

# Hazards Assessment

<b>Pathogen Factors</b>		<a href="#">Click here for a resource that can be searched by agent.</a>			
<b>Agent(s):</b>					
<b>Risk group:</b>	RG1	RG2	RG3	RG4	
<b>Is agent infectious to humans?</b>					Yes    No
<b>If yes, specify potential transmission routes:</b>					
inhalation	non-intact skin	mucous membrane	communicable		
injection	percutaneous	vector/insect borne			
<b>Infectious dose:</b>	LD <sub>50</sub> <1000	LD <sub>50</sub> >1000	unknown		
<b>Are diagnostics and/or treatments available?</b>					Yes    No
<i>If yes, specify :</i>					
List any effective vaccines/medications:					
List any effective diagnostics:					
<b>Agent's additional effect on humans:</b>	carcinogenic	toxin produced	agent alters in host		
<b>What is the severity of illness?</b>	extreme	high	moderate	low	
<b>What is the duration of illness?</b>	days	weeks	months	life long	
<b>What is the mortality rate?</b>		>5%	<5%	0%	
<b>Will animals be used?</b>					Yes    No
<i>If yes, specify potential transmission routes:</i>					
necropsy	scratch	secreted in urine or feces			
respired	on fur	Other (specify)			
<b>What other species can this agent infect?</b>					
<b>What is the agents origin?</b>			indigenous	exotic	
<b>What is the host range?</b>			broad	species specific	
<b>Will agents amplify in the host?</b>					Yes    No
<b>What is the environmental impact of a release?</b>					
<b>Will there be genetic manipulations that may extend the host range or alter the agent's sensitivity to known, effective treatment regimens?</b>					Yes    No
<b>Additional Considerations:</b>					
		replicative/transmissible rDNA			
unfixed human or non-human primate samples		human diagnostic or human health care specimens			
human or non-human primate cell cultures		animal specimens of unknown health status			

# Hazards Assessment

## Procedural Factors

<b>Specify the storage requirements for biological materials in the working</b>			
Refrigerator	Cold Room	Incubator	
Freezer	Liquid Nitrogen	Other (specify)	
<b>Material Type:</b>	diagnostic specimens	purified biological material	environmental specimens
<b>Highest volume of material during procedure:</b>	>10 Liters	up to 10 Liters	Milliliter volume
<b>Highest concentration of agent during procedure</b>			
<b>Will any of these aerosol generating procedures be performed?</b>			
Aspiration	Slide Preparation	Aerosolization experiments	
Freeze Drying	Vortexing, shaking, blending	Pipetting	
Grinding	Opening Freeze Dried Material	Microbiological/Cell Culture	
Centrifugation	Using Automated Equipment	Sonication	
Pouring	Other?		
<b>Will sharps be used?</b>		Yes	No
<b>Will breakable materials be used?</b>		Yes	No
<b>Is setting outside of lab (in the field) where engineering controls are unavailable?</b>		Yes	No
<b>Where will biological materials will be transported?</b>	within building	on campus	off campus

## Personnel (Host) Factors

<b>Have medical conditions or use of medications been discussed with staff ?</b> <i>(Asplenia, ecsema, pregnancy, immune suppression, imm. supp. medications et.)</i>	Yes	No	
<i>Employees will individually discuss with OccHealth and are encouraged to share</i>			
<b>Is the agent a reproductive hazard?</b>	Yes	No	
<b>Allergies:</b> <i>(animal dander, fungi, latex etc.)</i>	Yes	No	
<b>Immunization status</b>	current	not current	
<b>Do procedures take over 4 consecutive hours or more than 5 consecutive days ?</b>	Yes	No	
<b>Frequency of experiments:</b>	Frequent	Intermittant	Rare
<b>Behavioral:</b>			
Are any staff members inexperienced (inadequate understanding of the sources of exposure associated with the work they will be performing)?	Yes	No	
Are any staff members inexperienced with the equipment or procedures used ?	Yes	No	
Are ay staff members un-motivated to maintain a safe working environment for themselves and their co-workers?	Yes	No	
Are any staff memebbers inattentive to detail or distracted by issues occurring with their personal life or school?	Yes	No	
<b>List here any additional hazards/experimental risk factors not covered above:</b>			

# Risk Mitigations

<b>PPE</b>			
<b>List the Personal Protective Equipment required</b>			
Protective Eyewear	Single Gloves	Lab Coat	
Face Shield	Double Gloves	Rear fastening gown	
Booties	Face Mask	Tyvek gown	
Other:	Respirator : n95	PAPR	Tyvek coveralls

<b>Engineering</b>			
<b>Is there access to an autoclave?</b>		Yes	No
<b>Appropriate safety equipment?</b>		Yes	No
<i>specify:</i>	emergency shower	safety eyewash	fire extinguisher
	spill kits (Bio & Chem)	First Aid Kit (fully stocked)	
<b>Are there adequate washing facilities available for use?</b>		Yes	No
<i>Specify:</i>	handwash sink	shower	cagewash
		dishwasher	
<b>Is airflow adequate to prevent spread to other spaces?</b>		Yes	No
<i>specify:</i>	inward		single pass/non-recirculated
<b>Primary containment devices utilized:</b>	BioSafety Cabinet (BSC)	aerosol tight centrifuge rotors/cups/buckets	
<b>Are all surfaces nonpourous to facilitate decon in the event of a spill?</b>		Yes	No
<i>specify:</i>	no carpeting	no cloth covered chairs	impervious benchtop
<b>Are doors self closing?</b>		Yes	No
<b>Are restricted access devices utilized?</b>		Yes	No

<b>Standard Operating Procedures / Practices</b>			
<b>Have procedures (SOPs) been deployed to mitigate all of the hazards identified above? If yes, specify location:</b>		Yes	No
<b>Have risk assessments been conducted for electrical machines?</b>		Yes	No
<b>Work Practices:</b>			
Sharps safety	All manipulations within BSC	Good Microbiological practices	
Dedicated Lab Clothing	Shower out facility	Incident/exposure reporting	
Buddy System	Observed hazards reporting	Near miss reporting	

# Risk Mitigations

<b>Administrative Controls</b>				
<b>Indicate records maintained:</b>				
Lab Specific SOPs	Lab Specific Incident Response plan	Lab Specific Biosafety Plan		
GatorTracs Project Registrations	Injury / Accident / Near Miss	Training Records		
<b>How often are records reviewed / revised?</b>				
annually	post incident	when procedures change		
<b>Regulations that must be followed:</b>				
NIH	IACUC	DEA	FSAP	EPA
<b>Indicate Lab Signage in Use:</b>				
Lab Plaquard at Entrance	Emergency Response	Good Microbiological Practices		
Spill Response	Emergency Contacts	Required PPE		
<b>Indicate Local Training Provided:</b>				
Initial & annual safety and incident response training		Initial & annual equipment training		
Initial & annual agent & procedure specific training		Training after changes are made		
<b>Online MyTraining:</b>				
Biomedical Waste	General BioSafety	Chemical Hygeine & LATCH		
Respirator (n95)	Shipping & Transport of Biological Materials			
Blood Borne Pathogen	Hazardous Waste Handling			
<b>Medical Monitoring:</b>				
Respiratory Protection Program	Biopath	Vaccines		

**What Physical Containment levels will be used?**

	Level 1	Level 2	Level 3
<b>BSL (Biological Safety Level)</b>			
<b>ABSL (Animal Biological Safety Level)</b>			
<b>BSLP (Plant Biosafety Level)</b>			
<b>ACL (Arthropod Containment Level)</b>			

**List any additional mitigations not covered above:**