

Biological Agent Reference Sheet (BARS)

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BIOLOGICAL AGENT REFERENCE SHEET

Herpes B Virus (*Cercopithecine Herpesvirus 1*)

CHARACTERISTICS	
<i>Morphology</i>	Belongs to the subfamily Alphaherpesvirinae, genus Simplex virus, and is closely related to herpes simplex virus-1 and -2; 160 to 180 nm in diameter, double-stranded DNA virus

HEALTH HAZARDS	
<i>Host Range</i>	Humans are highly susceptible to Herpes B infection. Macaques are natural hosts and can experience mucosal lesions, if immunosuppressed. Experimental hosts include rabbits, dogs, mice and guinea pigs
<i>Modes of Transmission</i>	All macaques should be presumed to have and to shed Herpes B virus. Humans are infected by macaque bites/scratch, splash of the eye or mucous membranes with body fluids, needle stick from contaminated syringe, or scratch/cut with contaminated fomites. Person-to-person transmission has been documented by contact with infected wounds.
<i>Signs and Symptoms</i>	Infection presents with fever, myalgia, headache, and/or nausea and a localized vesicular eruption near the site of inoculation. The vesicular eruption is clinically and pathologically similar to that caused by Herpes simplex virus. Fatality is high when virus spreads to the central nervous system.
<i>Infectious Dose</i>	Unknown
<i>Incubation Period</i>	Ranges 2 days to 5 weeks (most cases ranges 5 to 21 days)

MEDICAL PRECAUTIONS / TREATMENT	
<i>Prophylaxis</i>	Post exposure prophylaxis: Antiviral therapy should be started as soon as possible after exposure (within hours), but only after wound cleaning has been completed. Prophylaxis should be prescribed by a physician familiar with Herpes B virus.
<i>Vaccines</i>	None available
<i>Treatment</i>	Intravenous antiviral therapy with acyclovir or ganciclovir is recommended. Treatment should be managed by a physician familiar with Herpes B virus.
<i>Surveillance</i>	Viral culture, PCR, ELISA, Western blot and PCR-microplate hybridization assay. Acute and covalence serum testing is available.
<i>Emory Requirements</i>	Report all near misses, incidents and accidents.

LABORATORY HAZARDS	
<i>Laboratory Acquired Infections (LAIs)</i>	Virtually all known Herpes B virus infections in humans have been acquired via laboratory exposure to macaques, macaque contaminated fomites or macaque fluids or tissue.
<i>Sources</i>	All tissues and fluids from macaques and contaminated fomites.

SUPPLEMENTAL REFERENCES	
<i>Canadian MSDS</i>	http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/herpes-cerco-eng.php
<i>CDC</i>	http://www.cdc.gov/herpesbvirus/ Cohen, JI <i>et al</i> : Recommendations for Prevention of and Therapy for Exposure to B Virus http://cid.oxfordjournals.org/content/35/10/1191.full

CONTAINMENT	
<i>BSL2/ABSL2</i>	ABSL-2/BSL-2 practices, containment equipment, and facilities are recommended for activities using Non-Human Primates (NHP) and NHP tissues. Propagation of Herpes B virus is not authorized at Emory University.

SPILL PROCEDURES	
<i>Small non-animal spills</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 approved disinfectant, working from the perimeter towards the center. Allow 30 minutes of contact time before disposal and cleanup of spill materials.
<i>Large non-animal spills</i>	For assistance, 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, and notify Maureen Thompson.
<i>Medical Follow up</i>	Yerkes: Maureen Thompson Office (404-727-8012) Cell (404-275-0963) 7am-4pm (OIM): EUH (404-686-7941) After Hours: OIM NP On Call 404-686-5500 PIC# 50464 Maureen Thompson cell (404-275-0963)

VIABILITY	
<i>Disinfection</i>	Fresh 0.25% hypochlorite solution, povidone-iodine, and chlorhexidine
<i>Inactivation</i>	Ultraviolet light and heat (56°C, 30 minutes)
<i>Survival Outside Host</i>	Tissue culture medium (pH 7.2, 4°C) was shown to result in a slight loss in viability after 8 weeks; A single episode of freezing at either -20°C or -72°C resulted in an initial loss of 2 logs of infectivity of tissue culture medium stored specimens. All infectivity is lost after storage in tissue culture media at 40°C for 2 weeks.

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 macaques or macaque tissue or fluids. Additional PPE may be required depending on lab specific SOPs.
<i>Additional Precautions</i>	All personnel handling NHP materials (tissues and fluids) must have completed the Herpes B virus training. All procedures manipulating macaque tissue or fluids should be conducted in a biological safety cabinet (BSC). The use of needles, syringes, and other sharp objects should be strictly limited.