

OPEN PEER REVIEW REPORT 2

Name of journal: Neural Regeneration Research

Manuscript No: NRR-D-21-00505

Title: Neuroprotective effects of natural sourced bioactive polysaccharides: an update

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Reviewer's country: Czech Republic.

COMMENTS TO AUTHORS

The manuscript titled "Neuroprotective effects of natural sourced bioactive polysaccharides: An update" summarizes the use of polysaccharides from natural sources for the treatment (or prevention) of neurodegenerative diseases. The manuscript is well structured and easily readable. After a general introduction, the review contains four chapters, each describing one possible mechanism of polysaccharide use - anti-oxidative stress, anti-inflammation, anti-apoptosis, and use against excitatory amino acid toxicity.

The review contains more than 60 citations, most of them very recent.

I like the work but some very minor revisions.

- 1) The last paragraph in Introduction summarizes the Intro and might be shortened a bit.
- 2) It would be very nice to quantify or evaluate a bit more the results mentioned - i.e., some effects are evident and strong, while others are statistically significant, but less pronounced.
- 3) And although it is always difficult to evaluate the work of others, I would also appreciate a bit more critical evaluation of the results mentioned, together with hints to the eventual weak point of the publications. At the same time, I'm not sure if I would be able to do it myself in a review, so this is more a personal comment than a real suggestion.
- 4) Do we know something more about the molecular basis of the different polysaccharides activities? I mean - the author often summarizes which signaling pathway is influenced by the discussed polysaccharide (which is great, and it is the essential information). I would however like to see deeper - to know, what is the actual mechanism of action on the molecular level. If some of the cited works propose some more information about this, it would further improve the (already high) information value of the manuscript.