Reviewer's report

Title: Attenuation of inflammatory-mediated neurotoxicity by Saururus chinensis extract in LPS-induced BV-2 microglia cells via regulation of NF-kappa B signaling and anti-oxidant properties

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Reviewer: Kyoungho Suk

Reviewer's report:

The authors used LPS-treated BV-2 microglial cells as an in vitro model for microglia-mediated neuroinflammation. The authors analyzed the effects of the Saururus chinensis extract (SC) and one of its components quercetin. They reported microglial inhibiting effects of these compounds: the attenuation of NO and ROS generation; cytokines (TNFalpha, IL-6) production; NF-kappaB activation (concomitantly with the inhibition of IkappaB degradation and p65 nuclear translocation).

The authors suggest Saururus chinensis as a promising plant when looking for therapeutic compounds preventing microglial-mediated neuroinflammation, which is currently suspected to play a crucial early role in various neurodegenerative diseases. The manuscript is well written and the experiments are well done, but some points require authors’ attention.

1) Authors should explain the rationale of selecting a specific range of concentrations for SC (µg/mL). Did they select these specific concentrations out of a broader panel based on NO assay or any other basis? Did authors perform cell viability assay for quercetin also?

2) The statistical comparison between groups was done by using one way ANOVA and Dunnett’s test. Generally, Dunnett’s test is used to compare each of many treatments with a single control. Please, correct the statistical analysis.

3) Discussion could be improved further focusing mainly on the present study.

Minor comments
- In background section, the second paragraph there is redundancy. Please, modify accordingly.
- There are some typographical mistakes in the manuscript. Please proof read and correct: e.g., copunds should be compounds, antioxidant or anti-oxidant, proinflammatory or pro-inflammatory
- In the discussion section, suddenly aminoguanidine appears. How is it linked with SC or the present study?

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being
published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

'I declare that I have no competing interests'