

PEER-REVIEW REPORT

Name of journal: *World Journal of Diabetes*

Manuscript NO: 82353

Title: Lomatogonium rotatum extract alleviates diabetes mellitus rats induced by high-fat, high-sugar diet and streptozotocin

Provenance and peer review: Unsolicited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06312763

Position: Peer Reviewer

Academic degree: N/A

Professional title: N/A

Reviewer's Country/Territory: China

Author's Country/Territory: China

Manuscript submission date: 2022-12-16

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-01-01 02:00

Reviewer performed review: 2023-01-06 02:18

Review time: 5 Days

Scientific quality	☐ Grade A: Excellent ☒ Grade B: Very good ☐ Grade C: Good ☐ Grade D: Fair ☐ Grade E: Do not publish
Novelty of this manuscript	☐ Grade A: Excellent ☒ Grade B: Good ☐ Grade C: Fair ☐ Grade D: No novelty
Creativity or innovation of this manuscript	☐ Grade A: Excellent ☒ Grade B: Good ☐ Grade C: Fair ☐ Grade D: No creativity or innovation

Scientific significance of the conclusion in this manuscript	☐ Grade A: Excellent ☒ Grade B: Good ☐ Grade C: Fair ☐ Grade D: No scientific significance
Language quality	☐ Grade A: Priority publishing ☒ Grade B: Minor language polishing ☐ Grade C: A great deal of language polishing ☐ Grade D: Rejection
Conclusion	☐ Accept (High priority) ☐ Accept (General priority) ☐ Minor revision ☒ Major revision ☐ Rejection
Re-review	☒ Yes ☐ No
Peer-reviewer statements	Peer-Review: ☐ Anonymous ☒ Onymous
	Conflicts-of-Interest: ☐ Yes ☒ No

SPECIFIC COMMENTS TO AUTHORS

Traditional Mongolian medicine has been widely used in Mongolian areas and is favored by local people. The authors detected the main active ingredients of the Lomatogonium Rotatum(LR) extract by HPLC, and discussed Lomatogonium Rotatum Extract Alleviates Diabetes Mellitus in Rats Induced by High-fat High- sugar diet. The study provided a solid contribution, and the findings strongly support the inhibitory effect of LR on diabetes. But the authors need to add some quantitative results. The particular modifications are as follows: Title: "Serum metabolites" is a clinical indicator of "diabetes" and should not be listed together in the title. It is recommended to delete serum metabolites. Methods: 1) Authors should add the extraction method for Lomatogonium Rotatum 2) Authors should provide HPLC analysis method Results: 1) Authors need to provide changes in rat body weight. 2) It is recommended that the authors use the same format for drawings, such as Fig2, Fig3, and Fig5, and use the same color for the histogram. 3) The authors should provide clearer histological images with magnification or bar. 4) The authors need to identify and quantify the extensive granulation of the β -cells and severe vacuolation of the pancreatic islets by ImageJ



**Baishideng
Publishing
Group**

7041 Koll Center Parkway, Suite
160, Pleasanton, CA 94566, USA
Telephone: +1-925-399-1568
E-mail: bpgooffice@wjgnet.com
<https://www.wjgnet.com>

software or other software. Discussions: 1) Since RL is known for diabetes in clinical practice, surely it will produce a better effect in the degeneration of pancreatic islet β -cells of the model because it is clinically proven. Hence, the authors should prove which phytoconstituents of RL have a particular effect. This is very essential to prove in experimental models. It is essential for clinicians and other researchers. 2) The authors performed a metabolomic analysis, which is an important set of findings. A more detailed and extensive discussion is highly warranted by the authors. 3) Why author did not perform the toxicity study of RL to find out the effective dose? What basis is the therapeutic dose fixed? As per OECD guidelines, the toxicity study is very important before going for any pharmacological evolution. 4) English language should be revised (a mother tongue revision can be helpful).

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Provenance and peer review: Unsolicited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05449464

Position: Editorial Board

Academic degree: DPhil, FCCP

Professional title: Adjunct Professor

Reviewer's Country/Territory: Taiwan

Author's Country/Territory: China

Manuscript submission date: 2022-12-16

Reviewer chosen by: Dong-Mei Wang

Reviewer accepted review: 2023-02-08 09:28

Reviewer performed review: 2023-02-10 11:02

Review time: 2 Days and 1 Hour

Scientific quality	☐ Grade A: Excellent ☐ Grade B: Very good ☒ Grade C: Good ☐ Grade D: Fair ☐ Grade E: Do not publish
Novelty of this manuscript	☐ Grade A: Excellent ☒ Grade B: Good ☐ Grade C: Fair ☐ Grade D: No novelty
Creativity or innovation of this manuscript	☐ Grade A: Excellent ☐ Grade B: Good ☒ Grade C: Fair ☐ Grade D: No creativity or innovation

Scientific significance of the conclusion in this manuscript	☐ Grade A: Excellent ☐ Grade B: Good ☒ Grade C: Fair ☐ Grade D: No scientific significance
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Conclusion	☐ Accept (High priority) ☐ Accept (General priority) ☐ Minor revision ☒ Major revision ☐ Rejection
Re-review	☒ Yes ☐ No
Peer-reviewer statements	Peer-Review: ☒ Anonymous ☐ Onymous
	Conflicts-of-Interest: ☐ Yes ☒ No

SPECIFIC COMMENTS TO AUTHORS

Current report demonstrated the potential mechanisms for hypoglycemic effects of *Lomatogonium rotatum* (LR) in type-2 diabetic rats (T2D). I like to give the following comments. 1. Collection and extraction of LR must describe in detail. 2. Induction of animal model and the treated dose of 0.5g/kg, 2.5g/kg, and 5g/kg from LR extract must follow the previous report(s). 3. In Figure 2, change in plasma insulin by LR was not same as that of GLP-1. Why? GLP-1 is known to promote insulin secretion. 4. Figure legends in Figure 4 must show in clear. Direction of pathologist is required to histological identification. 5. In line 191, "Untargeted metabolomics analysis" shall be deleted. 6. Machine learning of 236 metabolite annotations in serum samples must describe in detail. 7. Data in Table 1 are hard to follow. Please describe each in detail. 8. Figure 8 belonged to speculation and/or hypothesis. Role of insulin or GLP-1 was not included. Why? 9. Quantification of swertiamarine, sweroside, hesperetin, coumarin, 1,7-dihydroxy-3, 8-dimethoxyl xanthone, and 1-hydroxy-2,3,5 tri-methoxanthone as the main constituents of LR is required.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

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Peer-review model: Single blind

Reviewer's code: 05449464

Position: Editorial Board

Academic degree: DPhil, FCCP

Professional title: Adjunct Professor

Reviewer's Country/Territory: Taiwan

Author's Country/Territory: China

Manuscript submission date: 2022-12-16

Reviewer chosen by: Jing-Jie Wang

Reviewer accepted review: 2023-03-28 09:49

Reviewer performed review: 2023-03-29 09:10

Review time: 23 Hours

Scientific quality	☐ Grade A: Excellent ☐ Grade B: Very good ☒ Grade C: Good ☐ Grade D: Fair ☐ Grade E: Do not publish
Language quality	☐ Grade A: Priority publishing ☒ Grade B: Minor language polishing ☐ Grade C: A great deal of language polishing ☐ Grade D: Rejection
Conclusion	☐ Accept (High priority) ☐ Accept (General priority) ☒ Minor revision ☐ Major revision ☐ Rejection
Peer-reviewer	Peer-Review: ☒ Anonymous ☐ Onymous



**Baishideng
Publishing
Group**

7041 Koll Center Parkway, Suite
160, Pleasanton, CA 94566, USA
Telephone: +1-925-399-1568
E-mail: bpgoffice@wjgnet.com
<https://www.wjgnet.com>

statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

It has been revised in a good way. One claim shown limitation(s) of current report may strengthen it in the further revise version because functional assay of GLP-1 was not included in current report.