Model Name
Staphylococcus aureus USA300 MRSA (BAA-1556), Thigh Infection, CFU/g

Item Number
608208

Introduction
This assay assesses the antimicrobial efficacy of test articles in a thigh infection model with a community acquired MRSA. USA300 S. aureus is a community-associated epidemic MRSA that causes rapidly progressive and fatal diseases. This MDR strain, originally named FPR 3757, is resistant to mupirocin, quinolones, macrolides and most classes of \( \beta \)-lactam antibiotics. It is susceptible to vancomycin, daptomycin, linezolid, and carbapenems.

Procedure Summary
Groups of 5 neutropenic mice are used. Animals are intramuscularly 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 hr 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.

Related Assay(s) (Item # - Assay Name - Species)
604055* - Staphylococcus aureus, USA300 MRSA (FPR3757, BAA-1556) MIC - Bacteria
608206 - Staphylococcus aureus USA300 MRSA (BAA-1556), Peritonitis, LD90-100 - Mouse
608207 - Staphylococcus aureus USA300 MRSA (BAA-1556), Dermal Infection - 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

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