Model Name
Escherichia coli (ATCC 700336), UTI Model, CFU

Item Number
608380

Introduction
This assay assesses the antimicrobial efficacy of test articles in an ascending urinary tract infection model. The microbial counts in kidney and bladder tissue are measured. This uropathogenic strain, otherwise called J96, is from a human urinary infection. It is a Serotype O4:K6 strain that produces type 1 pili. It is commonly reported in the literature for mouse virulence studies in the urinary tract infection model.

Procedure Summary
Groups of 5 to 8 female mice are used. Infection is established by transurethral inoculation of an E. coli suspension into the bladder using a urinary catheter. Test articles are administered starting four days after infection. (Doses may be administered IV, SC, PO, IM, IP or by IV infusion.) Animals are humanely euthanized at 24 hr after the last dose then microbial counts in bladder and kidney tissue are enumerated.

Turnaround Time(s)
6 weeks from sample receipt

Literature
Pulse M. et al, 2010

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)

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)
Levofloxacin

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**608380 Escherichia coli**, UPEC ATCC 700336
Ascending UTI Infection, Bladder Counts
Levofloxacin (LVX) Titration

![Graph showing bacterial counts over time with data points and error bars.](image)

- **Initial counts, 90hr**
- **Vehicle, 168 hr**
- **LVX, 1 mpk, SC, BID x 3D**
- **LVX, 0.3 mpk, SC, BID x 3D**
- **LVX, 0.1 mpk, SC, BID x 3D**

**Legend**

- **Black squares** represent initial counts.
- **Orange triangles** represent vehicle treatment at 168 hours.
- **Blue diamonds** represent levofloxacin treatments at various doses and schedules.

**Statistical Notation**

- **** P<0.01
- **** P<0.001

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Last modified November 20, 2017