NOCICEPTION

TRPA1 and TRPV1 agonists-induced nociception

TRPA1 and TRPV1 receptors are known to induce both acute and chronic pain. The injection of cinnamaldehyde (a TRPA1 agonist) or capsaicin (a TRPV1 agonist) into mice paw induces rapid spontaneous nociception [1,2]. In drug discovery and development, these models are extensively used in order to investigate the efficacy of drugs that present potential analgesic properties.

Test System: *Mus musculus* (CD1).

Number of animal per group: 6-9 animals.

Route of administration: upon request.

Treatment mode: upon request.

Main read-outs: Total licking time from 0-5 minutes after Intraplantar injection.

Validation Data

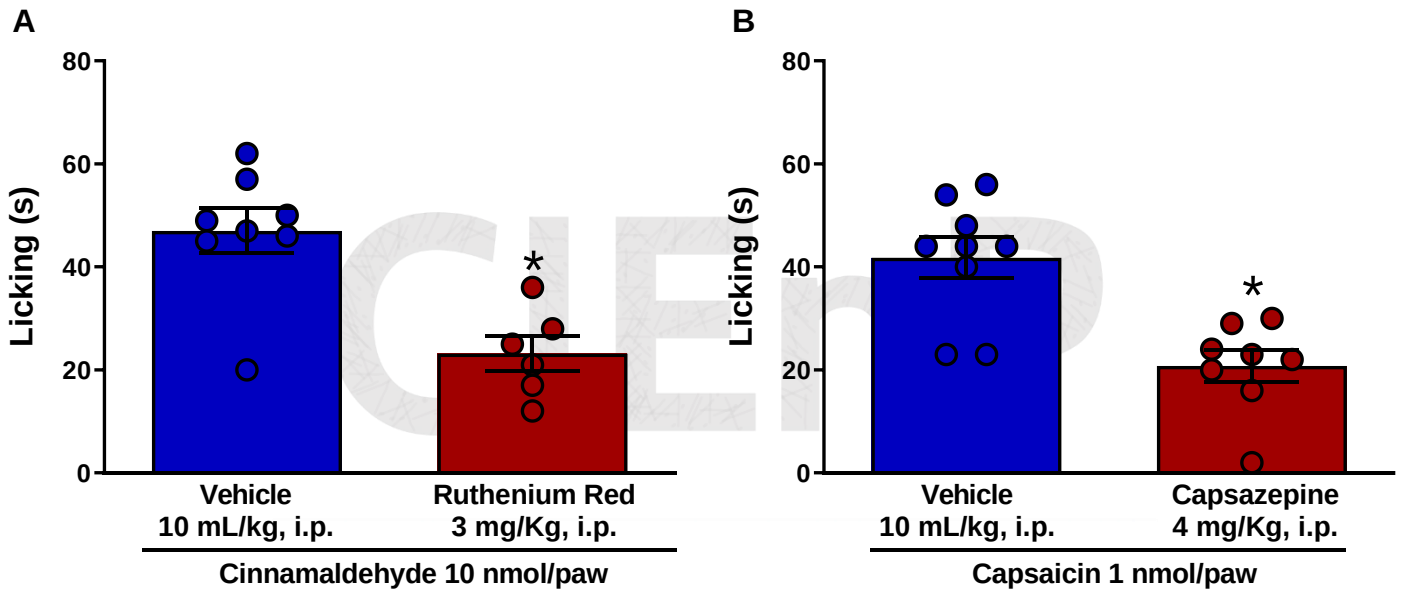

Figure 1. Cinnamaldehyde or capsaicin induced spontaneous nociception in mice. Effect of Ruthenium red (3 mg/kg, i.p.) or Capsazepine (4 mg/kg, i.p.), against cinnamaldehyde (A) or capsaicin-induced pain (B), intradermal (i.d.) -induced licking behavior. Ruthenium red or Capsazepine were administrated by intraperitoneal route 1 hour before the cinnamaldehyde or capsaicin, respectively. The total time spent licking the hind paw was measured from 0 to 5 minutes after (i.d.) injection of cinnamaldehyde or capsaicin into the mice hind paw. Each column represents the mean ± SEM of 6-9 mice per group. For statistical analyses was used one-way (ANOVA) followed by Student–Newman–Keuls. #P < 0.05 versus vehicle group.

To avoid bias and to allow reproducibility all in vivo experiments follow the ARRIVE guidances[3] . Mouse colony from Charles River Laboratories are breed and maintained in SPF conditions. The project includes study plan and final report. Raw data are inspected by quality assurance unity. The experimental procedures was previously approved by the CIEnP Committee on the Ethical Use of Animals.

References:

[1] Andrade EL, Luiz AP, Ferreira J, Calixto JB. Pronociceptive response elicit by TRPA1 receptor activation in mice. Neuroscience 152(2):511-20, 2008.

[2] Sakurada T, Katsumata K, Tan-No K, Sakurada S, Kisara K. The capsaicin test in mice for evaluating tachykinin antagonists in the spinal cord. Neuropharmacology 90(5):267-72, 1992.

[3] Kilkenny C, Browne WJ, Cuthill IC, Emerson M, Altman DG. Animal research: reporting in vivo experiments: The ARRIVE guidelines. PLoS Biol. 8 (6): e1000412, 2010.

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