Model Name
Arthritis, Adjuvant-Induced (AIA)

Item Number
553010

Introduction
Rheumatoid arthritis (RA) is a chronic inflammatory disorder that causes pain, swelling, stiffness and loss of function in joints. Adjuvant-induced arthritis (AIA) and collagen-induced arthritis (CIA) are commonly used to study the mechanisms of inflammatory joint disease and evaluate the therapeutic efficacy.

Procedure Summary
Groups of 6 Lewis derived female rats weighing 160 ± 20 g are used. A well-ground suspension of killed Mycobacterium butyricum (0.3 mg in 0.1 mL of light mineral oil; Complete Freund's Adjuvant, CFA) is injected into the subplantar region of the right hind paw on Day 0. Hind paw volumes are measured by water displacement and clinical scores are recorded on Days 0, 1, 3, 5, 8, 11, 14, 18, and 22. Vehicle, test articles, and dexamethasone (3 mg/kg) are administered oral gavage for 5 consecutive days beginning one hour before injection of CFA. Acute phase: the increase in right paw volume on Day 5 relative to Day 0 (Acute Phase of inflammation). Delayed phase: Left paw volume on Day 18 relative to Day 0 (Delayed Phase 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 PO, IV, IP, and SC
• Assessments available: Body weight, Paw Volume, Clinical Assessment, Biomarkers, 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
Winter CA and Nuss GW. Arthritis Rheum. 9:394, 1966

Related Assay(s) (Item # - Assay Name - Species)
553510 - Inflammation, Carrageenan - Mouse
553520 - Inflammation, Carrageenan - Rat
553600 - Arthritis, Collagen mAB-Induced (CAIA) - Mouse
553700 - Arthritis, Collagen-Induced (CIA) - Rat

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 Compounds
6-Mercaptopurine, Aspirin, Azathioprine, Cyclophosphamide, * Hydrocortisone, Indomethacin, Phenylbutazone

Graphs

Assay # 553010 Inflammation, Adjuvant Arthritis
(Acute Phase)

Net Swell in right paw
(x 0.01mL)

Day
0 1 3 5 8 11 14 16 18 22
- Vehicle, 10 mL/kg x 5, PO
- Celebrex, 10 mg/kg x 5, PO
- Dexamethasone, 3 mg/kg x 5 PO
- Celebrex, 30 mg/kg x 5, PO

Assay # 553010 Inflammation, Adjuvant Arthritis
(Delayed Phase)

Net Swell in left paw
(x 0.01mL)

Day
0 1 3 5 8 11 14 18 22
- Vehicle, 10 mL/kg x 5, PO
- Celebrex, 10 mg/kg x 5, PO
- Dexamethasone, 3 mg/kg x 5 PO
- Celebrex, 30 mg/kg x 5, PO

Last modified October 1, 2018

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