

Biological Agent Reference Sheet (BARS)

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BIOLOGICAL AGENT REFERENCE SHEET

Citrobacter rodentium stx2dat+

CHARACTERISTICS	
<i>Morphology</i>	<i>C. rodentium</i> is a gram-negative, non-motile rod bacteria, aerobic
<i>Growth Conditions</i>	ATCC® Medium 2851: LB Agar/Broth Medium w/ 25 mcg/ml KAN & 10 mcg/ml CHL
<i>Genetic background</i>	<i>C. rodentium</i> stx: <i>C. rodentium</i> strain that is lysogenized with a λ Stx phage, produces mucus-activatable Stx2dact at levels comparable to Shiga Toxin-producing <i>E. coli</i> . This mutant is used as an <i>in vivo</i> model to study the effects of Enterohemorrhagic <i>E. coli</i> .

HEALTH HAZARDS	
<i>Host Range</i>	Rodents
<i>Modes of Transmission</i>	Fecal-oral route, Suckling and recently weaned pups are more susceptible than adults
<i>Signs and Symptoms</i>	This disease is usually transient in mice, lasting only about 4 weeks. Mortality is variable. Adults show no clinical signs of illness.
<i>Infectious Dose</i>	Unknown
<i>Incubation Period</i>	This disease is usually transient in mice, lasting only about 4 weeks.

MEDICAL PRECAUTIONS / TREATMENT	
<i>Prophylaxis</i>	Amoxicillin and a beta-lactamase inhibitor
<i>Vaccines</i>	None
<i>Treatment</i>	Administer appropriate drug therapy
<i>Surveillance</i>	PCR on feces
<i>Emory Requirements</i>	Report all incidents.

LABORATORY HAZARDS	
<i>Laboratory Acquired Infections (LAIs)</i>	None reported to date
<i>Sources</i>	Potential ingestion and accidental parenteral inoculation.

SUPPLEMENTAL REFERENCES	
<i>Canadian MSDS</i>	http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/citrobacter-eng.php
<i>Diseases of research Animals – U. Missouri</i>	http://dora.missouri.edu/mouse/citrobacter-rodentium/
<i>ATCC</i>	http://www.atcc.org/Search_Results.aspx?dsNav=Ntk:PrimarySearch%7cstx2dact+%7c3%7c,Ny:True,Ro:0,N:1000552&searchTerms=stx2dact&redir=1

CONTAINMENT	
<i>BSL2/ABSL2</i>	Containment Level 2 facilities, equipment, and operational practices for work involving infectious or potentially infectious materials, animals, or cultures.

SPILL PROCEDURES	
<i>Small</i>	Notify others working in the lab. Allow aerosols to settle. Don appropriate PPE. Cover area of the spill with paper towels and apply an EPA registered disinfectant, working from the perimeter towards the center. Allow 30 minutes of contact time before disposal and cleanup of spill materials.
<i>Large</i>	Contact Emory's Biosafety Officer (404-727-8863), the EHSO Office (404-727-5922), or The Spill Response Team (404-727-2888).

EXPOSURE PROCEDURES		
<i>Mucous membrane</i>	Flush eyes, mouth or nose for 15 minutes at eyewash station.	
<i>Other Exposure</i>	Wash area with soap and water for 15 minutes.	
<i>Reporting</i>	Immediately report incident to supervisor, complete an employee incident report in PeopleSoft.	
<i>Medical Follow up</i>	<i>7am-4pm (OIM):</i> EUH (404-686-7941) EUHM (404-686-7106) WW (404-728-6431)	<i>After Hours:</i> OIM NP On Call 404-686-5500 PIC# 50464
	<i>Needle Stick (OIM):</i> EUH (404-686-8587) EUHM (404-686-2352)	<i>Yerkes:</i> Maureen Thompson Office (404-727-8012) Cell (404-275-0963)

VIABILITY	
<i>Disinfection</i>	Phenolic disinfectants, 1% sodium hypochlorite, 70% ethanol, formaldehyde, glutaraldehyde, iodophore and paracetic acid are effective against <i>Citrobacter</i> . Chlorhexidine detergent scrub, hexachlorophene or iodophor preparations may also be effective.
<i>Inactivation</i>	90% of the <i>Citrobacter</i> organisms may be killed after 15 minutes at 230 MPa. <i>Citrobacter</i> are also inactivated by UV, microwave, gamma radiation, moist heat (121°C for at least 20 min) and dry heat (165-170°C for 2 h)
<i>Survival Outside Host</i>	Soil and water

PERSONAL PROTECTIVE EQUIPMENT (PPE)	
<i>Minimum PPE Requirements</i>	At minimum, personnel are required to don gloves, closed toed shoes, lab coat, and appropriate face and eye protection prior to working with <i>Citrobacter rodentium</i> . Additional PPE may be required depending on lab specific SOPs.
<i>Additional Precautions</i>	All procedures that may produce aerosols, or involve high concentrations or large volumes should be conducted in a biological safety cabinet (BSC). The use of needles, syringes, and other sharp objects should be strictly limited. Additional precautions should be considered with work involving animals or large scale activities.