Model Name
Staphylococcus aureus MRSA (ATCC 33591), Lung Infection Model, CFU/g

Item Number
608125

Introduction
This assay assesses the antimicrobial efficacy of test articles in a lung infection model. The microbial counts in tissue are measured. Staphylococcus aureus is a common cause of skin infections as well as serious life threatening diseases such as pneumonia, osteomyelitis, endocarditis, bacteremia and sepsis. Methicillin-resistant staphylococcus aureus (MRSA) is resistant to the frontline $\beta$-lactam antibiotics.

Procedure Summary
Groups of 5 neutropenic mice are used. Animals are inoculated with pathogen suspension then test articles or vehicle are administered at time points after inoculation. (Doses may be administered IV, SC, PO, IM, IP or by IV infusion.) At 24 after the first treatment, animals are humanely euthanized and tissue is aseptically removed. Tissue is homogenized and pathogen counts are determined by plating to agar medium. Pathogen counts from treatment groups are compared to vehicle groups and the significance of an effect is determined.

Turnaround Time(s)
5 weeks from sample receipt

Literature

Optional Services
Analysis of cytokines (with Luminex) and PK exposure can be performed upon request. Histopathology of tissue samples may also be performed.

Related Assay(s)  (Item # - Assay Name - Species)
605000* -  Staphylococcus aureus, MRSA (ATCC 33591) MIC - Bacteria
608110 -  Staphylococcus aureus MRSA (ATCC 33591), Peritonitis, LD90-100 - Mouse
608130 -  Staphylococcus aureus MRSA (ATCC 33591), Thigh Infection Model, CFU/g - 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)
Vancomycin

For current details about our Company address and contact information, please reference our website http://www.pharmacologydiscoveryservices.com/company-info/
#608125, *S. aureus*, Lung Infection Model, Mouse Vancomycin Treatment

Last modified November 20, 2017