Model Name
Psoriasis, Topical, Imiquimod (IMQ)-Induced

Item Number
555650

Introduction
Psoriasis is a chronic inflammatory skin disease characterized by focal formation of plaque psoriasis, erythema, skin thickening, epidermal alterations, and T cell and dendritic cell infiltration. Topical application of Imiquimod (IMQ) on the ear of mice induces skin inflammation which closely resembles human plaque-type psoriasis. IMQ-induced psoriasis is commonly used to study the mechanisms of skin inflammation and evaluate the therapeutic efficacy.

Procedure Summary
Groups of 6 male BALB/c mice weighing 22 ± 2 g (~8 weeks of age) are used. Daily topical dose (TOP) of commercially available IMQ cream (5%) 15 mg on the right ear from Day 1 for 9 consecutive days. Vehicle, Dexamethasone, and test articles are administered by TOP once daily from Day 1 for 9 consecutive days (1 hr before IMQ challenge). Ear swelling is measured by an experimenter blinded as to treatment group, with a dial thickness micrometer gauge as an index of inflammation on Day 0, 2, 4, 6, and 8. On Day 10, ear swelling was measured 24 hr after the last dosing. The animals are sacrificed and then the ears are harvested and weighed. Ear edema is calculated by subtracting the thickness of Day 0 (normal control) from Day n (treated ear). Percent inhibition is calculated according to the formula: (Ic – It)/Ic x 100, where Ic and It refer to increase of ear thickness (mm) in control and treated mice, respectively. Two-way ANOVA followed by Bonferroni’s test will be used to ascertain difference between vehicle control and treated animals. Significance is set at P<0.05 level.

Suggested Testing
- n=6/group (study design dependent)
- Doses may be administered TOP, PO, IV, IP, and SC
- Assessments available: Body weight, Ear thickness, Biomarker analysis (protein or mRNA), Cell populations by FACS, Spleen weight and Histopathology

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

Literature
van der Fits L et al. J Immunol. 2009 May 1;182(9):5836-45

Related Assay(s) (Item # - Assay Name - Species)
555600 - Psoriasis, Topical, IL-23 Induced - Mouse

Modified Protocols
We will readily accommodate client-specified alterations.

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

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

Reference Compounds
*Dexamethasone, 0.05% Clobetasol cream

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