

## GUIDANCE FOR SUBMISSION OF HUMAN SPECIMENS FOR RABIES TESTING IN CANADA

**Rabies Risk Factors**    Encephalitis of undetermined cause **AND** exposure to wildlife or bat **OR** travel outside of Canada

Rabies in humans is rare in Canada. Since 1924, only 25 cases have been documented. The last domestically-acquired case caused by exposure to a terrestrial mammal occurred in 1967. Since that time, all domestically-acquired cases were caused by bat exposures. Two cases were acquired in the Caribbean, the result of dog bites.

**Submit ALL four specimens for ante-mortem testing.** No single test is sufficient to “rule-out” rabies.

If onset of symptoms is < 7 days, a negative test result does not exclude rabies virus infection as virus excretion may be intermittent and antibody response may be negligible. Additional specimens, collected later in disease progression, may be needed to completely rule-out rabies.

Specimen:	1) Nuchal Skin Biopsy	2) Saliva	3) Cerebrospinal Fluid	4) Serum
Collection:	Full thickness biopsy, at least 5mm diameter, with several hair follicles	<b>Multiple</b> collections at least 12 hours apart 2 to 3 ml each sample	1 ml	2 ml
Container:	Sterile specimen container with moistened gauze beside tissue DO NOT wrap tissue	Sterile tube/vial No preservatives	Sterile tube/vial	Sterile screw-cap vial
Storage:	4 or -20°C	-20°C or lower	-20°C or lower	4 or -20°C
Ship to:	<b>CFIA</b>	<b>CFIA</b>	<b>CFIA</b>	<b>PHAC</b>
Tests:	✓ Fluorescent antibody technique ✓ Real-time RT-PCR	✓ Real-time RT-PCR	✓ Real-time RT-PCR	✓ Rabies serum neutralization test
Detects:	Virus	Virus	Virus	Antibody
Notes:	Multiple tests are conducted, submit biopsy of adequate size.	Bile or blood may interfere with testing.	Frequently UNFIT due to lack of patient DNA which serves as control for successful sample extraction and amplification.	If patient has received prior vaccination for rabies, this test has limited diagnostic value.

**Post-mortem testing.** Submit fresh brain tissue, brainstem and cerebellum (1 cc in sterile tube/vial) to CFIA.

### Documentation and Shipping (Follow all applicable Transport Canada Regulations and Guidelines)

CFIA-Canadian Food Inspection Agency

1) Fax (343-212-0202) or email ([cfia.rabieseast-rageest.acia@inspection.gc.ca](mailto:cfia.rabieseast-rageest.acia@inspection.gc.ca))

Page 4 from document “Rabies Testing at CFIA: Human Samples” available at <https://www.canadianveterinarians.net/veterinary-resources/practice-tools/rabies-guidance/>

2) Submit electronically “Rabies Sample Submission Form” available from [Find a Form](#) (Search for “form 2908”)

3) Labels on Parcel:

- a) Submitter’s name, address and phone number
- b) R-Unit, Canadian Food Inspection Agency, 3851 Fallowfield Road, Ottawa ON K2J 4S1 (343) 212-0340
- c) Biological Substance, Category B and UN3373 diamond-on-point
- d) 24 hour emergency contact phone number

4) Track shipment until it arrives **AND** you have received a “Rabies Sample Received” email from [DoNotReply-NePasRepondre@inspection.gc.ca](mailto:DoNotReply-NePasRepondre@inspection.gc.ca)

PHAC-Public Health Agency of Canada

1) Contact laboratory by phone (204-789-7037) or email ([nml.rabies.rickettsia-nlm.larage.rickettsies@phac-aspc.gc.ca](mailto:nml.rabies.rickettsia-nlm.larage.rickettsies@phac-aspc.gc.ca)) prior to submission.

2) Submit electronically “Requisition for rabies serum neutralization assay” available from <https://cnphi.canada.ca/gts/laboratory/1020>.

3) Labels on Parcel:

- a) Submitter’s name, address and phone number
- b) Rabies, National Microbiology Laboratory, 1015 Arlington Street, Winnipeg, MB R3E 3R2 (204) 789-7037
- c) Biological Substance, Category B and UN3373 diamond-on-point
- d) 24 hour emergency contact phone number