Model Name
Klebsiella pneumoniae (ATCC 10031), Peritonitis, LD90-100

Item Number
608510

Introduction
This model assesses the efficacy of test articles at protecting against a lethal peritonitis infection. It can be used to evaluate small molecules, vaccines and biologics. Klebsiella pneumoniae is a commensal Gram-negative bacterium that can cause life-threatening infections such as bacteremia, peritonitis, lung, and urinary tract infections. This mouse virulent strain is commonly reported in literature for the evaluation of antimicrobial agents.

Procedure Summary
Groups of 10 immune competent mice are used. Each animal is inoculated with an intraperitoneally administered LD90-100 dose of pathogen with 5% mucin. Test substance and vehicle are administered one hour later. Doses may be administered IV, SC, PO, IM, IP or by IV infusion. Mortality is recorded daily during the following 7 days. Prevention of mortality in 50 percent or more (>50%) of the animals indicates significant activity. The Minimum Effective Dose (MED) is defined as the dose that results in survival of 50% (or more) of the test animals.

Turnaround Time(s)
6 weeks from sample receipt

Literature

Optional Services
Cytokine analysis, with Luminex, can also be performed.

Related Assay(s) (Item # - Assay Name - Species)
612100* - Klebsiella pneumoniae (ATCC 10031) MIC - Bacteria
*provided by partner lab Eurofins Pharma Discovery Services

Modified Protocols
We will readily accommodate client-specified alterations.

Laboratory
These assays are performed at our AAALAC accredited BSL2 laboratory in Taipei, Taiwan.

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)
Gentamicin, Ofloxacin

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Graph(s)

608510 *Klebsiella pneumoniae* (ATCC 10031)
Peritonitis, LD90-100
Ofloxacin (OFX) efficacy

Survival (%)

Days after infection

- Vehicle 5 mL/kg (IV)
- OFX 3 mg/kg (IV)
- OFX 1 mg/kg (IV)
- OFX 0.3 mg/kg (IV)

608510 *Klebsiella pneumoniae* (ATCC 10031)
Peritonitis, LD90-100
Gentamicin (GEN) efficacy

Survival (%)

Days after infection

- Vehicle 5 mL/kg (IV)
- GEN 3 mg/kg (IV)
- GEN 1 mg/kg (IV)
- GEN 0.3 mg/kg (IV)

Last modified November 20, 2017

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