Reviewer’s report

Title: Liraglutide modulates GABAergic signaling in rat hippocampal CA3 pyramidal neurons predominantly by presynaptic mechanism

Version: 0 Date: 22 Aug 2017

Reviewer: Francesco Clementi

Reviewer's report:

The AA report a further detail on the possible GABA release from CA3 neurons of the hippocampus slices after application of liraglutide, a GLP-1 analog. These results confirm and enlarge those already published by the same AA with the use of GLP-1 and exenatide.

The involvement of GLP-1 in the control of hippocampal functions is an interesting issue that deserves to be investigated. The new finding here reported is that in a limited population of neurons liraglutide probably increases the frequency and amplitude of iPSCs and that this effect is not affected by TTX.

I found that the scientific information supplied by this paper is not sufficient to merit an independent publication. The paper does not give any indications of the possible nature of the neurons involved, on the mechanisms by which liraglutide induces GABA release, on the reasons why this drugs is less potent than GLP-1 and exenatide and the meaning of this difference.

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.

No
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:

Acceptable

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