Model Name
Arthritis, Collagen mAb-Induced (CAIA)

Item Number
553600

Introduction
Classic collagen-induced arthritis (CIA), used as a model for rheumatoid arthritis, requires 6-8 weeks to complete a typical study in mice. Administration of a monoclonal antibody cocktail (mAbs) against type II collagen, however, can produce arthritis in mice within a few days. Further, severe and consistent arthritis can be induced in mice by a combination of a sub-arthritogenic dose of mAb cocktail and lipopolysaccharide (LPS). The hypothesis is that gastrointestinal absorbed bacterial toxin(s) play a synergistic and pathologic role with this type of treatment. Advantages of mAb-LPS-induced arthritis in mice as opposed to CIA include reduced time (days) and increased consistency (nearly 100%) of the inflammatory process.

Procedure Summary
Groups of 6 BALB/c male mice weighing 22 ± 2 g are used. A combination of 5 different monoclonal antibodies (mAbs: D8-6, F10-21, DI-2G, A2-10 and D2-112) is administered i.v. (1.5 mg/mouse) on Day 0 and challenged 3 days later (Day 3) with i.v. lipopolysaccharide (LPS, 25 µg/mouse). From Day 3, beginning one hour post LPS, vehicle and test compound are administered orally (PO) once daily for 3 consecutive days. For each animal, increase in volume of both hind paws is measured using a plethysmometer on Days 5, 7, 10, 14 and 17. Two-way ANOVA followed by Bonferroni'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, Paw Volume, 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

Related Assay(s) (Item # - Assay Name - Species)
553010 – Arthritis, Adjuvant-Induced (AIA) - Rat
553700 – Arthritis, Collagen-Induced (CIA) - Rat
553510 – Inflammation, Carrageenan-Induced - Mouse
553520 - Inflammation, Carrageenan-Induced - Rat

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 Compound(s)
Anti-CD44, Cyclophosphamide, Hydrocortisone, * Indomethacin,

Graph

Last modified October 1, 2018