Reviewer’s report

Title: Oligonol suppresses lipid accumulation and improves insulin resistance in a palmitate-induced cellular steatosis model

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Reviewer: Maria L Bonfleur

Reviewer’s report:

This is a manuscript well written about a relevant and current topic that present a new treatment to NAFLD. The rationale and hypotheses are clear. The results involved with genic expressions were obtained with appropriate and elegant experimental design and methodology. On the other hand, the author failed in the methodology of “Western blot analysis” and, consequently, in the description of results and discussion.

Major Compulsory Revisions

1- Why the authors did not make the analysis of the bands obtained in the western blot? It is impossible to show the results only seeing the bands. In this way, for example, the sentence in the results and discussion, “Although the protein level of ACC was not changed, its inhibitory phosphorylation at Ser-79 residue [22] was noticeably increased by Oligonol treatment. Oligonol treatment also reduced FAS protein levels, albeit weakly” is completely wrong. The other, “We found that Oligonol restored the phosphorylation level of HSL that was down regulated by PA treatment (Fig. 2C)”, is not making sense.

2- Figures 2C, 4C and 5A and B need to be analyzed to get a reliable result.

3- The molecular weight of ACC and FAS protein is 280 and 270, respectively. How was possible separated all protein extracts using 10% polyacrylamide gels?

4- There is no sufficient numerical data given in the results.

Minor Revisions

1- The Table 2, mentioned in the methods “Western blot analysis”, not exists.

2- In the second paragraph of the results and discussion, correct the word “calorimetric” to “colorimetric”

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.