Model Name
Hepatic Injury, Acetaminophen (APAP)-Induced

Item Number
546040

Introduction
Acetaminophen (APAP) is widely used as an analgesic and antipyretic drug throughout the world. Overdose of APAP leads to severe and fatal hepatic damage. Acetaminophen-induced hepatic injury is commonly used to study the mechanisms of hepatic inflammation and evaluate the therapeutic efficacy.

Procedure Summary
Male C57BL/6 mice at 7-8 weeks of age are used (8 mice/group). Mice are fasted overnight and then administered with test substance. After 1 hour, mice are challenged with 300 mg/kg of acetaminophen (APAP) orally. The animals are sacrificed 24 hours after the administration of acetaminophen, and blood is collected. Serum alanine aminotransferase (ALT) and aspartate aminotransferase (AST) levels are measured by optimized UV method with an automatic analyzer (TBA-120 FR, Toshiba, Japan). One-way ANOVA followed by Dunnett's test is used to determine the significant difference between treated and vehicle groups. Differences are considered statistical significance at P < 0.05.

Suggested Testing
n=8/group (study design dependent)
• Doses may be administered PO, IV, IP, and SC
• Assessments available: Body weight, ALT, AST, ALP, T-BIL and ALB levels, Liver 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)
546030 - Hepatic Injury, Concanavalin A - 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 Compound
SP600125

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

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