

## PAIN AND INFLAMMATION

### Prostaglandin E2-induced Mechanical Hyperalgesia

Prostaglandin E2 is a prostanoid generated by most cells in response to mechanical, thermal or chemical injury and inflammatory insult, resulting in sensitization or direct activation of nearby sensory nerve endings<sup>1</sup>. The hyperalgesic effect of PGE2 have been reported in several inflammatory models of nociception<sup>2</sup>.

**Test System:** *Mus musculus* (Swiss).

**Main read-outs:** Paw withdrawal threshold after electronic von Frey application.

**Number of animal per group:** 5 animals.

**Route of administration:** upon request.

**Treatment mode:** upon request.

### Validation Data

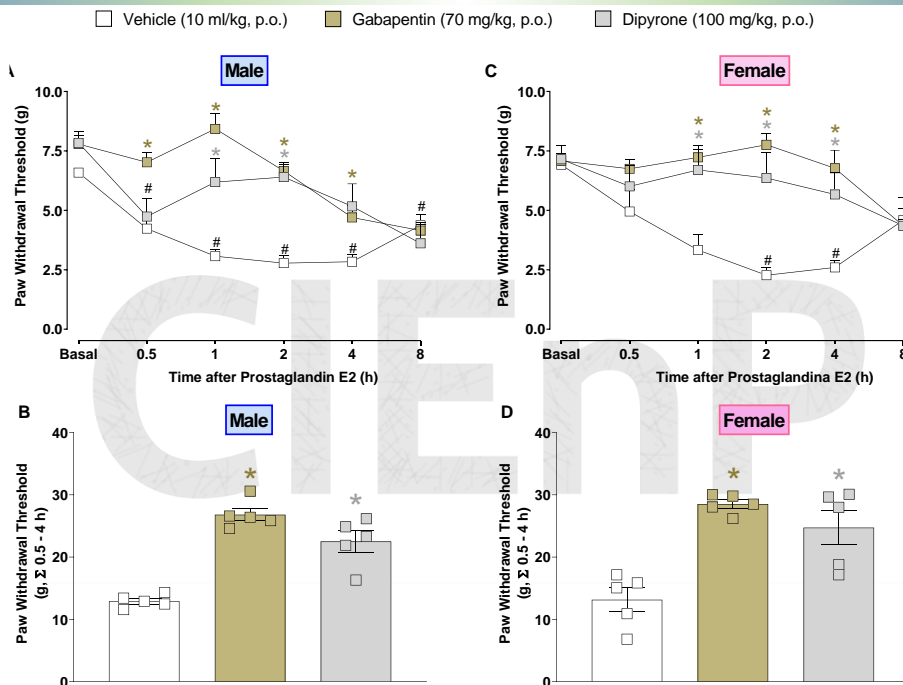


Figure 1. Prostaglandin E2 induces mechanical hyperalgesia in mice. Effect of gabapentine (70 mg/kg, p.o.) or dipyrone (100 mg/kg, p.o.), in the PGE2-induced mechanical hyperalgesia in male and female mice. Gabapentine or dipyrone were administrated 1 hour before PGE2 intraplantar injection. Paw withdrawal threshold were measured using electronic von Frey apparatus. Each column represents the mean  $\pm$  SEM of 5 mice per group. For statistical analyses was used two-away ANOVA followed by Bonferroni (A) and one-way ANOVA followed by Student–Newman–Keuls (B). # $p < 0.05$  vehicle group versus basal; \* $p < 0.05$  morphine group versus vehicle group or dipyrone group versus vehicle group.

To avoid bias and to allow reproducibility all in vivo experiments follow the ARRIVE guidances<sup>3</sup>. 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:

- Bley KR, Hunter JC, Eglen RM, Smith JA. The role of IP prostanoid receptors in inflammatory pain. *Trends Pharmacol Sci* 19(4) 191-7, 1998.
- Ferreira, S. H. (1979) in *Mechanisms of Pain and Analgesic Compounds* (Beers, R. F., Jr and Bassett, E. G., eds), pp. 309–321, Raven Press
- 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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