Model Name
Staphylococcus aureus USA300 MRSA (BAA-1717), Dermal Infection

Item Number
608190

Introduction
This model evaluates the antimicrobial efficacy of test articles for treatment of superficial skin infections with a community acquired MRSA. USA300 S. aureus is a community-associated epidemic MRSA that causes rapidly progressive and fatal diseases. This strain, originally named TCH1516, is resistant to erythromycin and most classes of β-lactam antibiotics. It is susceptible to quinolones, vancomycin, daptomycin, linezolid, and carbapenems.

Procedure Summary
Groups of 5 immune competent mice are used. The animals are anesthetized, the fur on the back is removed with an electric shaver, and the epidermal layer is disrupted with an abrasive paper. Infection is initiated by placing a droplet containing pathogen suspension on the wound area. Test article is administered at timepoints after infection. (Doses may also be administered topically or by IV, SC, PO, IM, IP or IV infusion.) At 24 after the first treatment, animals are humanely euthanized and the skin 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)
6 weeks from sample receipt

Literature

Optional Services
Cytokine measurement (with Luminex) and histopathology may also be performed upon request.

Related Assay(s)  (Item # - Assay Name - Species)
604045* - Staphylococcus aureus, USA300 MRSA (TCH1516, BAA-1717) MIC - Bacteria
608200 - Staphylococcus aureus USA300 MRSA (BAA-1717), Wound Infection, 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)
Mupirocin

Last modified November 20, 2017
For current details about our Company address and contact information, please reference our website http://www.pharmacologydiscoveryservices.com/company-info/