

# RICKETTSIAL ZONOSSES BRANCH

## Specimen Submission Guidelines

### Diagnostic Laboratory

#### Sample Specifications, Storage, and Packaging Guidelines for Rickettsial Testing

Specimen Type	Sample Specifications	Possible Tests	Sample Storage	Packaging and Shipping
Serum	<ul style="list-style-type: none"> <li>Draw in serum collection tube. Process per manufacturer's instructions. Ship in a collection tube or screwcap vial.</li> <li>Minimum volume: 1 mL</li> </ul>	<ul style="list-style-type: none"> <li>Serology<sup>1</sup></li> <li>Molecular detection<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>2–8°C up to 7 days</li> <li>≤-20°C up to 2 months</li> <li>≤-70°C up to 1 year</li> </ul>	<ul style="list-style-type: none"> <li>2–8°C on frozen cold packs</li> <li>≤-20°C on dry ice</li> </ul>
Whole Blood	Acute whole blood taken within 14 days after illness onset or while symptomatic using EDTA-treated or ACD-A-treated collection tubes or screwcap vial. <ul style="list-style-type: none"> <li>Minimum volume: 1 mL</li> </ul>	<ul style="list-style-type: none"> <li>Molecular detection</li> </ul>	<ul style="list-style-type: none"> <li>2–8°C up to 7 days</li> <li>≤-20°C up to 2 months</li> <li>≤-70°C up to 1 year</li> </ul>	
Tissue*	Fresh or frozen tissue specimens, including samples collected at autopsy, or skin biopsy specimens collected from the site of rash or eschar lesions. <sup>3</sup>	<ul style="list-style-type: none"> <li>Molecular detection</li> </ul>	<ul style="list-style-type: none"> <li>2–8°C up to 7 days</li> <li>≤-20°C up to 35 days</li> <li>≤-70°C up to 1 year</li> </ul>	
Swab	Swab of eschar, to include eschar scab when available. <sup>4</sup>	<ul style="list-style-type: none"> <li>Molecular detection</li> </ul>	<ul style="list-style-type: none"> <li>2–8°C up to 7 days</li> <li>≤-20°C up to 2 months</li> </ul>	

\* Submit formalin-fixed, paraffin-embedded tissue specimens to CDC's Infectious Diseases Pathology Branch. Contact [pathology@cdc.gov](mailto:pathology@cdc.gov) for pre-approval.

CLIA regulations require all specimens and CDC 50.34 forms be submitted with a minimum of **two primary patient identifiers**.

1. An acute-phase serum specimen should be obtained within 14 days after illness onset, paired with convalescent-phase serum specimen obtained 2–10 weeks after initial sample. Acute and convalescent samples tested at the same time provide the most accurate diagnostic serological information. If paired samples are anticipated, samples should be held at the submitting laboratory at the proper storage temperature until the convalescent sample is available.
2. Collect whole blood, serum, and tissue samples for molecular testing either: 1) before doxycycline is administered, or 2) within 72 hours of initiating doxycycline. PCR has decreased sensitivity after initiating doxycycline.
3. To store fresh tissue at 2–8°C, place samples in a sterile specimen cup and wrap with sterile gauze lightly moistened with sterile saline. **Do not immerse the tissue in saline solution.** Collect samples submitted for cell culture isolation either: 1) before doxycycline is administered, or 2) within 24 hours of initiating doxycycline. To freeze tissue, place specimen in cryogenic container at -20°C or lower (≤-70°C preferred).
4. Place eschar swabs in a dry, sterile specimen container without any liquid. Collect swabs and eschar scabs for molecular testing either: 1) before doxycycline is administered, or 2) within 14 days of initiating doxycycline. For further information, refer to:

[https://www.cdc.gov/vector-borne-diseases/media/pdfs/2024/06/FS\\_Collection-Submission-Eschar-Swab-Specimens-Rickettsial-Disease-508.pdf](https://www.cdc.gov/vector-borne-diseases/media/pdfs/2024/06/FS_Collection-Submission-Eschar-Swab-Specimens-Rickettsial-Disease-508.pdf)



Other specimen types may be submitted with prior approval for surveillance purposes only. Please contact [RZBrefdxlab@cdc.gov](mailto:RZBrefdxlab@cdc.gov) for more information.