The University of Vermont
Risk Management & Safety
Biosafety Office

BIOHAZARDOUS AGENT REFERENCE DOCUMENT

Rotavirus

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.**

Principal Investigator: _____ IBC Registration #: _____

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CHARACTERISTICS	
Morphology	Non-enveloped, double-stranded RNA virus, with a diameter of about 70 nm and wheel-like appearance.
Strain Specific Characteristics	Can be classified into seven major serotypes (A – G). Groups A – C infect both humans and animals, while groups D – G have only been found in animals. Group A is the most common rotavirus responsible for causing human illness.

HEALTH HAZARDS	
Host Range	Humans and experimentally infected animals
Modes of Transmission	Most commonly transmitted through the fecal-oral route. Ingestion, mucous membrane contact, inhalation of aerosols suspected but unconfirmed.
Signs and Symptoms	Symptoms similar to those caused by other gastrointestinal agents, such as: fever, vomiting, and non-bloody diarrhea, leading to mild to severe dehydration and/or electrolyte imbalance. Infections are usually self-limiting and last for about 4 – 7 days.
Infectious Dose	Unknown
Incubation Period	1 – 3 days

MEDICAL PRECAUTIONS / TREATMENT	
Prophylaxis	None
Vaccines	Oral vaccine available
Treatment	Supportive therapy, prevention of dehydration by replacement of fluid and electrolytes
Surveillance	Monitor for symptoms and test using ELISA or latex agglutination assay of stool sample, or electron microscopy
UVM IBC Requirements	Report any exposures or signs and symptoms to your supervisor
Additional Medical Precautions	Immunocompromised individuals are susceptible to developing more severe disease manifestations

LABORATORY HAZARDS	
Laboratory Acquired Infections	None reported to date
Sources	Intestinal mucosa and stool of infected humans, infected laboratory cultures

CONTAINMENT REQUIREMENTS	
BSL - 2	Manipulation of known or potentially infected clinical samples and cultures of laboratory adapted strains (RG2)
BSL - 3	
ABSL - 2	Work with animals infected with risk group 2 strains
ABSL - 3	
Aerosol generating activities	Centrifugation, homogenizing, vortexing or stirring, changing of animal cages, animal surgeries, cell sorting, pipetting, pouring liquids, sonicating, loading syringes
Primary containment device (BSC)	Use for aerosol generating activities, large volumes, animal manipulations, or high concentrations

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 UVMMC 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: 1. Your immediate Supervisor 2. The UVM Biosafety Officer at **(802) 777-9471** and Risk Management at **6-3242** 3. Risk Management and Safety; https://www.uvm.edu/riskmanagement/incident-claim-reporting-procedures

PERSONAL PROTECTIVE EQUIPMENT (PPE)	
Minimum PPE Requirements	Nitrile gloves, lab coat or gown, appropriate eye/face protection. Wash hands after removing gloves.
Additional Precautions (Risk assessment dependent)	

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VIABILITY	
Disinfection	Susceptible to 2% sodium hypochlorite, combinations of quaternary ammonium compounds with alcohols > 40% (such as Lysol), 2% glutaraldehyde, 2% formalin, iodine; all with a contact time of 10 minutes.
Inactivation	Inactivated by heating above 50°C for 30 minutes, and by pH < 3.0
Survival Outside Host	Capable of surviving at ambient temperatures and can remain infectious on inanimate objects for up to 60 days. Medium or low humidity may enhance stability.

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	**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. **Outside of a lab:** Pull the nearest fire alarm and evacuate the building. Wait out front of the building for emergency responders to arrive.

REFERENCES	
Canadian PSDS	https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/human-rotavirus.html
BMBL	https://www.cdc.gov/biosafety/publications/bmbl5/
CDC Guidelines	https://www.cdc.gov/rotavirus/index.html

STUDENT / EMPLOYEE NAME	SIGNATURE	DATE

Biosafety Review:

_____ _____

Jeff LaBossiere, Biological Safety Officer — Date

Principal Investigator: _____ IBC Registration #: _____