Model Name
Allergy, Passive Cutaneous Anaphylaxis

Item Number
503000

Introduction
Passive cutaneous anaphylaxis in rat is an immediate type immune reaction. Through passive intradermal immunization with rat anti-ovalbumin serum, subsequent challenge with ovalbumin antigen results in an antigen-antibody (IgE) mediated release of mediators from the dermal mast cells. The mediator, primarily histamine, causes local vasodilatation, increase in vascular permeability and leakage of plasma. Inhibition of the PCA reaction suggests possible ant-allergic and/or antihistaminic activity.

Procedure Summary
Test substances are administered orally (PO) to groups of 6 Wistar derived male rats weighing 80 ± 20 g passively sensitized 16 hours earlier by intradermal injection of reaginic (IgE) antiovalbumin serum (0.05 mL) on two spots of the dorsal surface. Within 60 minutes after test substances administration, animals are challenged IV with a mixture of ovalbumin (1 mg) and Evans blue dye (5 mg) and sacrificed 30 minutes later. The two measured wheal diameters are averaged for each animal and scored scored 0 if <0.05 cm, 1 if >0.05-0.2 cm, 2 if >0.2-0.4 cm, 3 if >0.4-0.6 cm, 4 if >0.6-0.8 cm, 5 if >0.8-1.2 cm and 6 if > 1.2 cm. Maximum possible score for each animal totals 2 x 6 = 12. ANOVA followed by Dunnett's test is applied for comparison between vehicle and treatment groups. P<0.05 is considered significant.

Suggested Testing
- n=6/group (study design dependent)
- Doses may be administered PO, IV, IP and SC
- Assessments available: Body weight, Response Score, Biomarkers and Histology

Turnaround Time(s)
- Acute Assay: In-Life completion in 2-4 weeks from sample receipt
- For Subacute Assays: 6 weeks to 3 months

Literature
Goose J and Blair AMJN. Immunol. 16:749, 1969

Related Assay(s) (Item # - Assay Name - Species)
*provided by partner lab Eurofins Pharma Discovery Services

Modified Protocols
We will readily accommodate client-specified alterations.

Laboratory
These assays are performed at our AAALAC accredited laboratory in Taipei.

Animal Welfare
All aspects of this work is performed in general accordance with the Guide for the Care and Use of laboratory animals (National Academy Press, Washington, DC, 2011). The study protocol was approved by the Pharmacology Discovery Services IACUC and is performed with the oversight of veterinarians to assure the humane treatment of laboratory animals.
**Reference Compound(s)**
* Cyproheptadine, Dexamethasone, Doxantrazole, Promethazine, Terfenadine, Theophylline

**Graph(s)**

![Graph Image]

*P<0.05, treated vs. vehicle control one-way ANOVA followed by Dunnett's test.

Last modified January 22, 2018