Model Name
Psoriasis, Topical, IL-23-Induced

Item Number
555600

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. Injection of IL-23 into the ear of C57BL/6 mice closely resembles human plaque psoriasis. The IL-23 induced psoriasis model is commonly used to study the mechanisms of skin inflammation and evaluate the therapeutic efficacy.

Procedure Summary
Groups of 6 male C57BL/6 mice weighing 22 ± 2 g are used. Ten microliters (10 µL) PBS, alone or containing 500 ng recombinant mouse IL-23 is injected intradermally into the right ear of isoflurane-anesthetized mice using a 31-gauge needle every other day for 6 challenges on Days 1, 3, 5, 7, 9 and 11. Vehicle and test articles are applied topically once daily for 12 consecutive days. The right ear thickness of each mouse is measured before injection on Day 0 and thereafter on days without injections through Day 12 (Days 0, 2, 4, 6, 8, 10 and 12) with a Dyer model micrometer gauge as an index of inflammation. 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 TOP, PO, IV, IP, and SC
• Assessments available: Body weight, Ear thickness, Ear weight, Biomarker analysis (protein or mRNA) 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

Related Assay(s) (Item # - Assay Name - Species)
555650 - Psoriasis, Imiquimod (IMQ) 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.
Reference Compounds
*Dexamethasone, Methotrexate

Graph

*P<0.05, vehicle vs. sham control; unpaired Student's t test.
*P<0.05, treated vs. vehicle control; one-way ANOVA followed by
Dunnett's test.

Last modified October 1, 2018