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:** This study analyzes the effects of a mushroom extract on an animal model insulin resistance in rat. The results indicate that the extract improve glucose tolerance probably by changes in lipid metabolism.

The student t test is not appropriate when several groups are compared, as in figures 3 to 6. A multiple comparison test, such as Dunnett or Bonferroni, should be used for statistical analysis. Some of the changes observed are small, and it is possible that they will not be significant when a more exigent test is used.

Response to comments: The reviewer’s suggestions are very helpful to our study, and we should pay attention to combine the single factor test and the multiple comparison test when doing data analysis. In the next study we will increase the number of samples and consider multiple comparison test.

Quantitative data of the western experiments should be provided, not just a representative blot.

Response to comments: We have added the quantitative analysis in Figure 7A.

The composition, or at least the reference, of the high fat diet should be included.

Response to comments: We have provided the information of HFD in lines 193-194.