

Reviewer No.1

The manuscript entitled “The BK channel limits the pro-inflammatory activity of macro- 2 phages” compelling evidence for a role of the BK channel in macrophages in the regulation of their pro-inflammatory responses. The absence of the BK channel in macrophages results in increased M1 macrophage polarization, IL-6 secretion and AIM2 inflammasome activation. Furthermore, our investigation has revealed the involvement of Erk1/2 and CaMKII kinases, as well as the ATF-1 transcription factor, which are associated with BK channel activity. The manuscript needs minor revision before it can be accepted for publication.

We appreciate the reviewer for acknowledging our work and providing constructive comments to enhance the manuscript.

The author needs to include a few recent references relevant to the work.

We followed the suggestion of the reviewer and have now included two references. Line #79; (*Sun X. et al. Sci Rep. 2020, PMID: 31974459*) and line #81; (*Selezneva A. at al. Front Pharmacol. 2022, PMID: 36160429*) relevant to the role of the BK channel in regulation of macrophage function.

1. Improve the resolution of figures so that readers can better understand figure markings.

We have now improved the quality of the figures and incorporated the new version into the manuscript.

It will be great if the authors can include a cartoon representation of conclusion.

As the reviewer suggested, we have now included a schematic representation of the manuscript conclusion (new **Fig. 5**).

The authors need to read the MS again and make the sentences a little more grammatically correct.

We appreciate the reviewer' suggestion and have now enhanced the grammatical aspects of the manuscript.