

CHARACTERISTICS

Synonym or Cross Reference	Hepatitis B, HBV infection, type B hepatitis,serum hepatitis, homologous serum jaundice, Australia antigen hepatitis, and HB.
Disease	HBV infection
Morphology	Hepadnaviridae family. Circular DNA genome: partial double- and single-stranded; 42 nm diam. Comprised of important viral proteins: envelope protein, hepatitis B surface antigen (HBsAg), hepatitis B core antigen (HBcAg), and a soluble nucleocapsid protein (hepatitis B e antigen - HBeAg).
Zoonosis	None

RISK GROUP & CONTAINMENT REQUIREMENTS

ABSL-2	For all procedures utilizing infected animals.
BSL-2/BSL-2+	For all procedures involving suspected or known infectious specimen or cultures, work in a BSC unless otherwise approved and stated in lab-specific manual.
Risk Group 2	Agents that are associated with human disease which is rarely serious and for which preventive or therapeutic interventions are often available.

LABORATORY HAZARDS

Primary Hazards	Percutaneous (e.g., needlestick). Potential for infection via aerosols and HBV contaminated surfaces. Mucous membrane exposures to blood that might contain HBsAg.
Sources	Samples described in IBC protocol.
Lab Acquired Infections (LAIs)	N/A

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.
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.
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VIABILITY

Survival Outside Host	HBV can survive and remain infectious on environmental surfaces for at least 7 days.
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HEALTH HAZARDS

Host Range	Humans are the only known natural host
Incubation Period	45–180 days. HBsAg can appear 2 weeks to 9 months after exposure. The variation depends on the amount of virus in the inoculum, mode of transmission, and host factors.
Infectious Dose	Unknown
Modes of Transmission	Percutaneous or mucosal exposure to infected blood or other body fluid e.g., perinatal/mother to child, household (non-sexual), sexual, needle sharing, and occupational/healthcare-related.
Signs and Symptoms	Persons with acute hepatitis B infection may be asymptomatic or show symptoms e.g., nausea, abdominal pain, vomiting, fever, jaundice, dark urine, changes in stool color, and hepatomegaly or splenomegaly and signs of liver dysfunction.

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	Unimmunized adults exposed to HBsAg positive blood should receive HBIG as soon as possible as well as immunization with HB vaccine unless natural immunity can be confirmed.
Surveillance	Monitor for symptoms of infection.
Treatment	Wash area immed. with soap/water; irrigate mucous membranes/conjunctivae thoroughly. If material contains HBV or is positive for HBsAg then give hepatitis B immunoglobulin (HBIG) within 48 hours of exposure. Drugs: interferon-alpha, pegylated interferon alpha-2a, lamivudine, adefovir, entecavir, telbivudine, and tenofovir.
USC Requirements	Immediately report any exposures to Environmental Health & Safety.
Vaccines	Effective HBV vaccines are available.

REFERENCES

BMBL http://tiny.cc/cdc-bmb1	Canadian PSDS http://tiny.cc/canada-gov-psds
CDC https://www.cdc.gov/	NIH Guidelines http://tiny.cc/nih-bio-secure

