

Specimen Submission Guidelines

Rickettsial Zoonoses Branch

Reference Diagnostic Laboratory

Collection and Submission of Skin Biopsy Specimens

Punch biopsy specimens of rash or eschar lesions can be evaluated by various diagnostic techniques, including polymerase chain reaction (PCR) assay, cell culture isolation, and immunohistochemical (IHC) staining the pathogen, depending on the size and state of the tissue.

The optimal tissue is a punch biopsy of skin ≥ 4 mm that includes the central aspect of the lesion (i.e., macule, petechia or eschar). The sample should be obtained before or within 24 hours of initiation of appropriate antibiotic therapy (i.e., doxycycline). **Antibiotic treatment should never be delayed to obtain a biopsy specimen.**

- 1. Fresh, non-frozen tissue.** This is the preferred option, and provides the most flexibility in terms of possible diagnostic techniques, including cell culture isolation, PCR assay, and IHC stain, depending on the size of the specimen. Place the specimen on a sterile gauze pad that has been moistened lightly with sterile saline, and package in a sterile specimen collection cup. Do not immerse the tissue in liquid. Fresh material should be shipped by overnight delivery and refrigerated on cold packs.
- 2. Frozen tissue.** This specimen can be evaluated by PCR assay. Frozen tissue is sub-optimal for culture and IHC stain. Frozen tissues should be sent by overnight delivery on dry ice.
- 3. Formalin-fixed tissue, or formalin-fixed, paraffin-embedded tissue blocks.** These samples can be evaluated by PCR assay and IHC stain. If samples are submitted in formalin, please specify on the container. These may be shipped at room temperature. Paraffin blocks may be shipped at room temperature, but should be shipped with cold packs during summer months to avoid melting in transit.
- 4. Formalin-fixed, paraffin-embedded tissue sections.** This specimen type can be evaluated only by IHC stain. Submit a minimum of 6 unstained slides cut at 4 μ m on charged glass slides. Ship slides at room temperature or refrigerated on cold packs during summer months.

We recommend the collection of an acute-phase serum at the time of biopsy collection, and a convalescent-phase serum sample 2-6 weeks later.

See the RZB Specimen Submission Guidelines for additional details on shipping requirements.

For questions, please call the Rickettsial Zoonoses Branch at (404) 639-1075 or email rzbeidiag@cdc.gov.