

# Submission of CSF Samples to Prion Diseases Section

Prion Diseases Section  
National Microbiology Laboratory  
Public Health Agency of Canada  
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The following document describes the requirements for documentation, collection and transport of samples to the National Microbiology Laboratory as required by Transport of Dangerous Goods Regulations and CAN-P-4E (ISO/IEC 17025).

## 1. Testing Available:

- 1.1. ELISA of Human Cerebrospinal Fluid for 14-3-3 gamma protein
  - 1.1.1. Result format : Reported in AU/ml
- 1.2. ELISA of Human Cerebrospinal Fluid (CSF) for total microtubule-associated (tau) protein
  - 1.2.1. Result format: Reported as a concentration in pg/ml
- 1.3. EP-QuIC (End-point Quaking induced Conversion) Assay
  - 1.3.1. Result format: Reported as positive, indeterminate or negative.

## 2. Sample:

- 2.1. A minimum of 1 ml of clear CSF is requested for testing
- 2.2. Samples with visible blood, hemolysis or xanthochromia may impact validity of test results and will not be processed without consultation with the Section Chief.
- 2.3. CSF samples collected *post mortem* will impact the validity of test results and as such are not processed.
- 2.4. The sample should be frozen immediately at -20 to -80°C for optimum integrity. Samples stored at 4°C prior to freezing and shipping are acceptable for testing. Avoid freezing and thawing of sample to ensure integrity. Please note storage conditions on the requisition.

- 2.5. Do not treat CSF with formaldehyde or formic acid.
- 2.6. Polypropylene tubes are strongly preferred for CSF collection, storage and shipment. Samples should not be shipped in glass vials due to the risk of breakage. Polystyrene tubes should also not be used, as protein binding may occur.

3. **Labelling:**

- 3.1. Label the sample with the date of collection as well as a unique alphanumeric identifier, this will be used on the report to ensure patient privacy.
- 3.2. The patient's name or initials and patient's date of birth may also be included on the sample label as identifiers.
- 3.3. Samples with identifiers that do not match information on the requisition may not be processed

4. **Required Documentation:**

- 4.1. A completed Requisition for Prion Diseases Section is required. A fillable pdf version of the most current requisition is available on the NML Guide to Services at: <https://cnphi.canada.ca/gts/reference-diagnostic-test/4462?labId=1025>
- 4.2. Please include a secure FAX number for the submitting laboratory. Reports will be sent to this number.

5. **Packaging and Shipping:**

- 5.1. An individual certified in Transportation of Dangerous Goods (TDG) must package and ship the sample.
- 5.2. The sample must be shipped on dry ice. Ensure sufficient dry ice is present to prevent thawing *en route*. (3-5kg recommended at minimum)
- 5.3. Samples submitted for testing for prion diseases are classified as "UN3373 Biological Substance, Category B" for shipment by land or air under current TDG Regulations.
- 5.4. A certified UN3373 outer container must be used to ship diagnostic samples. Inner containers must consist of primary and secondary leak-proof containers with enough absorbent material between the primary and second to absorb the entire contents in the case of damage to the package.

5.5. If you do not have a TDG-certified individual on staff, contact the laboratory at 204-789-6078.

**Note:** Every effort has been made to ensure that the above protocol meets the most current requirements of TDG legislation, but these are guidelines only. Compliance in packaging and shipping the samples is legally the responsibility of the shipper.

**6. Shipping Schedule:**

6.1. The National Microbiology Laboratory Specimen Receiving operates regularly from Monday to Friday between 7am and 5pm. It is strongly recommended to ship samples by overnight express, Monday through Wednesday only. Samples may be shipped on a Thursday, but in this case they *must* be shipped with a courier with guaranteed overnight delivery. Samples should not be shipped on Friday, Saturday, Sunday, or statutory holidays as they will be held at the courier and will likely compromise sample integrity.

**7. Contact Information:**

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