

Review of: "Evaluation of Antioxidant Activity and α -Amylase Inhibitory Potential of *Melilotus indicus* Ethanolic Extract: An In Vitro and In Silico Study"

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Potential competing interests: No potential competing interests to declare.

The original article entitled "Evaluation of Antioxidant Activity and α -Amylase Inhibitory Potential of *Melilotus indicus* Ethanolic Extract: An In Vitro and In Silico Study" provides valuable information for researchers who are interested in the biological activities of *M.indicus*, especially its anti-diabetic activity. The following comments, suggestions, and questions could be considered to improve the quality of the manuscript.

1. Write scientific names in italics, and the same format should be consistently used throughout the article. Also, the abbreviation of units, e.g., mL and ml, ascorbic acid and vitamin C, alpha- and symbol alpha, pi-H and H-pi, should be consistent.
2. Use the full scientific name "*Melilotus indicus* (L.) All." in the first mention.
3. Correct the term "antioxidant activity." The term "antioxidant capacity" should be considered as a correct term.
4. The IC₅₀ of *M. indicus* extract is 160 times higher than that of ascorbic acid; thus, it is my opinion that they are not comparable. The authors might want to consider revising the summary again.
5. In the second paragraph of *Introduction*, please provide more information on the relationship between the diversity of sources and the aim of the study.
6. In section "2.1 Plant collection," the plant being studied is not one that flowers year-round. So please specify the time of plant collection.
7. In Figure 1, a clear image that highlights details such as the number of leaflets, leaf shape, leaf base, and margin will make the presented figure much more engaging.
8. In Figure 2, it would be even better if the name of the cultivation site were indicated on the map of Iraq.
9. In section "2.2 Extraction process," please indicate the time required to dry the filtrate and the storage conditions.
10. In section "2.3 Determination of flavonoids content," since the extract is in a dry form, in describing the experimental method, the author used the extract in solution form. Therefore, the method for preparing the extract solution before mixing should be clearly explained.
11. The principles and rationale behind the selection of representatives from each group of phytochemicals mentioned in "3.4 Docking study" can be moved into section "2.5.1 Medicinal compound choice."
12. What is the "(1st)" in section "2.5.2. Preparation of both enzyme and ligands"?
13. In Table 3, correct the names of the two chemical structures of phenolic acids; ferulic acid and chlorogenic acid.
14. In section "3.2 Determination of total flavonoids content," the unit of TFC should be "mg QE/g extract." And I have a

slight concern as to why the SD is significantly higher than the mean.