

PAIN AND INFLAMMATION

Carrageenan-induced paw edema in mice

Subcutaneously administered carrageenan in to the animal paw induces acute pain and inflammation is a highly reproducible model. Signs of inflammation as edema, hyperalgesia and erythema develop immediately following subcutaneous injection, resulting from action of the release of proinflammatory mediators. Thus, carrageenan-induced paw edema is largely used to test analgesic and/or anti-inflammatory agents in the processes of drug development¹.

Species: *Mus musculus* (Swiss)
Number of animals/group: 8-10 animals
Route of administration: upon request
Treatment mode: upon request

Main read-outs: Edema formation.
Facultative read-outs: Inflammatory mediators in paw homogenate, histopathology, immunohistochemistry, RT-PCR analysis and others.

Validation Data

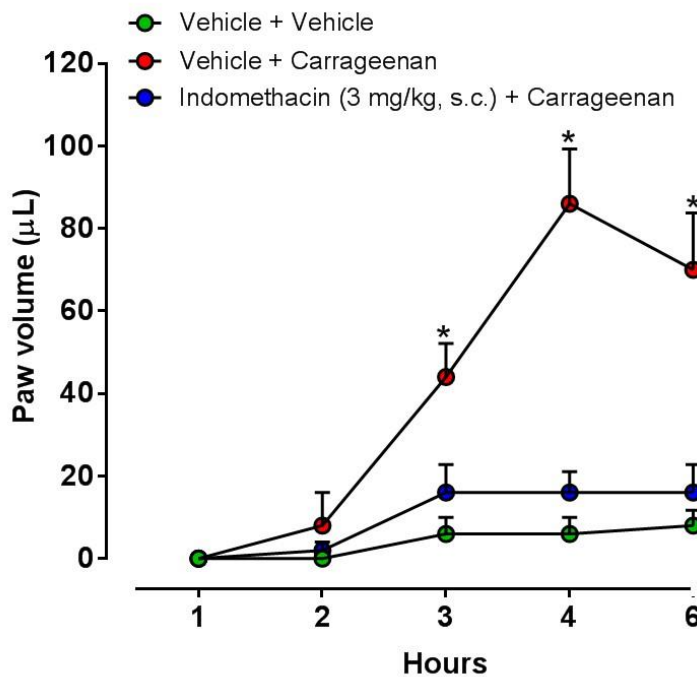


Figure: Carrageenan-induced paw edema formation in mice. Indomethacin was used as reference item (control group). Each point represents the mean ± SEM. Statistical analyses used was two-way ANOVA with a post-hoc Bonferroni. *, P < 0.05, versus vehicle group.

To avoid bias and to allow reproducibility all in vivo experiments follow the ARRIVE guidances². Mice 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. All experimental procedures are previously approved by the CIEnP Committee on the Ethical Use of Animals.

References:

¹Winter, C. A., Risley, E. A., and Nuss, G. W. (1962) Carrageenan-induced edema in hind paw of the rat as an assay for anti-inflammatory drugs. Proc. Soc. Exp. Biol. 111, 544–547.
²Kilkenny C, Browne WJ, Cuthill IC, Emerson M, Altman DG. Animal research: reporting in vivo experiments: The ARRIVE guidelines. PLoS Biol. 8 (6): e1000412, 2010.