Human Immunodeficiency Virus (HIV)

CHARACTERISTICS

Synonym or Cross Reference

Disease

HIV is the causative agent of AIDS. AIDS is characterized by symptoms and infections caused by the breakdown of the immune system due to HIV infection. Due to immunodeficiency, patients succumb to various fungi, parasites, bacteria, and/ or viruses and are prone to certain tumors.

Morphology

HIV is a member of the Retroviridae family, genus Lentivirus. HIV is an icosahedral, enveloped virus, of approximately 100 to 110 nm in diameter, and has a single-stranded, linear, positive-sense RNA genome.

Zoonosis

RISK GROUP & CONTAINMENT REQUIREMENTS

ABSL-2 For all procedures utilizing infected animals.

BSL-2+ All procedures must be performed in a BSC, unless otherwise approved and stated in lab-specific

manual. Follow BSL-3 practices in a BSL-2 designated

Agents that are associated with serious or lethal Risk Group 2

human or animal diseases.

LABORATORY HAZARDS

Primary Hazards

Human/primate blood + other infectious materials Sources

Lab Acquired

Infections (LAIs)

Cases have been reported.

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

Unknown

HEALTH HAZARDS

Host Range

Humans

Incubation Period

Ranges from less than 1 year to 15 years or longer.

Infectious Dose

Modes of

Transmission

Exposure of the virus to oral, rectal, or vaginal mucosa during sexual activity. Transfusion of contaminated blood products, using contaminated equipment during injection drug use. Mother to

infant during pregnancy.

Signs and Symptoms AIDS is characterized by symptoms and infections caused by the breakdown of the immune system due to HIV infection. Due to immunodeficiency, patients succumb to various fungi, parasites, bacteria, and/ or viruses and are prone to certain tumors.

EXPOSURE PROCEDURES

Medical Follow-

Visit USC's designated healthcare provider. Bring a

copy of this PSDS.

Mucous Membrane

Reporting

Flush eyes for 5-10 minutes at eyewash station.

Other Exposures Immediately wash affected area with soap and

water for 15 minutes.

Immediately report incident to supervisor, notify

EH&S, and complete Manager's Report.

MEDICAL PRECAUTIONS/TREATMENT

Prophylaxis

Antiretroviral agents: NRTIs, NtRTIs, NNRTIs, PIs,

and fusion inhibitors.

Surveillance

Monitor for symptoms of infection (see "Health

Hazards").

Treatment

Antiretroviral agents: NRTIs, NtRTIs, NNRTIs, PIs and

LISC

Immediately report any exposures to Environmental

Requirements

Health & Safety.

Vaccines

None available

REFERENCES

BMBL

http://tiny.cc/cdc-bmbl

http://tiny.cc/cdc-occ-acquired-hiv

NIH Guidelines

http://tiny.cc/nih-bio-secure

Canadian PSDS http://tiny.cc/canada-gov-psds

Virginia Tech

Montana State University

http://tiny.cc/vt-psds

http://tiny.cc/msu-psds

Clinical Infectious Diseases https://academic.oup.com/cid/artic le/64/6/810/2747460?login=false

NIH National Library of Medicine https://pubmed.ncbi.nlm.nih.

04/2024

gov/3336776/

