Model Name
Inflammatory Bowel Disease (IBD), TNBS-Induced Colitis, Rat

Item Number
553410

Introduction
Human inflammatory bowel disease (IBD) is a chronic inflammatory condition comprised of two major disorders, Crohn's disease and ulcerative colitis. The fundamental symptoms of IBD are abdominal pain, bloody diarrhea and body weight loss. 2,4,6-Trinitrobenzenesulfonic acid solution (TNBS)-induced IBD, particularly in reference to Crohn's disease (CD) is commonly used to study the mechanisms of gastrointestinal inflammation and evaluate the therapeutic efficacy.

Procedure Summary
Male Wistar rats weighing 190 ± 10 g are fasted for 24 hours before distal colitis is induced by intra-colonic instillation of TNBS (25 mg in 1 mL 50 % ethanol) after which, animals are kept in a vertical position for 90s to ensure the solution remained in the colon. Test substances, Mesalazine and the vehicle are administered by oral gavage 24 and 2 hours before TNBS instillation, followed by once daily dosing for 4 consecutive days for total 6 doses. Body weight, fecal occult blood and stool consistency are recorded daily during the study. Animals are sacrificed on Day 7, each colon is removed, scored and weighed. 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, SC or by Infusion Pump
• Assessments available: Body weight, Colitis score, Colon weight/length, 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)
553400 - Inflammatory Bowel Disease (IBD), DNBS-Induced Colitis - Rat
553405 - Inflammatory Bowel Disease (IBD), TNBS-Induced Colitis - Mouse
553420 - Inflammatory Bowel Disease (IBD), DSS-Induced Colitis – Mouse
553430 - Inflammatory Bowel Disease (IBD), Oxazolone-induced Colitis - 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
Mesalazine

Graph

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*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.