

Specimen Collection, Storage and Shipment for Molecular and Serological Testing for Zika Virus				
Specimen Type	Collection	Minimum Quantity	Specimen Preparation	Specimen Storage & Shipment
Serum, including from cord blood	<p>Serum Separator Tube SST (GOLD or TIGER Top)</p> <p>Serum tube (RED Top)</p> <p>When possible collect two tubes each containing 2 to 5 ml blood, then process and transfer serum into sterile plastic tube.</p>	<p>2-3 mL minimum for RT-PCR and serology</p> <p>1 mL minimum for pediatric cases</p>	<p>Centrifuge whole blood tubes within 2 hrs. from collection then pour off serum into sterile tube to avoid hemolysis **</p> <p>Note: cord blood should be collected and processed for sera using the same collection tubes.</p>	<p>Refrigerate serum (2-8°C) following collection; ship with cold packs within 24 hrs collection to MA SPHL.</p> <p>If storage or transport will exceed 24 hrs. or if specimen was already frozen, store frozen at -20°C (-70°C if possible) and ship to MA SPHL on dry ice as a Category B.</p>
CSF	<p>Sterile collection Clear Top, Red/Light Gray Top tube or plastic tube with screw cap (2.0 micro tube or 3-5 mL plastic screw cap tube)</p>	<p>1.0 mL minimum</p> <p>3.0-5.0 mL preferred</p>	<p>CSF specimens must be submitted in a tightly sealed sterile collection tube; if in a screw or snap top wrapped with paraffin to avoid leakage.</p>	<p>Refrigerate CSF (2-8°C) following collection; ship with cold packs within 24 hrs collection to MA SPHL.</p> <p>If storage or transport will exceed 24 hrs. or if specimen was already frozen, store frozen at -20°C (-70°C if possible) ship to MA SPHL on dry ice; as a Category B.</p>
Urine	<p>Sterile urine cup or conical tube</p>	<p>3-5 mL of urine (more is acceptable)</p>	<p>Urine specimen must be submitted in a tightly sealed sterile container (i.e. sterile collection tube wrapped with paraffin to avoid leakage).</p>	<p>Refrigerate urine (2-8°C) following collection; ship with cold packs within 24 hrs collection to MA SPHL.</p> <p>If storage or transport will exceed 24 hrs. or if specimen was already frozen, store frozen at -20°C (-70°C if possible) and ship to MA SPHL on dry ice as a Category B.</p>
Amniotic fluid	<p>Collect via amniocentesis and aseptically transfer to sterile conical tube</p>	<p>0.4 mL of amniotic fluid</p> <p>Standard 15-20 mL in conical tube preferred</p>	<p>Submit in a tightly sealed sterile container (i.e. sterile conical tube wrapped with paraffin to avoid leakage).</p>	<p>Refrigerate amniotic fluid (2-8°C) following collection; ship with cold packs within 24 hrs collection to MA SPHL.</p> <p>If storage or transport will exceed 24 hrs. or if specimen was already frozen, store frozen at -20°C (-70°C if possible) and ship to MA SPHL on dry ice as a Category B.</p>

Tissue	Fresh frozen tissue‡	Approximately 1 cm ³ sections of tissue†	Frozen as soon as possible at -70°; Store at -20°C if -70°C freezer is not available.	Freeze following collection and keep frozen at -20°C (-70°C if possible); ship to MA SPHL on dry ice as a Category B.
	Formalin fixed tissue‡	Approximately 1 cm ³ sections of tissue† in adequate formalin	Store at RT. Do not ship with frozen tissue.	Ship at room temperature (RT) to the MA SPHL
	Formalin-fixed paraffin-embedded tissue blocks‡	See below for tissues to collect†	Store at RT. Do not ship with frozen tissue.	Ship at room temperature (RT) to the MA SPHL

** Limitation: Hemolysis may interfere with test performance. To avoid hemolysis, separate and pour off serum within 2 hrs post collection.

†For placental testing on women with confirmed or equivocal Zika virus testing: Multiple full thickness sections of placenta including placental disk, membranes, umbilical cord, and any pathologic lesions when possible (both formalin fixed and frozen). Tissues collected from products of conception or fetuses will depend on the gestational age of the fetus, the specific circumstances, and the result of any other tests. Guidance on specific tissues to collect is available through the MDPH Epidemiology Line at 617-983-6800.

‡If shipping both fresh frozen tissue or body fluids, and formalin fixed tissue, please package separately to account for the different temperature requirements.

Additional Information:

- Specimens collected from individuals for Zika virus testing may be transferred within the U.S. as Category B Biological substances in accordance with Department of Transportation Hazardous Materials Regulations (49 CFR Part 171-180). Guidance for packaging samples in accordance with Category B Biological substance requirements can be found in the [CDC/NIH Publication Biosafety in Microbiological and Biomedical Laboratories, 5th edition](#). Additional information about the Department of Transportation Hazardous Materials Transport Regulations may be found at <https://www.transportation.gov/pipelines-hazmat>.
- Zika virus is an RNA virus. When possible -70°C is optimal for RNA stability. However, if your facility does not have access to -70°C, store frozen at -20°C.
- All samples should be submitted with a COMPLETED SS-SLI-1-13 Specimen Submission Form <http://www.mass.gov/eohhs/docs/dph/laboratory-sciences/general-submission-form.pdf> and couriered or shipped to the address on the form.

Clinicians: As an arboviral disease, Zika virus is a nationally notifiable condition. Healthcare providers are encouraged to report even suspect Zika cases to their state or local health department to facilitate diagnosis. Please contact the MDPH Epidemiology Line at 617-983-6800, available 24/7.