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Neuroimmune interactions in oral disease

Key words: Nervous system; Immunomodulation; Neuroimmune crosstalk; Neurogenic inflammation; Oral disease

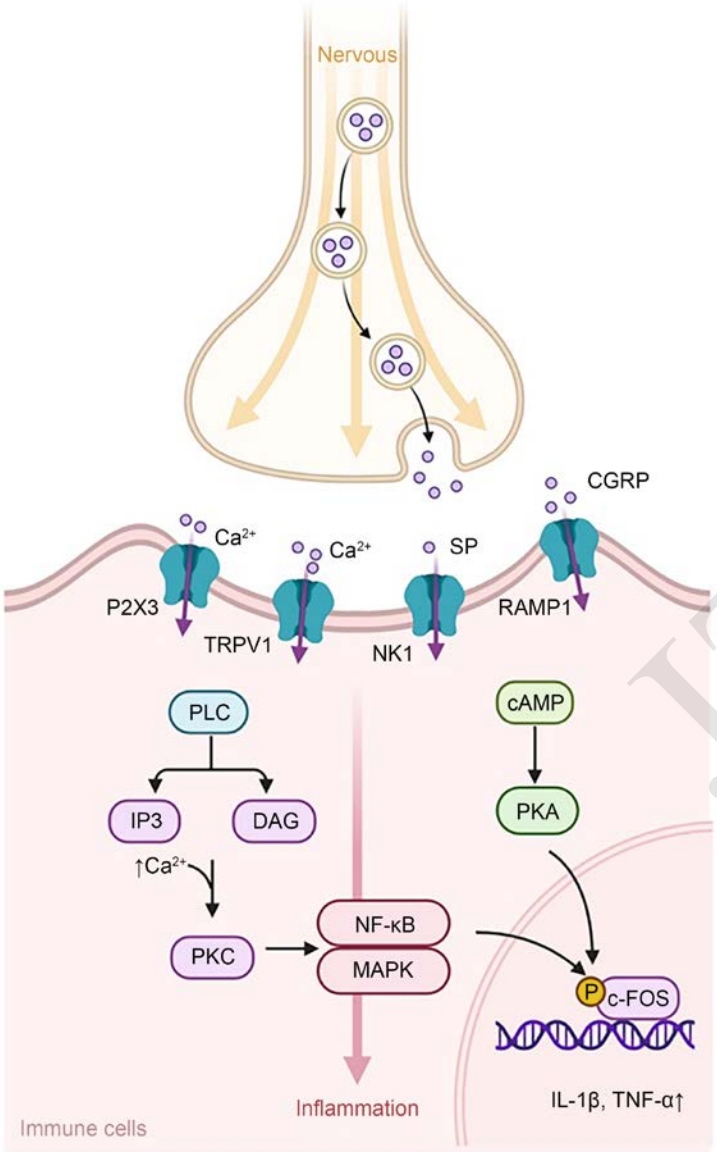
Research Summary

This review mainly focused on the neuroimmune interactions in oral diseases and summarized the key roles they played in the following aspects:

- **Maintenance of oral tissue homeostasis.**
- **Regulation of inflammation and pain via neural-immune signalling.**
- **Modulation of disease progression across diverse oral diseases.**
- **Contribution to systemic neuroimmune imbalance and related neurological disorders.**

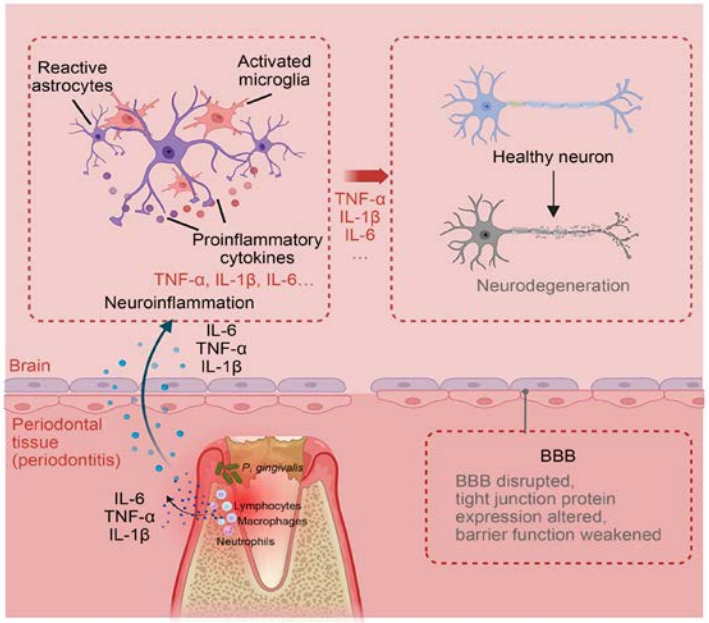
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Innovation points



- **Introduction** of oral neuroimmune communication from cellular structure to molecular mediators.
- **Summary** of recent advances in neuroimmune regulation across major oral diseases.
- **Emphasis** the oral-systemic neuroimmune axis and emerging strategies for neuroimmune-targeted intervention.





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Innovation points

A series of comprehensive tables were generated to summarize the latest knowledge about neuroimmune interactions in oral diseases

Table 1 | Neural regulation of the immune system in oral diseases.

Table 2 | Immune system regulation of the nervous system.

Table 3 | Key neuropeptides, cytokines, and receptors in neuroimmune interactions of oral diseases.

Table 4 | Post Bacterial products influencing neuroimmune interactions in oral diseases.

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