

In vivo Pharmacology: PMA Induced Ear Edema in Mice

Species, strain, sex:	mouse, CD1, male
Number of animals per group:	n=8
Pharmacological control:	dexamethasone
Routes of administration:	topical, PO, IP, SC, IV, IM
Treatment mode:	prophylactic, therapeutic
Duration of dosing:	1 day or upon request

Topically administered PMA induces Th1 inflammatory reaction manifested as vascular leakage, polymorphonuclear infiltration and increased release of IL-1 β and TNF- α in ear tissue. Six hours after PMA application ear swelling is observed.

Main read-outs:

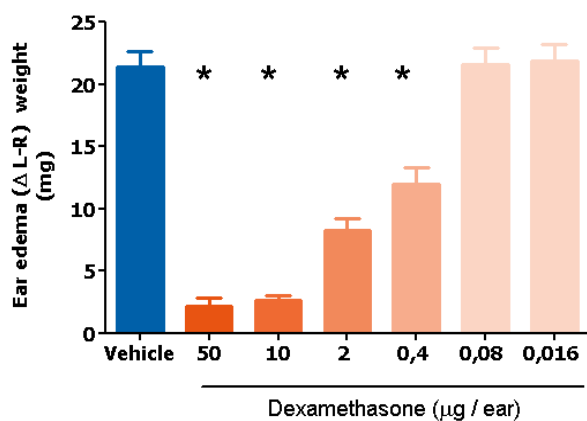
- Ear weight

Facultative read outs:

- inflammatory mediators in ear homogenates
- histopathology
- immunohistochemistry

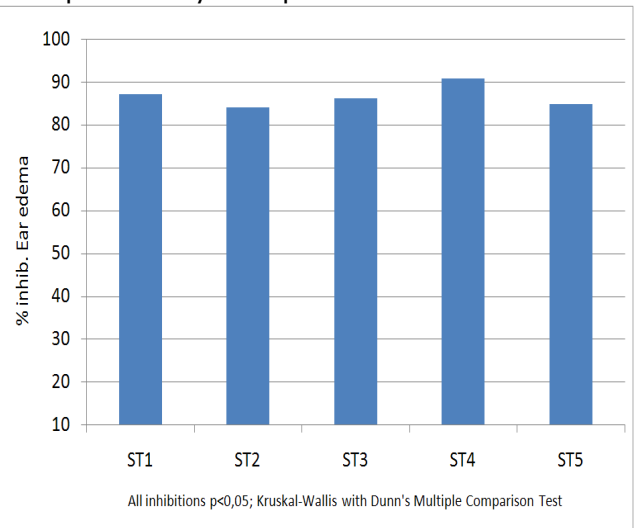
Anti-inflammatory activity of test compounds is evaluated by ear weighing. Ear tissue and other selected tissues can be stored for subsequent analyses.

Efficacy of dexamethasone in PMA induced ear edema in CD1 mice_topical administration



*p<0,05 vs. Vehicle; Kruskal-Wallis with Dunn's multiple comparison test

Reproducibility of response to dexamethasone



All inhibitions p<0,05; Kruskal-Wallis with Dunn's Multiple Comparison Test

References

Ivetić Tkalčević V, Čužić S, Dominis Kramarić M, Parnham MJ, Eraković Haber V. Topical azithromycin and clarithromycin inhibit acute and chronic skin inflammation in sensitized mice, with apparent selectivity for Th2-mediated processes in delayed type hypersensitivity. *Inflammation* (2011) 35:192

Ivetić Tkalčević V, Eraković Haber V. Attenuation of interleukin-1 β secretion in mice by post-inflammatory treatment with azithromycin and clarithromycin. *Vet arhiv* (2012) 82:201