Reviewer’s report

Title: Effects of unaltered and bioconverted mulberry leaf extracts on cellular glucose uptake and antidiabetic action in animals

Version: 2 Date: 24 Nov 2018

Reviewer: Shing-Hwa Liu

Reviewer's report:

In this revised manuscript, the reviewer's major concerns are still not properly responded.

Comments:

1. In the study of Tahara et al. (2011) (European Journal of Pharmacology 655 (2011) 108-116), they found that the levels of fasting blood glucose (mg/dl) in normal diet-fed non-diabetic mice, normal diet-fed diabetic (nicotinamide+streptozotocin) mice, high-fat diet-fed non-diabetic mice, and high-fat diet-fed diabetic mice are 139±7, 200±11, 181±11, and 264±9, respectively; the levels of plasma insulin (ng/ml) are 0.96±0.08, 1.08±0.10, 2.09±0.13, and 1.91±0.11, respectively. Tahara et al. found that both blood glucose and plasma insulin were properly increased in high-fat diet-fed diabetic (nicotinamide+streptozotocin) mice. It is a type 2 diabetic model. In the present study, the authors used the same animal model that used NA+STZ+HFD to induce obese type 2 diabetes. However, the results showed that was not a type 2 diabetic model, because the blood glucose level was higher to 400 mg/dL (Fig. 3B) and the plasma insulin level was lower than that in control mice (Fig. 5B). Therefore, the type 2 diabetic condition was exactly not to be induced successfully in this study.

2. The in vitro experiments cannot support the conclusion. The results in in vitro experiments are still not convincing. The increased glucose uptake levels under insulin stimulation by tested compounds compared to insulin alone group in skeletal muscle cells or adipocytes are really limited (Figs. 1C, 2A, B). Similarly, the increased insulin secretion levels under glucose stimulation by tested compounds compared to glucose alone group in beta-cells are also limited (Fig. 2C)

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review? If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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