

ZIKA VIRUS: COLLECTION AND SUBMISSION OF SPECIMENS FOR ZIKA VIRUS TESTING AT TIME OF BIRTH



General Information

Laboratory testing for congenital Zika virus infection is recommended for infants born to mothers with laboratory evidence of Zika virus infection during pregnancy, and for infants who have abnormal clinical findings suggestive of congenital Zika virus syndrome and a maternal epidemiologic link suggesting possible transmission, regardless of maternal Zika virus test results.

For infants born to mothers with risk factors for maternal Zika virus infection (travel to or residence in an area of Zika virus transmission or sex with a partner with travel to or residence in such an area) for whom maternal testing was not performed before delivery, assessment of the infant, including comprehensive physical exam and careful measurement of head circumference should be performed. Maternal diagnostic testing should be performed and testing of the placenta for Zika virus PCR should be considered. If an infant appears clinically well, further evaluation and infant testing can be deferred until maternal test results are available. However, if there is concern about infant follow-up, infant testing should be performed before hospital discharge.

IMPORTANT: Pre-approval is required prior to submission of any placental or other tissue specimens. For pre-approval please contact pathology@cdc.gov and eocevent189@cdc.gov.

Healthcare Providers:

- Please make sure that your state, territorial, tribal, or local health department has been notified and has received pre-approval from CDC for submission and shipment of specimens before they are collected and sent.
 - » Institutions with surgical pathology available: Please consult surgical pathology regarding appropriate collection and processing of specimens for Zika virus testing.
 - » Institutions without surgical pathology available: Please see table below for general guide on collection of tissue specimens for Zika virus testing.
- **Specimens should ONLY be sent to CDC directly from health departments.** CDC's Zika Pregnancy Hotline (770-488-7100; or email zikapregnancy@cdc.gov) is available 24/7 to healthcare providers and health departments for consultation regarding management of pregnant women and infants with possible Zika virus. This hotline can also assist with questions regarding specimen submission.

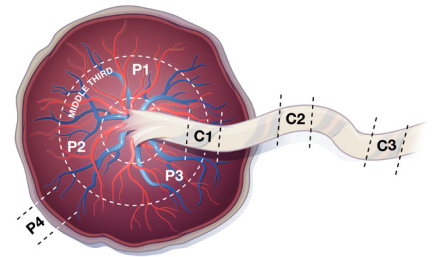


Figure: Collecting placental specimen

Health Departments:

- When submitting specimens, please submit [CDC Form 50.34](#) with all specimens. For test order name, write "Zika virus".
- **Pre-approval is required** prior to submission of all tissue specimens (i.e., placenta, umbilical cord). Please contact pathology@cdc.gov and eocevent189@cdc.gov to discuss the case and obtain pre-approval. If you have additional questions for the Infectious Diseases Pathology Branch, please call 404-639-3133.
- If you have additional questions for the Arboviral Diseases Branch, please call 970-221-6400.

Reporting of Results:

- Test results will be reported to the state health department and the submitting healthcare provider. Results will not be directly released to patients.
- Turnaround time will depend on testing volume and established reporting systems.



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Specimen Type	General Instructions	Notes	Storage	Shipping
<p>Infant serum</p>	<p>At least 1.0 ml</p> <p>Transfer serum to a plastic tube measuring approximately 50 mm tall and 15 mm in diameter (e.g., 1.8 mL cryotube or 2.0 mL microtube) with screw cap and secure with thermoplastic, self-sealing lab film.</p>	<p>For antibody and rRT-PCR testing, specimens should be kept cold (2–6 °C) or frozen (-70 °C).</p> <p>For virus isolation testing, specimens should be frozen as soon as possible (-70 °C).</p>	<p>For cold specimens, the sample should be placed in an insulated container with adequate ice packs to ensure specimen (“cold chain”) integrity.</p> <p>For frozen specimens, ship the sample on enough dry ice to ensure specimens remain frozen until received.</p>	<p>Arboviral Diseases Branch Diagnostic Laboratory Centers for Disease Control and Prevention 3156 Rampart Road Fort Collins, Colorado 80521</p> <p>More information about collecting, handling, and shipping is available here.</p>
<p>Placenta and fetal membranes</p>	<p>Several full thickness pieces including at least 3 full thickness pieces (0.5–1 cm x 3–4 cm in depth) from middle third of placental disk and at least 1 from the placental disk margin</p> <p>5 x 12 cm strip of fetal membranes</p> <p>Please include sections of the placental disk, fetal membranes, and pathologic lesions when possible.</p> <p><i>(Please reference the figure on page one.)</i></p>	<p>Please include information about placenta weight and sample both maternal and fetal side of the placenta.</p> <p>Label all specimens to identify location of sample.</p>	<p>Fix specimens in formalin</p> <p>Volume of formalin used should be about 10x mass of tissue. Place in 10% neutral buffered formalin for a minimum of 3 days. Once fully fixed the tissue can be transferred to 70% ethanol for long term storage.</p> <p>Storage and shipping at room temperature.</p>	<p>Infectious Diseases Pathology Branch Centers for Disease Control and Prevention 1600 Clifton Rd. NE, MS G-32 Atlanta GA 30329-4027</p> <p>More instructions can be found here.</p>
<p>Umbilical cord</p>	<p>2.5 cm segments of cord</p> <p>4 or more specimens</p>	<p>Umbilical cord segments should be obtained proximal, middle, and distal to umbilical cord insertion site on the placenta.</p> <p>Label all specimens to identify location of sample.</p>	<p>Fix specimens in formalin</p> <p>Volume of formalin used should be about 10x mass of tissue. Place in 10% neutral buffered formalin for a minimum of 3 days. Once fully fixed the tissue can be transferred to 70% ethanol for long term storage.</p> <p>Storage and shipping at room temperature.</p>	<p>Infectious Diseases Pathology Branch Centers for Disease Control and Prevention 1600 Clifton Rd. NE, MS G-32 Atlanta GA 30329-4027</p> <p>More instructions can be found here.</p>
<p>Infant urine</p>	<p>Provide 0.5–1.0 mL of the specimen in a sterile screw capped vial secured with a small piece of thermoplastic, self-sealing lab film. Please ensure a tight seal as leaking specimens cannot be accepted.</p>	<p>Sterile specimen is not required</p>	<p>For rRT-PCR testing, specimens should be kept cold (2–8 °C) or frozen (-≤ 20 °C) for storage and shipping.</p> <p>For frozen specimens, ship the sample on enough dry ice to ensure specimens remain frozen until received.</p>	<p>Arboviral Diseases Branch Diagnostic Laboratory Centers for Disease Control and Prevention 3156 Rampart Road Fort Collins, Colorado 80521</p> <p>Get more information about collecting, handling, and shipping.</p>