastatin have been explained (Results; Discussion).