Model Name
Streptococcus pneumoniae (ATCC 6301), Lung Infection Model, LD90-100

Item Number
608100

Introduction
This model assesses the efficacy of test articles for protection against a lethal lung infection. The procedure can be used to evaluate small molecules, vaccines and biologics. Streptococcus pneumoniae is a major cause of common respiratory diseases such as bronchitis and sinusitis) as well as life threatening diseases including pneumonia, and sepsis.

Procedure Summary
Groups of 10 mice are used. Animals are anesthetized then inoculated, intranasally or intratracheally, with a lethal (LD90-100) dose of pathogen. Test substance and vehicle are administered one hour after infection. (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
Fukuda Y. et al., Antimicrobial Agents and Chemotherapy 50:121-125, 2006

Optional Services
Cytokine analysis, with Luminex, can be performed upon request.

Related Assay(s) (Item # - Assay Name - Species)
603900* - Streptococcus pneumoniae (ATCC 6301) MIC - Bacteria
608080 - Streptococcus pneumoniae (ATCC 6301), Peritonitis, LD90-100 - Mouse
*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)
Ampicillin, Azithromycin, Vancomycin

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Graph(s)

S. pneumoniae, Lung Infection Model, Mouse
Vancomycin Treatment

Last modified November 20, 2017

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