

Rabies Specimen Submission Guidelines

The Rabies Laboratory at the CDC's Pox and Rabies Branch (PRB) performs a variety of [diagnostic techniques](#) for the detection of rabies virus. Below is a list of tests that can be ordered. Click the links to find the right test for your needs. Each link has details about contact information, specimen requirements, test turnaround time, and other test-specific information you may need.

Test Name	Test Order Code
Rabies Antemortem Human Testing	CDC-10392
Rabies Antibody - Pre/Post-exposure Prophylaxis	CDC-10393
Rabies Confirmatory Testing (Animal)	CDC-10394
Rabies Confirmatory Testing (Human)	CDC-10395
Rabies Postmortem Human Testing	CDC-10396
Rabies Special Study	CDC-10501
Rabies Virus Genetic Typing	CDC-10397

Consultation

Because of the hazards associated with handling specimens, testing is only done with prior consultation.

First, contact your state health department regarding any sample submissions, including suspected human rabies cases. A list of state health departments with contact information is available [here](#).

If after the consultation it is deemed necessary to send human samples for testing to the Rabies Laboratory at the CDC, the Rabies Duty Officer can answer questions regarding likelihood of a case, sampling techniques, and shipping at (404)-639-1050.

Who May Submit Specimens

You may submit a sample for evaluation (after prior consultation) if you are:

- An employee of a State Health Department
- U.S. or non-U.S. physician
- U.S. or non-U.S. veterinarian
- Technician in a diagnostic laboratory

Before sending any samples, you must first contact the Rabies Laboratory. Contact information is listed in the description of each test (see links above).

Individuals other than those listed above **may not** submit specimens directly to CDC. If you are a patient, please contact your physician or local health department.

If you are concerned that an animal in your area may have rabies, contact your local health department immediately. A list of state health departments with contact information is available [here](#).

If you had a contact with an animal that may have rabies, like a bite from a dog or contact with a bat or raccoon, see your doctor right away and describe your contact with the animal.

Sample Collection

Specimen(s) may contain infectious agent(s). You should be aware of the health hazards presented by such agent(s) and should use, store, and dispose of such samples in accordance with the required [safety regulations](#).

Information on sample collection from [humans](#)

Information on sample collection from [animals](#)

Sample Information and Processing

Specimen collection and labeling

1. It is the responsibility of the submitter to perform the specimen collection, provide appropriate containers, package safely for sample submission and complete appropriate forms.
2. Specimen(s) should be collected and properly shipped under optimal specimen storage conditions (see test directory for Storage & Preservation of Specimen Prior to Shipping).
3. Each specimen must be clearly labeled with a unique identifier, which should also be listed on the completed [CDC Form 50.34 submission form](#).
4. The unique identifier on the specimen should match the unique identifier listed on the 50.34 submission form.
 - a) If there is a discrepancy in matching the specimen to the submission form, the submitter will be contacted for clarification.
 - b) All clarifications must be noted/documentated in writing and transmitted by email or fax.
 - c) If clarification is impossible, the requested testing will be canceled.

Packing Guidelines for Rabies Specimens

Frozen (dry ice)

Fresh frozen (unfixed) tissues are preferred for rabies diagnosis. Specimens that should be packed on dry ice and shipped frozen include:

- Fresh frozen (unfixed) tissue (e.g. brain, skin biopsy)
- Serum
- Body fluids (e.g. saliva, CSF)

Dry ice shipments should comply with the [International Air Transport Association \(IATA\)](#) packing instructions 954 for UN 1845, and be shipped by a HAZMAT certified packer.

Refrigerated (frozen gel packs)

This method is **NOT** preferred for any rabies diagnostic samples. Use as last resort when dry ice is not available. The increased growth of bacterial contaminants within the refrigerated samples may interfere with the ability to rule-out the presence of rabies virus antigen in tissues, antibodies in serum and CSF, and nucleic acid in saliva or skin biopsy samples.

- Fresh or frozen (unfixed) tissue (e.g. brain, skin biopsy)
- Serum
- Body fluids (e.g. Saliva, CSF)

Room Temperature

While fresh frozen (unfixed) tissues are preferred for rabies testing, a diagnosis may be made using formalin-fixed tissues, which are shipped at room (ambient) temperature; however, processing of these samples requires additional time, which may delay results up to a week or more. Samples shipped at room temperature include:

- Formalin-fixed wet tissues*
- Formalin-fixed paraffin-embedded blocks+
- Glass slides with sections from paraffin-embedded blocks+

*Formalin-fixed wet tissues should be packed in primary containers less than 30 mL, and the total volume should be less than 4L per package. See shipping guidelines for shipment of formalin-fixed wet tissues as UN 3373 Biological substance.

+Formalin-fixed paraffin-embedded blocks and glass slides with sections from paraffin-embedded blocks are considered non-hazardous and should be shipped at room (ambient) temperature without any special labeling required by International Air Transport Association (IATA).

Shipping Guidelines

It is the sender's responsibility to minimize the risk associated with shipping of infectious substances using proper packaging and packing in compliance with all regulations. All specimens and infectious substances submitted to CDC laboratories must be packed and shipped in compliance with the International Air Transport Association (IATA) Dangerous Goods Regulations (DGR) and US Department of Transportation Code of Regulation (CFR) Title 49, Parts 171-185.

- CDC **does not** accept routine shipments on weekends or holidays. Please make sure packages arrive Monday through Friday. Exceptions can be made for urgent cases **with prior approval**.
 - Packing of clinical specimens for rabies testing should fulfill the IATA regulations for shipment of, UN 3373 Biological substance Category B.
 - Packing of cell culture isolates and stock virus suspensions are a higher infectious risk, and should fulfill the IATA regulations for Category A, UN 2814 Infectious substance, affecting humans and UN 2900 affecting animals by a by a HAZMAT certified packer.
 - Specific regulations for the proper packaging, packing, marking and labeling, and shipping may be found at:
 - [CDC Specimen Management](#)
 - [CDC Biosafety](#)
 - [International Air Transport Association \(IATA\)](#)
 - [Packing Instruction 650](#) (for UN 3373 Biological substance Category B)
 - [Infectious Substances Classification](#)
- Provide the shipper's package tracking number(s).

Please ship to the Rabies Duty Officer, Rabies Laboratory address and phone number (404-639-1050) listed in the Shipping Address section below.

Supporting Documentation

Human specimens (Skin biopsy, saliva, serum, and CSF should be submitted for each patient)

- Complete the [Possible Human Rabies - Patient Information Form](#) detailing the clinical history of the patient and provide the name, phone number, and email of the physician who should be contacted with the test results. This form must accompany any samples sent to the CDC Rabies Laboratory. For more information about samples that are required, see [antemortem testing](#).
- A separate completed [CDC Form 50.34](#) must be submitted with each specimen type (for example, for every patient, submit one form for each specimen submitted: skin biopsy, saliva, serum, and CSF would require four forms.
 - After completing the CDC Form 50.34 once, subsequent forms for additional samples collected from the same patient can be easily generated by updating the specimen information section, and clicking print.

Animal specimens (1 CDC Form 50.34 required for every specimen)

- Include completed [CDC Form 50.34\(s\)](#) with each specimen in your shipment. Click [here](#) for more information on samples needed for testing.
- If a human exposure is involved:
 - Contact your [state health department](#) and the [Rabies Duty Officer](#) to facilitate expedited testing.
 - Include a complete patient history with all the known information regarding the exposure.

Important information for all samples

A [consultation](#) is **REQUIRED BEFORE** the submission of any specimens.

Provide the full name, title, complete mailing address, e-mail address, and telephone and fax numbers of the submitter.
The final laboratory report will only be shared with the submitter indicated on this form.

Include in your shipment any supportive documentation that is available (optional):

- A cover letter outlining a brief clinical history with relevant demographic/epidemiologic information. This can help expedite testing if necessary.
- A copy of the autopsy/necropsy report (preliminary or final) or surgical pathology report
- Copies of pertinent laboratory results (microbiology, hematology, serology, culture, and/or biochemical).
- Images.

Shipping Address

All specimens should be addressed to:

Rabies Duty Officer
Rabies Laboratory
STAT, Bldg 23, Room 11-611
Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta, GA 30333
(404) 639-1050