Reviewer's report

**Title:** Effects of curcumin on glucose metabolism in chronic unpredictable stress model rats’ brain regions: A 18F-FDG micro-PET study

**Version:** 1  **Date:** 19 May 2013

**Reviewer:** Xiaoying Wang

**Reviewer’s report:**

This study by Lin et al aimed to investigate the effects of curcumin in glucose metabolism in chronic unpredictable stress model of rat brain regions by micro-PET study. Overall, this is a very interesting study, obtained data provided new information in unpredictable stress and potential therapy development. However, there are several issues need to be well addressed before publication.

1. A general concern is that there are three very important components on present work, cerebral glucose metabolic abnormalities in chronic unpredictable stress model, PET analysis, and curcumin therapeutic effects. Indeed, data from each of them would be very interesting and informative. However, the current version was not very clearly specified on hypothesis or specific aims to be tested. For example, it looks like this work was testing curcumin effects, but its therapeutic or translational concerns were not discussed. It would improve scientific impact of the manuscript of each of them might be emphasized and well discussed.

2. Overall experimental design and performance are reasonable, but a few points need to be detailed or clarified. (1) please five rationale on why testing curcumin but not other compounds; (2) please explain reasons on the selection of curcumin dose and route used; (3) please add reference citations on the model and experimental assessments to show whether the authors have published experience or followed by the published articles with/without modification.

3. It would be more logical and easy to follow if subtitles can be given in Result Section.

4. A few concerns need to added into discussion: (1) please list key findings of the work and followed by discussion on their significance and consistency with other published works; (2) curcumin has multiple bioactivities and its role is model-dependent as well, thus a its more broad and potential mechanism of curcumin in this study might be speculated would be needed, and very important; (3) therapeutic potential of curcumin in treating human diseases including chronic neurological disorders have been studied, but the translational significance of this work was not discussed.

5. One optional concern is that, it would be more informative if giving a brief statement on limitations of present work and future research direction.

**Level of interest:** An article of importance in its field
Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.