

Jaxwest6 project protocol

Jackson Laboratory at JAX WEST

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**Effect of novel compounds on a model of asthma**

Data and metadata are available on the [Jaxwest6](#) project page

**The following Protocol was submitted by [JAX In Vivo Services](#) and is made available without modifications.**

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**Study Title: Effect of novel compounds on a model of Asthma**

**Study Objectives**

The goal of the study was to test the potential of test article as a treatment for asthma.

**METHODS AND RECORDS**

After 7 days of environmental acclimation, the mice began study (study day 1). On study days 1 and 14, mice were injected IP with a mixture of 20mg Ovalbumin and 2mg alum (volume not exceeding IACUC guidelines). On study days 28, 29 and 30, mice were treated with 1% aerosolized OVA for 20 minutes each day. On day 32, the dosing began with the following groups:

Vehicle

Positive control

Test compound single injection 1 hour prior to BUXCO

Test compound, two injections total; 24 hours and 1 hour prior to BUXCO

Test compound, two injections total; up to 12 hours and 1 hour prior to injections

On study day 32, mice were injected via IV with test compound and subjected to a rising methacholine challenge within BUXCO plethysmographs to ascertain Airway Hyper Responsiveness. The BUXCO plethysmographs measure respiratory rate and tidal volume in conscious, unrestrained mice. The chambers allow for application of nebulized methacholine for analysis of enhanced pause (Penh) in experimental asthma models. The increase in Penh is a measure of increasing airway resistance, and in conjunction with an increasing methacholine dose, this provides a measure of airway responsiveness.

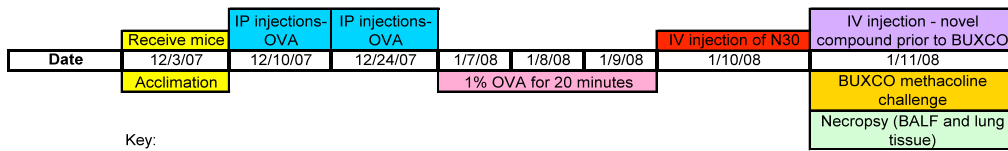
Mice were then sacrificed and Broncho alveolar lavage fluid (BALF) and lung were collected. Lavage fluid was split. A portion of the lavage fluid and the lung tissue were analyzed for concentration of test compound and GSNOR activity. The other portion of lavage fluid was sent for assessment of cytokine levels utilizing the LINCOplex cytokine assay for the following cytokines:

IL-4

IL-5  
 IL-9  
 IL-10  
 IL-12  
 IL-13  
 IFNgamma

**Procedural Timeline:**

Study Number: IVS3605



Key:  
 BALF Broncho Alveolar Lavage Fluid  
 IP Intraperitoneal  
 IV Intravenous  
 OVA Ovalbumin