Reviewer’s report

Title: Lutein and zeaxanthin isomers modulates lipid metabolism and the inflammatory state of retina in obesity-induced high fat diet rodent model

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Reviewer: Binxing Li

Reviewer's report:

The authors investigated the effects of a mixture of lutein and zeaxanthin on lipid profile and expression of proteins involved in oxidative stress and inflammation pathways in HFD rat. It is a very interesting manuscript. However, the retina data are problematic because rat is unlikely able to accumulate xanthophyll carotenoids in the retina. Although there are several reports showed lutein and/or zeaxanthin accumulate in the eye balls of rats, none of them has detected carotenoids in the retinas. Therefore, it is hard to draw the conclusion that lutein and zeaxanthin can regulate the relevant lipids and protein in the retina of rat.

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

No

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 am able to assess the statistics

Quality of written English

Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
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