



Zika Virus (ZIKV)

General Information

Zika virus is an enveloped, positive-sense, single-stranded RNA virus in the family *Flaviviridae*. As an arbovirus, ZIKV is primarily transmitted by mosquitos. Infection with ZIKV usually results in mild illness.

Host Range

Humans and non-human primates are the main hosts for Zika virus. There is no evidence that Zika virus can spread from humans to animals.

Incubation Period

Usually 3-14 days

Survival Outside Host

Less than 3 days

Laboratory Hazards

Parenteral inoculation, mucous membrane exposure, compromised skin with cuts, abrasions or dermatitis; contact with blood or other body fluids of infected animals; bite of an infected mosquito (primarily *Aedes aegypti* and *Aedes albopictus*). **NOTE:** Workers with partners who are pregnant or considering pregnancy must be made aware of the risk associated with sexual transmission of Zika virus. Individuals working with Zika virus are encouraged to contact their healthcare provider for counseling and guidance.

Symptoms of Exposure

Symptoms are fever, headache, conjunctivitis, skin rash, and joint and muscle pain. Symptoms are usually mild and last for 2-7 days. Zika virus can cause serious birth defects including microcephaly, brain abnormalities, and vision and hearing loss. Zika virus infection can also cause Guillain-Barré syndrome (GBS). GBS is an uncommon but possible autoimmune illness involving the nervous system that can result in muscle weakness and paralysis.

Lab Acquired Infections (LAIs)

At least 5 reported cases of lab associated Zika virus infections.

Personal Protective Equipment



Disinfection & Inactivation

ZIKV is susceptible to 70% ethanol, and 1% hypochlorite, 2% glutaraldehyde, 2% paraformaldehyde. ZIKV is inactivated by 60 min UV light (40 mwatt/cm2: 254nm), or high temperature $\geq 60^{\circ}\text{C}$

Waste Management

Refer to [USC's Biological and Infectious Waste Management Plan](#).

Lab Containment

[Biosafety Level 2 \(BSL-2\)](#) for activities with materials and cultures known or reasonably expected to contain ZIKV.

Animal Containment

[Animal Biosafety Level 2 \(ABSL-2\)](#) for activities with experimentally infected animals. **NOTE:** Infecting arthropods with ZIKV requires Arthropod Containment Level 3 (ACL-3).

Medical Surveillance/Treatment

Surveillance: RT-PCR on specimens. Cross-reactivity can occur with other flaviviruses.

Prophylaxis: None

Vaccines: None

Treatment: Supportive care; illness is usually self-limited.

Spill Procedures

See [USC Biological Spill Procedures](#)

Exposure Procedures

See [USC Protocol for Post Exposure Evaluation and Follow-up](#) Use of sharps should be strictly limited. A biosafety cabinet should be used when there is a potential to create aerosols or droplets.

References

CDC, "Zika Virus," Center for Disease Control and Prevention, <https://www.cdc.gov/zika/index.html>.

WHO, "Zika virus," World Health Organization <https://www.who.int/news-room/fact-sheets/detail/zika-virus>.

P. Ferraris, H. Yssel and D. Misséa, "Zika virus infection: an update," *Microbes and Infection*, vol. 21, no. 8-9, pp. 353-360, 19.

CDC, J. A. Müller, M. Harms, A. Schubert, et. al., "Inactivation and Environmental Stability of Zika Virus," *Emerging Infectious Diseases*, vol. 22, no. 9, pp. 1685-1687, 09 2016

"Zika virus," Government of Canada <https://www.canada.ca/en/public-health/services/diseases/zika-virus.html>

ABSA Laboratory-Acquired Infection (LAI) Database "Zika" <https://my.absa.org/LAI>