

CHARACTERISTICS	
Synonym or Cross Reference	Monkey Pox
Disease	Monkeypox
Morphology	Virus belongs to family Poxviridae, sub-family Chordopoxvirinae and genus Orthopoxvirus. MPXV is a 200 to 250 nm brick-shaped enveloped virus with characteristic surface tubules and a dumbbell-shaped core component. The MPXV genome consists of linear double-stranded DNA. Monkeypox virus is antigenically related to the variola and vaccinia viruses.
Zoonosis	Yes

RISK GROUP & CONTAINMENT REQUIREMENTS	
ABSL-3	For all procedures utilizing infected animals.
BSL-3	Containment Level 3 facilities, equipment, and operational practices outlined in CDC’s BMBL and WHO’s Laboratory biosafety guidance should be followed for all in vitro activities.
Risk Group 3	Agents that are associated with serious or lethal human or animal diseases.

LABORATORY HAZARDS	
Primary Hazards	Close contact with an infected animal or human, or contact with materials contaminated with the virus
Sources	Samples described in IBC protocol.
Lab Acquired Infections (LAIs)	None reported to date

PERSONAL PROTECTIVE EQUIPMENT	
Additional Precautions	Additional PPE may be required depending on lab-specific SOPs and IBC Protocol.
Minimum PPE Requirements	Lab coat, disposable gloves, safety glasses, closed toed shoes, long pants.

SPILL PROCEDURES	
Large	Immediately notify all lab personnel and clear the area. Remove any contaminated PPE/clothing before exiting the lab. Lock all entry doors, post warning signage, and deny entry. Call DPS (213-740-4321) and ask to notify EH&S. Inform the PI and/or Lab Manager/Supervisor as soon as possible.
Small	Notify all lab personnel lab. Remove contaminated PPE and don new PPE. Cover spill area with absorbent material and add fresh 1:10 bleach:water. Allow 20 minutes (or as directed) contact time. After 20 minutes, clean up and dispose of materials.

VIABILITY	
Disinfection	Use 10 % dilution of household bleach (minimum 0.3% sodium hypochlorite) for 20 to 30 minutes, or an acceptable time approved by IBC and EH&S.
Survival Outside Host	15 days

HEALTH HAZARDS	
Host Range	Humans, squirrels, non-human primates, black-tailed prairie dogs, African brush-tailed porcupines, rats, and shrews
Incubation Period	Approximately 7 to 17 days
Infectious Dose	Unknown
Modes of Transmission	Ingestion, parenteral inoculation, droplet, or aerosol exposure of mucous membranes or broken skin, or contact with infectious fluids or tissue
Signs and Symptoms	Onset of non-specific symptoms which can include fever, headache, backache, lymphadenopathy, and fatigue during a prodromal period of 2 to 3 days. This is followed by a 2 to 4 week period in which a rash develops and progresses from macules, to papules, to vesicles, and then to pustules, followed by umbilication, scabbing, and desquamation.

EXPOSURE PROCEDURES	
Medical Follow-up	Visit USC’s designated healthcare provider. Bring a copy of this PSDS.
Mucous Membrane	Flush eyes for 5-10 minutes at eyewash station.
Other Exposures	Immediately wash affected area with soap and water for 15 minutes.
Reporting	Immediately report incident to supervisor, notify EH&S, and complete Manager’s Report.

MEDICAL PRECAUTIONS/TREATMENT	
Prophylaxis	Vaccination with the smallpox vaccine, within 4 days and up to 14 days after initial contact with a confirmed mpox case
Surveillance	Monitor for symptoms of infection (see “Health Hazards”)
Treatment	There are no licensed antiviral drugs available to treat MPXV infection; instead, treatment is supportive.
USC Requirements	Immediately report any exposures to Environmental Health & Safety.
Vaccines	Vaccination with vaccinia virus (smallpox vaccine) is approximately 85% effective against mpox.

REFERENCES	
BMBL http://tiny.cc/cdc-bmb1	CDC https://www.cdc.gov/
NIH Guidelines http://tiny.cc/ni1-bio-secure	Virginia Tech http://tiny.cc/vt-psds
Montana State University http://tiny.cc/msu-psds	Monkeypox Fact Sheet https://www.ecdc.europa.eu/en/all-topics-z/monkeypox/factsheet-health-professionals
NIH National Library of Medicine https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9514334/	