Reviewer’s report

**Title:** Guava Leaf extracts promote glucose metabolism in SHRSP.Z-Leprfa/Izm rats by improving insulin resistance in skeletal muscle

**Version:** 1 **Date:** 28 October 2012

**Reviewer:** Hsi-Lung Hsieh

**Reviewer’s report:**

Major Compulsory Revisions:

1. First, the formation of this manuscript is difficult to read such as in Fig. 3, the authors first described the Fig. 3C and then Fig. 3B (the results flow not well). The authors have to change the formation. Moreover, there is no description of Fig. 2A and 3A in the “Results” section?

2. In the study, the quality of Western blotting images (Figs. 2 and 3) are blurred and indefinite. The authors have to provide the more convincing images.

3. The authors mentioned the statistical analysis is differential in “Materials and Animals” section (Page 9: mean ± S.D.) and in all figure legends (Page 23: mean ± SEM). Moreover, it is not a convincing data in Fig. G (210.53 ± 5.15 vs. 203.08 ± 4.33 mg/dl/min, p=0.02). In Fig. 3B, the statistical data (P/T AMPK protein—Control=~0.3 vs. GL=~1.5) is not identical to the description in the “Results” section (Page 13, Control=0.9±0.02 vs. GL-treat=1.13±0.02). How to explain these?

4. The authors have not to define whether the control group is treated with 70% ethanol (vehicle)? If is, to explain and discuss whether the ethanol affects glucose or fatty acid metabolism in the skeletal muscles? However, previous report has showed that excess fat can deposit and accumulate in the myocytes, impairing insulin sensitivity [29]. In the study, the authors showed treatment with GL can improve the insulin resistance, the author have to discuss whether GL treatment can affect fat deposition and accumulation in the skeletal muscles, repairing insulin sensitivity?

Minor Essential Revisions:

1. In Page 4, Line 1-2, the authors have not to define about AKT308 and AKT473?

2. In Page 5, Line 5, “…..glucose metabolism [4]. indeed,….” is not incorrect…… is “…..glucose metabolism [4]. Indeed,….”.

3. In Page 12, “…..theskeletal muscles” is “…..the skeletal muscles”.

4. In Ref. 25, 26, and 31, the construction has some errors.
Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests