Reviewer’s report

Title: Valeriana officinalis root extract suppresses physical and psychological stress responses by decreasing the ratio of monoamine neurotransmitters to their metabolites

Version: 2
Date: 2 July 2014

Reviewer: Woong Mo Yang

Reviewer’s report:

Authors investigated that Valeriana officinalis root extract suppressed the plasma levels of corticosterone and turnover of 5-HT and NE in food shock-induced stress model.

Although the experiments were well performed, some substantial problems have been appeared.

Major Compulsory Revisions;
1. The title is too ambiguous. What is ‘physical and psychological stress responses’?
2. The main point of this study is the decreased glucocorticoid level by VE, however I don’t think the glucocorticoid level represents the PS and PCS responses as authors’ conclusion. This study needs to include some quantification data which can represent stress value (ex: immobility time such as forced swimming test and freezing behavior)
3. Manuscript needs overall modification.

Minor issues;
1. In abstract, Methods in detail of sample volume, treatment time and method of analysis should be included.
2. Key word: ‘Valerian root extract’ needs to be changed to scientific name. (Valeriana officinalis)
3. In background, the detailed description on the relationship between monoamine neurotransmitters and stress is needed. For example, it would be good to explain the relationship between stress and increase or decrease of hormone, the relationship between type of stress and change of hormone and so on.
4. In materials and methods, the extraction method of VE is missing.
5. Animal age is missing
6. Page 6, the last sentence, 78.1 ‘ng/g’? different from figure.
7. In results and discussion and figure legends, the group name should be unified. (e.g. page 9, line 7; PS group # PS-V group / page 9, line 10; PCS group # PCS-V group / page 16, line 8; PS group # PS-V group, PCS group # PCS-V
8. In the discussion, the description of NE, 5-HT and their respective metabolites is not enough. The relationship between their hormone and stress is not fully explained.

9. Page 9, line 18-19; What is the meaning of ‘stress affects 5-HT levels lesser than it affects 5-HIAA levels’?

**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.