Model Name
Dermatitis, Atopic, Mite-Induced

Item Number
555710

Introduction
Atopic dermatitis (AD) is characterized by chronic highly pruritic and relapsing inflammatory skin lesions. It is reported that mite allergen, from Dermatophagoides farinae, induces stable clinical AD-like skin diseases in female NC/Nga mice. Skin changes in NC/Nga mice are evidenced by scratching behavior, followed by the rapid development of erythema, lichenification with edema, and hemorrhage. Histological examinations have revealed hyperplasia and accumulation of eosinophils and mast cells in skin lesions. In addition to these skin changes, NC/Nga mice exhibit elevated levels of total serum IgE. Mite-induced AD model can be applied for evaluating potential antipruritic and anti-inflammatory substances.

Procedure Summary
Female 8 to 10-week-old NC/Nga mice are randomly divided into groups of eight each. All animals are housed in conventional conditions. The Biostir®-AD (100 mg/mouse; mite dust, from Dermatophagoides farinae) is applied twice a week for three weeks (Days 1, 4, 8, 11, 15, and 18), a total of 600 mg Biostir® per mouse. Test compounds and vehicle are administered daily by gavage starting on Day 1 through Day 21. The dosing patterns may change per client’s requests. Scratching assay, the severity of skin lesions, and ear thickness are performed weekly on Days 0 (baseline), 7, 14, and 21. Severity of skin lesions is characterized by the presence of erythema/hemorrhage, edema, excoriation/erosion, and dryness/scaling. The total clinical skin severity score is defined as the sum of the individual scores: 0 = None, 1 = Mild, 2 = Moderate, 3 = Severe. ANOVA followed by Dunnett’s test is applied for comparison between vehicle control and test compound treated groups. P<0.05 is considered significant.

Suggested Testing
• n=8/group (study design dependent)
• Antipruritic effects assessed at an initial dose of 30 mg/kg (p.o.)
• Dosing volume at 10 mL/kg

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

Related Assay(s) (Item # - Assay Name - Species)
555700 - Dermatitis, Atopic, DNCB-Induced - Mouse

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 are 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.

For current details about our Company address and contact information, please reference our website http://www.pharmacologydiscoveryservices.com/company-info/
Reference Compound
Tacrolimus

Graph

- Sham (n=8)
- Vehicle (100 mg/animal, TOP, n=8)
- Tacrolimus (100 mg/animal, TOP, n=8)

+ p<0.05, Vehicle vs. Sham, unpaired Student's t-test
* p<0.05, Treated vs. Vehicle, unpaired Student's t-test

Last modified June 6, 2019