Reviewer’s report

Title: Bee venom effects on ubiquitin proteasome system in hSOD1G85R-expressing NSC34 motor neuron cells

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Reviewer: Kwang Chul Chung

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Title: Bee venom effects on ubiquitin proteasome system in hSOD1G85R-expressing NSC34 motor neuron cells

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Journal: BMC Complementary and Alternative Medicine

Comments for Authors: In this article Kim and co-workers set out to investigate the effect of bee venom (BV) on the protein clearance system in cells expressing either wild-type or mutant SOD1 associated with ALD. They show that SOD1 reduces proteasome activity but this can be restored by BV administration. In addition, they provide evidence that BV causes a reduction in total ubiquitin conjugates and ubiquitinated mutant SOD1. These data support that BV has an effect to rescue UPS-impairment in ALS models. The abstract and introduction explain well the purpose of the work. All the results are also clearly described and concise; they are well-represented in figures, and justified and discussed appropriately. So, I have few minor concerns to be addressed:

1. What is RIPRA buffer (page 12)?
2. If the reduction of misfolded SOD1 protein was consistent, the effect on protein misfolding should be considered.
3. There is lack of details what the crucial focus of the paper, BV. The author should provide its more detailed information, for example, where this is produced and what this contains.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests'