Reviewer’s report

Title: GALEGA OFFICINALIS EXTRACT REGULATE THE DIABETES MELLITUS RELATED VIOLATIONS OF PROLIFERATION, FUNCTIONS AND APOPTOSIS OF LEUKOCYTES

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Reviewer: Elena Catap

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Full Title: GALEGA OFFICINALIS EXTRACT REGULATE THE DIABETES MELLITUS RELATED VIOLATIONS OF PROLIFERATION, FUNCTIONS AND APOPTOSIS OF LEUKOCYTES

Reviewer: ELENA S. CATAP, Ph.D

GENERAL COMMENTS

The paper describes the immune response in rats with induced diabetes mellitus (DM) and in rats with DM and subsequently treated with the chloroform fraction of Galega officinalis extract. In addition, the different types of compounds present in the chloroform fraction were identified through GC-MS procedure. Specifically, immune response was through proliferation of populations of leukocytes (e.g., lymphocytes, neutrophils, etc.), TNF-α activity, levels of cationic proteins and myeloperoxidase in neutrophils and lymphocyte apoptosis.

SPECIFIC COMMENTS

Abstract:

The authors provided a comprehensive overview of the entire research study; however, it is suggested that they also provide a future direction on what research they are planning to undertake based on the results of the study, especially the potential use of G. officinalis chloroform extract as anti-diabetic agent due to its anti-inflammatory activity.

Background/Introduction:

Adequate information was provided on the relationship between DM and immune response dysfunction. Moreover, information on the bioactivity of G. officinalis was also included. The authors however need to include if specific bioactive compounds have been isolated from the plant that have been screened for immunomodulatory activity.
p.4, lines 6-13: should be revised to reflect the specific objectives of the study; the authors failed to include the GC-MS analysis of the chloroform fraction of the plant extract.

Materials and Methods:

What specific part of the plant was used? Were aerial parts (leaves, stems) or ground (roots??) used in the study? Please clarify. Was the dried plant material homogenized prior to infusion in ethanol? What was the percentage yield of the crude extract? What was the percentage yield of the chloroform fraction?

p. 6, line 18: Explain why the number of animals per group is not uniform (5-8 rats/group)?

Was there a preliminary experiment to determine the dosage and toxicity of G. officinalis? It is possible that lower dosage (< 600 mg/kg) would give the same effect. Why use only one dosage?

For each assay, put the source of material used (eg. cationic proteins, neutrophils from blood, etc.)

Statistical analysis: since Student's T test is a parametric test, the data has to be tested for normality and homogeneity of variance. The tests used should be stated in this section.

Results:

The chromatogram has to be included in the results section.

Figures 1-3, revise by removing all horizontal lines within the graph (except X-axis).

Other comments:

The manuscript needs to be checked for sentence construction and/or grammar.

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

Yes

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.
Yes

**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.

I recommend additional statistical review

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

Not suitable for publication unless extensively edited

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