Reviewer's report

Title: Purification, Characterization and Anti-aging Capacity of Mycelia Zinc Polysaccharide by Lentinus edodes SD-08

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Reviewer: Changheng Liu

Reviewer's report:

The manuscript comparatively investigated the antioxidant and anti-aging activities of Mycelia polysaccharide and mycelia zinc polysaccharide from Lentinus edodes obtained by different cultural method. From the novelty points of view, the chemical composition and bioactivities of the polysaccharide from Lentinus edodes has been reported by many research groups, this study is lack of novelty. Meanwhile there are several major issues that should be explained and considered.

1. In method, the concentration of ZnSO4 in cultural conditions should be provided.
2. In separation of MPS and MZPS section, the concentration of sodium chloride in gradient elution should be provided.
3. In analysis of monosaccharide composition, it should be noted that inositol is not the reference monosaccharide, but the standard substance, and please explain that how to calculate the mole ratio of the monosaccharide in MPS and MZPS.
4. The sugar content and the organic zinc content in MPS and MZPS are not provided.
5. The chemical characterization of MPS and MZPS are incomplete, please provide the molecular weight data.
6. In the antioxidant activity assay, the reducing power and the scavenging hydroxyl radical activity of MPS decreased with the purification process carrying out, how to explain these results.
7. The discussion is very poor, please discuss the results in this study.
8. The level of English in the presented manuscript does not meet the journal’s standard, and the manuscript contains a lot of grammar as well as syntax errors and can not be accepted for publication.

The manuscript should therefore be rejected.

Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal

Quality of written English: Not suitable for publication unless extensively edited
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.