Reviewer’s report

Title: Propofol attenuated the effect of TNF-α on occludin expression by inhibiting HIF-1α/VEGF/VEGFR-2/ERK signaling pathway in hCMEC/D3 cells

Version: 0 Date: 04 Mar 2019

Reviewer: Cheng Ni

Reviewer's report:

In the manuscript 'Propofol attenuated the effect of TNF-α on occludin expression by inhibiting HIF-1α/VEGF/VEGFR-2/ERK signaling pathway in hCMEC/D3 cells', the authors has investigated an important and clinical related issues, neuroinflammation and BBB related protection from propofol in cell model, which could be valuable for clinicians and researchers. However, the manuscript has some problems and needs revision.

1. As previous studies indicated, perioperative factor including surgical trauma and anesthetics, correlates to neuroinflammation, BBB disruption and postoperative cognitive declines, but the IL-1beta and IL-6 are most related factors. Thus, the authors should explain the reason for the selection of TNF-α as intervention, but not IL-1beta or IL-6;

2. Authors should provide the data for the effects of propofol alone on occludin, not just DMSO alone;

3. Authors could also provide the effects of TNF-α and propofol on claudins and ZO-1 in figure 1 and 2;

4. Why hif-1α and related signaling pathway has been selected as the mechanism, explain the relationship between propofol/neuroinflammation and hypoxia in the discussion.

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 am able to assess the statistics

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

Acceptable

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