

Zika Virus

Collection and submission of fetal tissues for Zika virus testing

General information

- Interim Guidelines for the Evaluation and Testing of Infants with Possible Congenital Zika Virus Infection — United States, 2016 are available at <http://www.cdc.gov/mmwr/volumes/65/wr/mm6503e3.htm>.
- The following information applies to fetal tissue collection and submission. For cord blood and amniotic fluid analysis, please contact your state or local health department to determine the appropriate guidance for collection, submission and testing.
- **Please make sure that your state or local health department and CDC have been notified and have approved submission and shipment of all specimens before they are collected and sent.**
- CDC Form 50.34 is required to be submitted with all specimens. For test order name, enter “Zika virus”. The form is available at <http://www.cdc.gov/laboratory/specimen-submission/pdf/form-50-34.pdf>.
- Please direct questions to pathology@cdc.gov.

Collection of fetal or infant tissues

- **Please notify: zika_adb_epi@cdc.gov prior to any tissue specimen submission.**
- Appropriate consent from the parents or guardian must be obtained by the healthcare provider prior to collection and submission of specimens for Zika virus testing.
- Ensure that a portion of the tissue or products of conception is collected and routed for routine evaluation or cytogenetics, as needed.
- To optimize evaluation of possible Zika virus infection on fetal tissues, please provide both formalin fixed and frozen tissues. If it is not possible to provide both types of tissue, prioritize formalin fixed tissues.
- The type of tissues available for evaluation will depend on the gestational age of the fetus and the collection procedure that is performed. Effort should be made to maintain the tissue architecture, and to minimize any dissection or disruption of the tissues.
- Collection of brain tissue is most important to evaluate for possible Zika virus infection. Maintaining the structure of the brain architecture is particularly important to help evaluate viral neuropathology.
- Placenta should be sampled extensively (or submitted intact if early gestation); please include several full thickness pieces, including sections of the placental disk, membranes, umbilical cord, and any pathologic lesions when possible.
- If individual organs or tissue types can be easily identified at autopsy, please provide a 0.5-1.0 cm sample from each major organ, including heart, lungs, liver, kidneys, skeletal muscle, and bone marrow. Sampling of eyes is highly recommended.
- For situations where individual organs or tissue types cannot be identified, please provide any available tissue with minimal disruption.
- CDC Infectious Diseases Pathology Branch (IDPB) can accept microscopic or gross photos from health departments as part of either telediagnosis consultation or routine tissue specimen submission for diagnostic evaluation. Photos should not contain patient names or medical record numbers. Please see <http://www.cdc.gov/ncezid/dhcpp/idpb/epathology/index.html> for details regarding CDC ePathology telediagnosis.

Formalin fixed or paraffin embedded tissues

- Histopathology, immunohistochemical staining, and reverse transcription-polymerase chain reaction (RT-PCR) will be performed on fixed tissues, as needed.
- Tissues should be placed into one or more sterile containers containing adequate formalin.
- Fixed tissues should be stored and shipped at room temperature.
- Fixed tissues should not be shipped with frozen samples.
- If paraffin blocks are available, please submit in accordance with shipment guidelines for formalin fixed tissues.
- Fixed tissues should be shipped to the:
Infectious Diseases Pathology Branch
Centers for Disease Control and Prevention
1600 Clifton Rd NE, MS G-32
Atlanta, Georgia 30329-4027
- More information about collecting, handling, and shipping formalin fixed tissues is available at <http://www.cdc.gov/ncezid/dhcpp/idpb/specimen-submission/index.html>.
- Additional questions should be directed to pathology@cdc.gov or 404-639-3133.

Frozen tissues

- RT-PCR can be performed on frozen tissues.
- Fresh tissue should be placed into one or more sterile containers.
- If samples are taken from individual organs, please provide at minimum a 0.25 cm square from each organ.
- Frozen tissues should be stored at -70° Centigrade and shipped on dry ice. If dry ice is not available, tissues can be shipped on wet ice but is not optimal.
- Frozen tissues should be shipped to the:
Arboviral Diseases Branch Diagnostic Laboratory
Centers for Disease Control and Prevention
3156 Rampart Road
Fort Collins, Colorado 80521
- More information about collecting, handling, and shipping frozen tissues is available at <http://www.cdc.gov/ncezid/dvbd/specimensub/arboviral-shipping.html>. Additional questions should be directed to the Arboviral Diseases Branch at zika_adb_epi@cdc.gov or 970-221-6400.

Reporting of results

- Test results will be reported to the state health department and the submitting healthcare provider.
- Turnaround time will vary and depend on testing volume.