

BIOHAZARDOUS AGENT REFERENCE DOCUMENT

Human Immunodeficiency Virus (HIV-1)

The Biohazardous Agent Reference Document (BARD) is a general guidance resource that reviews and summarizes the nature of a pathogen or biotoxin, and offers safety requirements for work with the agent in the laboratory. The BARD may replace the formal SOPs used in conjunction with some IBC registrations.

The BARD is provided as an additional guidance tool, and is not a substitute for a risk assessment, biosafety training, lab-specific training, or a formal [IBC master protocol registration](#). This document should be readily available in the laboratory, and it is the responsibility of the Laboratory Supervisor or Principal Investigator to ensure that all personnel have read, understood, and signed the document. The BARD is for informational purposes only, and is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Please consult a health care provider for any medical questions or concerns.

INSTRUCTIONS

- 1. Review the information contained in this document.**
- 2. Add any necessary information that is specific to your work in the laboratory (such as strain-specific information). Please be sure that the track changes function is turned on to indicate any changes that you make.**
- 3. Instruct all personnel to review the BARD and sign the last page, indicating that they have read and understood the information.**
- 4. Submit the BARD along with your IBC master protocol registration, amendment, or continuing review.**

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CHARACTERISTICS	
Morphology	Member of the Retrovirus family, enveloped virus.
Strain Specific Characteristics	Virus tropism may be altered by pseudotyping

HEALTH HAZARDS	
Host Range	Humans
Modes of Transmission	Blood-borne, mucous membrane contact, sexual contact
Signs and Symptoms	Early flu-like symptoms such as muscle or joint pain, diarrhea, nausea, vomiting, headache, enlarged lymph nodes, liver or spleen organomegaly, weight loss, neurological symptoms.
Infectious Dose	Unknown
Incubation Period	Antibodies generally detectable in 1 – 3 months post-infection

MEDICAL PRECAUTIONS / TREATMENT	
Prophylaxis	Post-exposure prophylaxis cocktail may prevent infection if started within 72 hours
Vaccines	None available
Treatment	No cure. Antiretroviral therapy is used to manage the chronic disease
Surveillance	Monitor for symptoms and test using serology and viral isolation
UVM IBC Requirements	Report any exposures or signs and symptoms to your supervisor.
Additional Medical Precautions	Women who are pregnant or planning on becoming pregnant should be aware that pregnant women infected with HIV can transmit the virus to their fetus during pregnancy, delivery, or breastfeeding. Follow UVM's Exposure Control Plan for Bloodborne Pathogens: http://www.uvm.edu/safety/lab/bloodborne-pathogens-and-exposure-control-plan - ECP

LABORATORY HAZARDS	
Laboratory Acquired Infections	Numbers of lab-acquired infections are low, 57 cases documented of occupationally acquired infections as of 2001.
Sources	Blood, semen, vaginal secretions, cerebrospinal fluid, synovial fluid, peritoneal fluid, pleural fluid, pericardial fluid, amniotic fluid, other specimens containing blood, breast milk, unscreened or inadequately treated blood products, infected cells and tissues, laboratory cultures.

CONTAINMENT REQUIREMENTS	
BSL – 2+	Manipulation of known or potentially infected clinical samples and cell cultures of laboratory adapted strains (RG3)
BSL - 3	Manipulations involving high aerosol potential, high concentrations or volumes of virus (RG3).
ABSL – 2+	Work with animals infected with attenuated or laboratory adapted strains
ABSL - 3	Work with infected non-human primates
Aerosol generating activities	Centrifugation, homogenizing, vortexing or stirring, changing of animal cages, cell sorting, pipetting, pouring liquids, sonicating, loading syringes
Primary containment device (BSC)	Use for all activities with live virus, unloading centrifuge rotors, and aerosol-generating activities

EXPOSURE PROCEDURES	
Mucous membranes	Flush eyes, mouth or nose for 15 minutes at eyewash station.
Other exposures	Wash area with soap and water for 15 minutes
Medical Follow-Up	Contact UVMHC Infectious Disease Dept. directly at (802) 847-2700 for immediate assistance. Bring this document with you if seeking medical care.
Reporting	Report all exposures or near misses to: <ol style="list-style-type: none"> Your immediate Supervisor The UVM Biosafety Officer at (802) 777-9471 and Risk Management at 6-3242 Risk Management and Safety; https://www.uvm.edu/riskmanagement/incident-claim-reporting-procedures

PERSONAL PROTECTIVE EQUIPMENT (PPE)	
Minimum PPE Requirements	Nitrile gloves, closed toed shoes, lab coat, appropriate eye/face protection. Disposable sleeves for biosafety cabinet work.
Additional Precautions (Risk assessment dependent)	A medical surveillance program should be implemented. Sharps use should be strictly limited. Non-intact skin should be allowed to scab over before entering the lab, and should then be covered with waterproof dressings. Remove hand jewelry before donning gloves, change gloves every 30 minutes.

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VIABILITY	
Disinfection	Susceptible to fresh 2% glutaraldehyde, 1% sodium hypochlorite, iodine, phenolics; with 10 minute contact time
Inactivation	Inactivated by heat >60°C, and pH extremes
Survival Outside Host	Capable of surviving in blood in syringes at room temperature for 42 days, in blood and cerebrospinal fluid from autopsies for 11 days, and dehydrated on surfaces for longer than 7 days depending on the initial titer

SPILL CLEAN UP PROCEDURES	
Small Spill	Notify others working in the lab. Allow aerosols to settle. Don appropriate PPE. Cover area of the spill with paper towels and apply approved disinfectant, working from the perimeter towards the center. Allow 30 minutes of contact time before clean up and disposal. Dispose in double biowaste bags and biobox.
Large Spill	<p>Inside of a lab: Call UVM Service Operations at 656-2560 and press option 1 to speak to a dispatcher. Ask them to page Risk Management and Safety.</p> <p>Outside of a lab: Pull the nearest fire alarm and evacuate the building. Wait out front of the building for emergency responders to arrive.</p>

REFERENCES	
Canadian PSDS	https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/human-immunodeficiency-virus.html
BMBL	https://www.cdc.gov/biosafety/publications/bmbl5/
CDC Guidelines	https://www.cdc.gov/actagainstaids/basics/index.html
Current Protocols in Microbiology	http://onlinelibrary.wiley.com/doi/10.1002/9780471729259.mc15j01s28/abstract

STUDENT / EMPLOYEE NAME	SIGNATURE	DATE

Biosafety Review:

 Jeff LaBossiere, Biological Safety Officer

 Date

Principal Investigator: _____

IBC Registration #: _____