

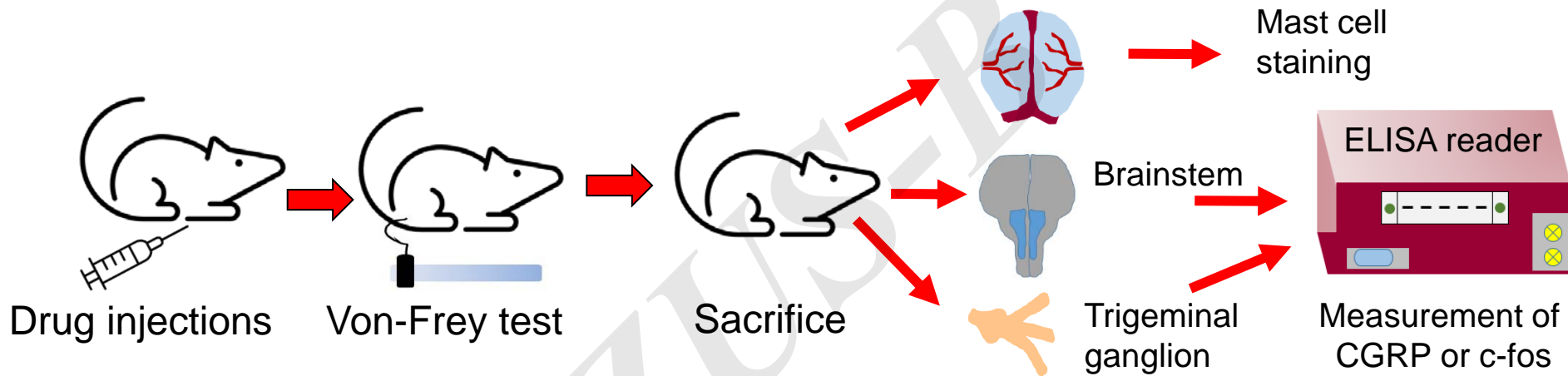
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Esculetin attenuates migraine-like pain via CGRP suppression and meningeal mast cell modulation in rat models

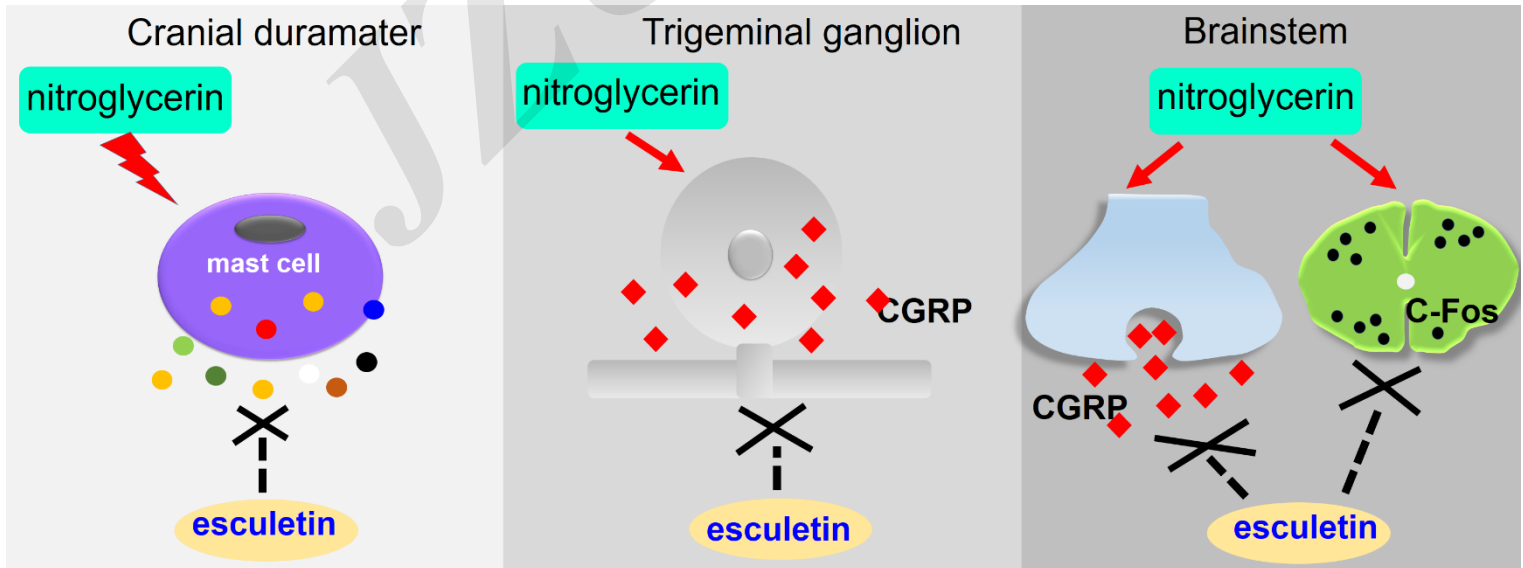
Key words: Esculetin; Neuroinflammation; Nitroglycerin model; Natural compound; Mast cells; Calcitonin gene-related peptide (CGRP)

Research Summary

- ✓ This study aimed to investigate the impact of esculetin on the relevant mechanisms in migraine-like conditions in rats



Findings



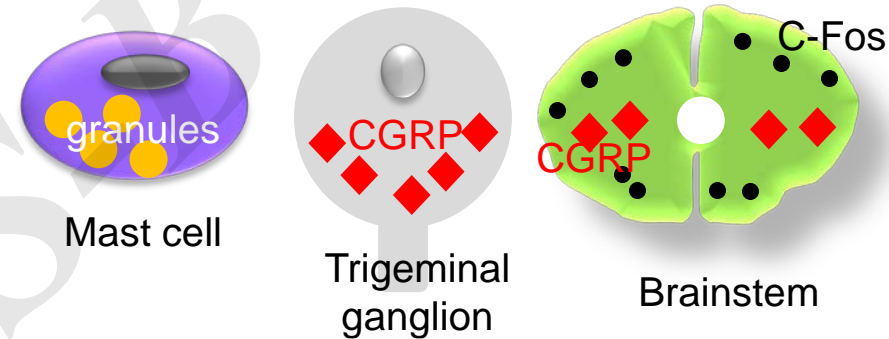
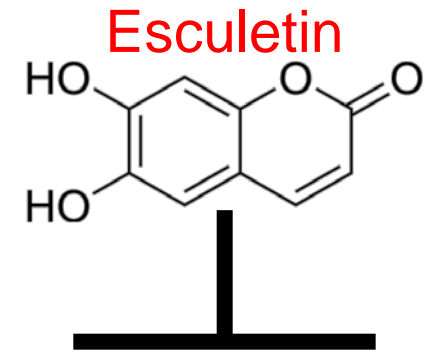
Innovation points

● Introduction

● The analgesic effects of esculetin are known in different pain models, however its effect on migraine is unknown.

● The effects of esculetin on migraine-associated hyperalgesia, trigeminal CGRP levels, brainstem c-fos expression, and meningeal mast cells were investigated for the first time in this study.

● While in vivo experiments investigated systemic anti-migraine effects of this promising phytochemical, ex vivo experiments directly investigated its effect on the migraine mediator CGRP.



Migraine-related mechanisms

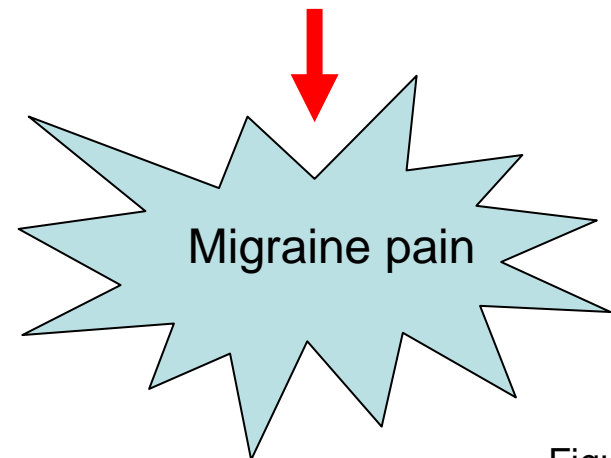


Figure 4

Innovation points

- Esculetin attenuated nitroglycerin-induced mechanical hyperalgesia
- Esculetin reduced nitroglycerin-induced c-fos expression in brainstem
- Esculetin mitigated nitroglycerin-induced CGRP expression in trigeminal ganglion and brainstem
- Esculetin suppressed nitroglycerin-evoked degranulation of meningeal mast cells
- Esculetin alleviated nitroglycerin-stimulated CGRP release from trigeminal ganglion and brainstem explants