

**OPEN PEER REVIEW REPORT 1**

**Name of journal:** Neural Regeneration Research

**Manuscript NO:** NRR-D-18-00667

**Title:** Mucin-like glycopolymer gels in electrosensory tissues generate cues which direct electrolocation in amphibians and neuronal activation in mammals

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**COMMENTS TO AUTHORS**

In this article, the author points out that mechanotransductive cues made by mucous glycopolymer gels in electrosensory processes are the molecular basis of electroreception. Meanwhile, the author systematically introduces the mucin glycoprotein family, which comprises six secreted mucins and 12 cell associated mucins, and plays an important role in generating mechanotransductive cues. Further, mucous Keratan Sulphate (KS) glycoconjugate with ultrasensitive proton gradient detection properties is a significance factor in the process that mucous glycopolymer gels generate mechanotransductive cues. This discover is a new development about mucin glycoconjugates. However, some issues should be addressed by authors.

1. The preface of introduction section, the connection between mechanotransductive cues and KS glycoconjugate should be supplemented briefly.
2. In conclusions section, further research directions of KS functional glycobiology can be added if you have new ideals.
3. The logic of the article needs to be strengthened and increase links in all aspects.
4. The layout of the article should be corrected partly. For instance, the format of the references cited part of the article should be aligned at both ends instead of only left alignment.
5. Some references cited in the article are too old and should refer to some new articles to show the latest research results for readers.