

OPEN PEER REVIEW REPORT 1

Name of journal: Neural Regeneration Research

Manuscript NO: NRR-D-18-00774

Title: Role of microglial cells in photoreceptor degenerations

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COMMENTS TO AUTHORS

The article entitled 'Role of microglia cells in photoreceptor degenerations' is a perspective article based on a recent article published by Di Pierdomenico J et al in 2017. I believe more relevant information added into this article will make it more informative and guide the audience to better understand this topic.

Comments:

- A proper division of the text in suitable sections is desirable.
- Suggest adding few sentences of background or hypothesis in the field of the underlying mechanisms (e.g. oxidative stress, trophic factors, etc) of rod and cone degeneration in the introduction. Microglia activation could be one of the hypothesis.
- Would be interesting to introduce the diverse genes mutation in RP patients; onset of disease and progression; and how does it correlation to the animal models used in this article
- The authors describe briefly the mutation of P23H and RCS rats and the characteristic cone and rod photoreceptors in these rats in page 2. Add when is the onset of rod and cone photoreceptor degeneration in these 2 RP models.
- Ln22/page2: 'At various animal models of retinal degeneration, it has been....." Please elaborate what kind of retinal degeneration.
- Ln39/page 2: 'However, it is not clear whether activated microglial cells may increase or decrease..... If this was the case, their inhibition could slow down photoreceptor death'. Do you mean 'increase' rather than 'decrease' in the first sentence?
- Ln10/page 3: Please specify SD rat and PVG rat are the control animal of which RP model.
- Ln31/page 3: Delete ' at the same time' if authors means P15 in P23H and P21 in RCS rat. Otherwise, please specify.
- Ln54/page 3: What do the authors mean 'at the same ages'?
- Ln7/page 4: Please elaborate why increasing of microglia in particular RCS rat could not be explained only by intraretinal migration.
- The authors suggest that microglia activation and migration occurs at the onset of photoreceptor degeneration. Suggest to add other references showed a similar result.