Model Name
Septic Shock, Lipopolysaccharide, Mouse

Item Number
576700

Introduction
Experimental septic shock mouse model using endotoxin, lipopolysaccharide (LPS) challenges with sensitized animals with D-galactosamine (GalN) causes lethal liver injury similar to fulminant hepatic failure. LPS/GalN-induced sepsis is commonly used to study the mechanisms of pathogenesis and pharmacological therapeutics of infectious diseases.

Procedure Summary
Test substance is administered p.o. to a group of 10 C57BL/6J male mice weighing 18 to 20 g one hour before challenge with E. Coli lipopolysaccharide (LPS, 20 ng/animal i.v.) plus D (+)-galactosamine (20 mg/animal i.v.) resulting in 100 percent mortality. Reference agent dexamethasone (1 mg/kg) is given orally one hour before LPS challenge. Mortality is recorded every 12 hours over a 3 day period. Reduction of mortality by 50 percent or more (≥50%) indicates significant protection.

Suggested Testing
• n=10/group (study design dependent)
• Doses may be administered TOP, PO, IV, IP, and SC
• Assessments available: Body weight, Mortality, Cell populations by FACS, 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)
576680 - Septic Shock, Lipopolysaccharide, Mouse - Mouse
576710 - Septic Shock, Lipopolysaccharide (without galactosamine), Mouse - Mouse
576750 - Septic Shock, Lipopolysaccharide, Rat - 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 is 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)
* Dexamethasone 21-acetate, Indomethacin

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Graph(s)

- **Vehicle, 10 mL/kg ×1, PO**
- **Dexamethasone, 1 mg/kg ×1, PO**

**Survival rate (%)**

Hours after LPS/GaIn

\[ P<0.05, \text{ treated vs. vehicle control; Fisher's exact test.} \]

Last modified December 22, 2017