



## WISCONSIN FEE-EXEMPT ZIKA VIRUS TESTING SPECIMEN COLLECTION AND SUBMISSION INSTRUCTIONS

For individuals who meet Centers for Disease Control and Prevention (CDC) travel or exposure criteria, fee-exempt Zika virus testing is available at the Wisconsin State Laboratory of Hygiene (WSLH) upon approval by a Wisconsin Division of Public Health (DPH) epidemiologist. The most common Zika virus tests approved are the Zika virus IgM antibody assay on serum, the Arbovirus PCR Panel (Zika, Dengue, and Chikungunya viruses) on serum, and the Zika virus PCR on urine.

### Specimen Collection

Selection and interpretation of Zika virus tests are dependent on the time elapsed between clinical disease onset or last exposure (travel or sexual), and specimen collection date. Zika, Dengue, and Chikungunya viruses share common mosquito vectors and are actively transmitted in overlapping geographic areas. Diagnostic testing for these viral infections can be complicated by cross-reactivity with other flaviviruses in IgM antibody tests, and requires ample quantity of the specimen(s) to perform confirmatory testing to accurately interpret test results.

#### Specimens for Arboviral antibody testing (IgM, PRNT)

- **Serum specimen:** Collect 5-10 ml (for adults) or 1-2 ml (for infants) of blood in a tube with NO anticoagulant or preservative. **Promptly separate (centrifuge) serum from cells.** Use of serum separator tubes (SST) is encouraged. Store the SST refrigerated. Submit 2-5 ml (for adults) or 0.5-1 ml (for infants) of serum in a sterile screw-capped vial and transport with a cool pack.
  - For adults: collect blood between 14 days and 12 weeks after symptom onset for reliable antibody detection.
  - Detectable IgM may not be present until 14 days post onset, and typically persists for up to 12 weeks.
  - For infants: collect blood within 48 hours of birth.
- Plasma is NOT an acceptable specimen for Zika antibody testing at the WSLH.

#### Specimens for Arbovirus detection (PCR)

- **Serum specimen:** Collect 5-10 ml (for adults) or 1-2 ml (for infants) of blood in a tube with NO anticoagulant or preservative. **Promptly separate (centrifuge) serum from cells.** Use of serum separator tubes (SST) is encouraged. Store the SST refrigerated. Submit 2-5 ml (for adults) or 0.5-1 ml (for infants) of serum in a sterile screw-capped vial and transport with a cool pack.
  - Collect blood for PCR testing as soon as possible within 12 weeks of symptom onset for pregnant women, and no later than 13 days after symptom onset (day 1-4 is optimal) for non-pregnant patients.
  - For infants: collect blood within 48 hours of birth.
- **Urine specimen:** Collect 10 ml (for adults) or 1 ml (for infants) of urine (free catch is sufficient) within 21 days of symptom onset or within 48 hours of birth for infants. Submit chilled urine in sterile screw-capped vial and transport with a cool pack.
  - Note that the ability of PCR to detect Zika RNA in urine declines on specimens collected >14 days after onset, but a positive result on such a specimen is still possible. Urine specimen is often requested at any time since symptom onset – even if Zika PCR in urine is not initially ordered – for possible reflex PCR testing.
  - **A serum specimen must be submitted along with a urine specimen.**

#### Uncommon specimens for Zika virus detection

- **Amniotic fluid specimen:** Submit a minimum of 1 ml amniotic fluid. Transport to WSLH with cool pack.  
*Note: A serum specimen must be submitted along with an amniotic fluid specimen.*
- **CSF specimen:** Collect a minimum of 1 ml of CSF in a tube with NO anticoagulant or preservative. Submit CSF in sterile screw-capped vial and transport with a cool pack.  
*Note: A serum specimen must be submitted along with the CSF.*

- **Fetal specimens:** Collect formalin fixed and frozen fetal or infant tissues according to CDC guidelines at: [www.cdc.gov/zika/hc-providers/tissue-collection-submission.html](http://www.cdc.gov/zika/hc-providers/tissue-collection-submission.html) (Submit to WSLH as described below.)
- Collection of other specimen types can be discussed as needed.

#### **Unacceptable specimens for fee-exempt Zika virus testing at WSLH**

- Plasma
- Semen

#### **Specimen Submission**

Specimens submitted to the WSLH for fee-exempt Zika and other travel-related arbovirus testing must be preapproved by a Wisconsin Division of Public Health communicable disease epidemiologist, and include the **WSLH Enhanced Wisconsin Travel-Related Arbovirus Surveillance** specimen submission form provided at time of approval. Ensure that all information on form above the heavy black line is accurate. Physician's phone and fax numbers are critical for communicating testing approval, test results, and public health follow-up.

- Serum, urine, and CSF specimens should be submitted in sterile screw-capped vials on cold packs using a WSLH kit #22 or equivalent. Specimens should be triple packaged as a Category B Biological Substance (include UN3373 label).
- Transport—Specimens approved for testing by WDHS may be transported to the WSLH by calling Gold Cross Courier Service (763-233-0099) for pick-up.
- Ship specimen(s) and form to:  
**Wisconsin State Laboratory of Hygiene  
2601 Agriculture Drive  
PO BOX 7904  
Madison, WI 53718**

**Note:** Use both street address and PO Box when mailing.