Dear editor and reviewer,

Thanks for considering our manuscript and all of the useful comments. The reviewer’s comments are very important for our future research, so we revised the manuscript, and gave responses to the comments as follows.

**Reviewer 2:** The present study prepared an alkali polysaccharide-enriched fraction (AAMP) from the edible fungus *A. mellea*. The hyperglycemic effect of AAMP was examined by high fat diet and dexamethasone co-treated (HFD/DEX) rat. The results showed that oral administration of high dose of AAMP markedly lowered fasting blood glucose, improving glucose intolerance and insulin resistance. AAMP also enhanced the expressions of two critical lipases ATGL and HSL, leading to a decrease of serum triglyceride. In addition, AAMP suppressed the expression of SREBP-1c, resulting in AAMP observably inhibited lipid accumulation in liver. However, the present research work only displayed preliminary advance and will not have significant impacts in the molecule-based medicines related research field. Therefore, this manuscript is not recommended to accept for publication in *Molecules*. In addition, there are some major comments to be addressed as following.

1. There were some minor typographic, grammar, and format errors to be found in the text, such as lines 38, 40, 42, 70, etc. Authors have to check and revise these errors.

*Response to comments:* We have checked typographic, grammar, and format in line 38, 40, 42 and 70, and through the manuscript.

2. In the bioactivity section, authors have to provide the data of positive control. According to Figures 3-6, the bioactivity data were not significant. The examined concentration is too high to make any readers interested. Lines 75-76, 84-88, the experimental results were not so significant and sentences provided by authors were overclaimed.

*Response to comments:*

We agree with the reviewer’s point that we should provide the positive control. In the follow-up study, we continued to fractionate AAMP to obtain a polysaccharide with uniform molecular weight. Currently, the polysaccharide is undergoing oral hypoglycemic effect detection and we used metformin as a positive control drug.
However, due to time we can’t make up metformin in this manuscript.

Regarding the high dose, we think that 200 mg/kg is a medium dose. The commercially available oral hypoglycemic drug metformin has a daily dose of 0.5-1 g (assume human body weight is 60 kg). The equivalent dose of the rat is 6.3 times that of the human body, which means that the oral metformin should be administered to the rats at 105 mg/kg. The molecular weight of metformin is approximately 165 Da. The AAMP dose is 200 mg/kg but the molecular weight is approximately 23.3 kDa. Therefore, the molar concentration of AAMP is very low compared to metformin.

3. In the References section, the writing manner of some references did not follow the style of this journal. Authors have to check and revise these errors.

Response to comments: We have checked and revised the references.