Cite this as: Wei ZHANG, Bello Babatunde KAZEEM, Haitao YANG, Gang LIU, Guanglu WANG, Zhixing LI, Tao GUO, Panpan ZHAO, Jingquan DONG. *Aeromonas sobria* regulates proinflammatory immune response in mouse macrophages via activating the MAPK, AKT, and NF-κB pathways[J]. Journal of Zhejiang University Science B, 2021, 22(9): 782-790. http://doi.org/10.1631/jzus.B2100456

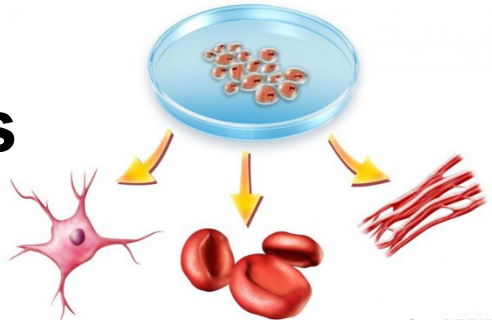
Aeromonas sobria regulates the proinflammatory immune response in mouse macrophages via activating the MAPK, AKT and NF-κB pathways

Key words: **Aeromonas sobria, immune response, MAPK, AKT, NF-κB**

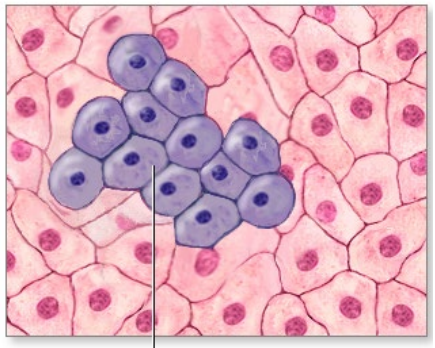
Research Summary

This article mainly focused on the *Aeromonas sobria* regulates the proinflammatory immune response in mouse macrophages

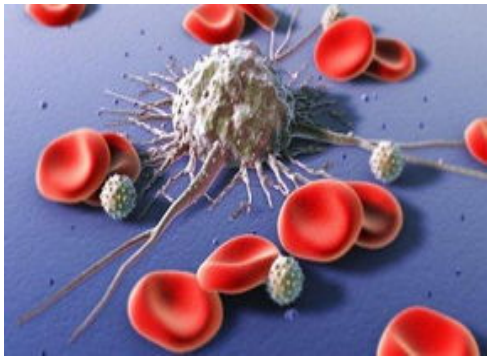
From the following aspects



- **inflammatory response**
- **MAPK**
- **AKT**
- **NF-κB**



Proliferation of cancer cells



Innovation points

The present established a A. sobria infection model using primary mouse peritoneal macrophages; measured proinflammatory cytokines expression levels using ELISA methods; explored the activated pattern recognition receptors through immunofluorescence. Focusing on the NF-κB, MAPK, PI3K/ Akt and other signaling pathways closely related to inflammation, we explored the mechanism of A. sobria regulating the immune response of host cells, and provided a new target for the treatment of A. sobria infection.

Innovation points

A series of comprehensive figures were generated to summarize the latest knowledge about Aeromonas sobria regulates the proinflammatory immune response in mouse macrophages

Fig. 1 | The inflammatory response of PMφ triggered by *Aeromonas sobria*.

Fig. 2 | The p38 MAPK and p44/42 MAPK (Erk1/2) signaling pathways in PMφ were activated by *Aeromonas sobria* infection.

Fig. 3 | *Aeromonas sobria* infection enhanced the PMφ inflammatory response through the phosphorylation of p38 MAPK and p44/42 MAPK (Erk1/2)

Fig. 4 | *Aeromonas sobria* infection activated the AKT signaling pathway in PMφ

Fig. 5 | *Aeromonas sobria* infection decreased the PMφ inflammatory response through the phosphorylation of AKT

Fig. 6 | *Aeromonas sobria* infection activated the NF-κB signaling pathway in PMφ

Fig. 7 | Aeromonas sobria infection enhanced the PMφ inflammatory response through the activation of NF-κB signaling pathway