

GASTROENTEROLOGY AND INFLAMMATION

Acute TNBS-induced colitis

Crohn's Disease and Ulcerative Colitis are chronic, inflammatory conditions of the digestive tract, collectively known as Inflammatory Bowel Disease (IBD). Mouse models of IBD provide access to a similar variety of sample types studied in humans. Among the models, TNBS-induced colitis is one the most used. The reagent 2,4,6-trinitrobenzene sulfonic acid (TNBS) associated with ethanol induces colitis with development of an excessive cell mediated immune response reflected by acute Th1 inflammation. The main signs evaluated in this model are body weight losses, macroscopic and microscopic assessments of the animals' colon and quantification of inflammatory mediators¹

Species: *Mus musculus* (BALB/c – Male and Female)

Number of animals/group: 10 animals

Route of administration: upon request

Treatment mode: upon request

Main Read-outs: Weight loss and intestinal inflammatory process.

Facultative read-outs: microscopic evaluation, cytokine and other inflammatory agent release, RT-PCR analysis of biomarker messenger RNA and others.

Validation Data

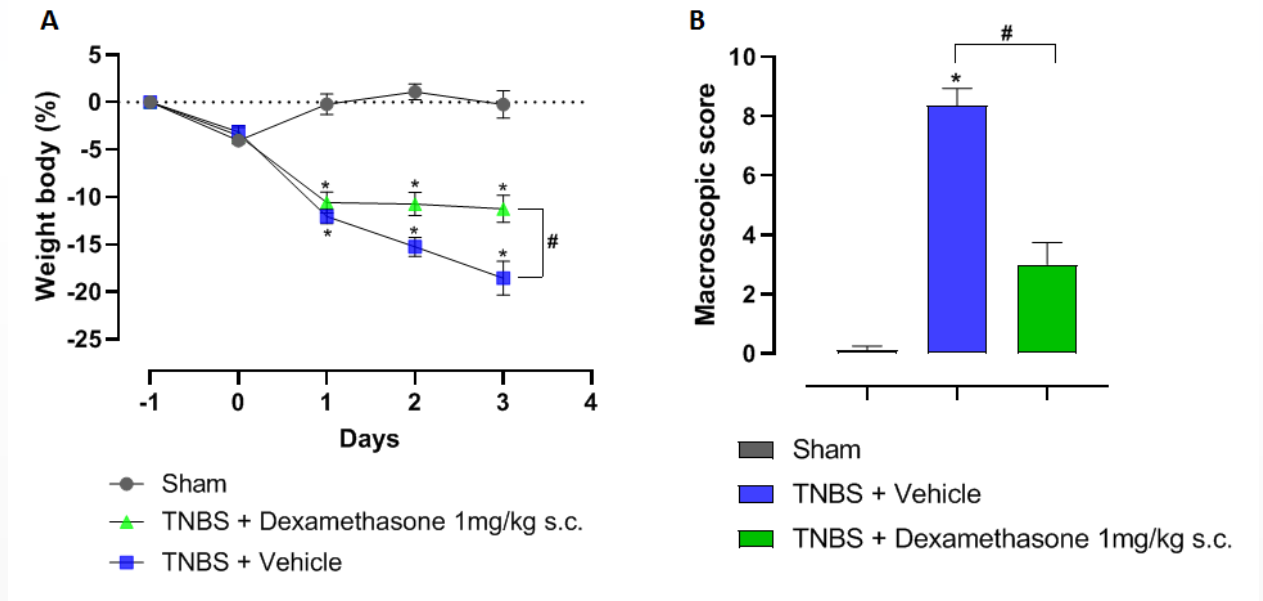


Figure: Body weight (A) and macroscopic score (B) assessment. Dexamethasone (1mg/kg s.c.) was used as Reference Item (positive control group). Each column represents the mean ± SEM of 8-10 mice per group. Statistical analyses were carried out by using of two-way ANOVA (A) or one way ANOVA (B) with Tukey post-hoc test. *P < 0.05 versus sham group, and #p < 0.05 versus TNBS + Vehicle.

To avoid bias and to allow reproducibility all in vivo experiments follow the ARRIVE guidances². Mice colony from Charles River Laboratories is 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:

- Wallace, J.L, Macnaughton, W.K., Morris, G.P., Beck, P.L. Inhibition of Leukotriene Synthesis Markedly Accelerates Healing in a Rat Model of Inflammatory Bowel Disease. *Gastroenterology*,96 pp 29-36, 1989.
- 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.