Reviewer's report

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

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Reviewer: YUAN ZOU

Reviewer's report:

This work was to observe the protective effects of oligonol on the lipid accumulation and insulin resistance induced by palmitate in HepG2 cells. The authors analyzed the oligonol's efficacy on lipid accumulation from the lipogenesis and lipolysis, and on the insulin resistance through signaling molecules, and showed that oligonol might attenuate cellular steatosis through regulation of the AMPK-mTOR pathway. The conclusion was clear and convincing. Considering increased obese population worldwide, the importance of this kind of studies will become more important. Also, the paper were well written.

The minor questions:

1. The title should change into, for example, Oligonol suppresses lipid accumulation and improves insulin resistance induced by palmitate in HepG2 cells. Here, HepG2 cells should be appeared in the title, because only HepG2 cells were used in this work, no primary hepatocytes and no normal animal livers were used.

2. Figure 1A, “ug” change into “µg”; the pictures in figure 1C should be amplified such as 400×.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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

Declaration of competing interests:

No competing interests