RESPIRATORY SYSTEM

Ovalbumin (OVA)-induced Allergic Asthma Model

Human allergic asthma is defined as a chronic inflammatory disease of the airways characterized by airway inflammation, persistent airways hyperresponsiveness and intermittent, reversible airways obstruction. Allergic asthma is the most common type of asthma. About 90% of kids with childhood asthma have allergies, compared with about 50% of adults with asthma[1]. The murine OVA-induced asthma model is a widely used model that results in the characteristic features of asthma allowing the study and assessment of novel treatments[2].

Species: Mus musculus (*Balb/c*)
Number of animals/group: 8 animals
Route of administration: upon request
Treatment mode: upon request

Main Read-outs: Inflammatory cell migration.
Facultative read-outs: Flow cytometric immunophenotyping, immunohistochemistry, histology, IgE levels, cytokine release, RT-PCR analysis of biomarker messenger RNA and others.

Validation Data

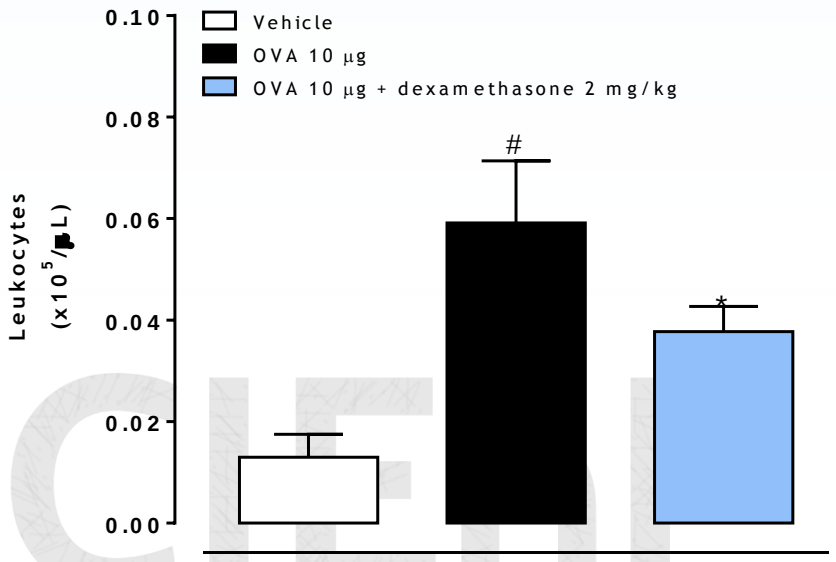

Figure: Effect of dexamethasone on the recruitment of total leukocytes in mice immunized and then challenged with OVA. Mice were treated with dexamethasone (2 mg/kg, s.c.) or vehicle from the 18th day to the 22nd day after the first immunization. Samples of bronchoalveolar lavage were collected 24 h after the second OVA-challenge. Each column represents the mean ± SEM of 8 mice per group. For statistical analyses was used Tukey's test. #p < 0.05 compared with control group; #p < 0.05 compared with OVA + vehicle group.

To avoid bias and to allow reproducibility all *in vivo* experiments follow the ARRIVE guidances[3]. Rat 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:
[1]Bellanti JA. Literature review: the best new articles in the specialty of allergy, asthma, and immunology, 2004-2005. Allergy Asthma Proc. 2006 May-Jun;27(3):186-96.
[2] Rogerio AP, Dora CL, Andrade EL, Chaves JS, Silva LF, Lemos-Senna E, Calixto JB. Anti-inflammatory effect of quercetin-loaded microemulsion in the airways allergic inflammatory model in mice. Pharmacol Res. 2010 Apr;61(4):288-97.
[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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