The following methods of preservation are acceptable. For optimal sensitivity, particularly for RNA virus detection, frozen samples or samples preserved in RNA later are preferential. Fixation of samples may result in decreased sensitivity for DNA and RNA viruses and decreased DNA yield. **Samples from HIV-positive individuals should be formalin-fixed, whenever possible, and labeled to indicate the status of the patient. Samples from patients with known or suspected tuberculosis infection will not be accepted.** Biopsy samples can be preserved directly, however, explant or autopsy tissue should be cut into slices (no more than 0.5cm across) to facilitate this process with sufficient rapidity.

**Snap-freezing:**

**Direct**

Tissue samples should be immediately placed into a sterile collection tube and then snap–frozen by placing the tube in liquid nitrogen. Once the sample is completely frozen (10-15 minutes) the sample should be stored at -80°C, on dry ice, or in liquid nitrogen until processed. Alternatively, if liquid nitrogen is not available the sample can be immediately frozen using a dry-ice/ethanol bath.

**Mounting Media**

The tissue is placed in a cryomold and surrounded by mounting media (Tissue Tek O.C.T.: VWR Cat. #: 25608-930). The mold is submerged in a beaker containing 2-methyl butane (isopentane) that is within a liquid nitrogen bath. The sample is frozen for 20-30 seconds and then stored at -80°C.

**RNA later Solution:**

The sample should be cut into slices no more than 0.5cm across, if necessary, and immediately placed in a minimum of 10 sample volumes of RNA later solution (Qiagen Cat. #: 76154 or 76163). The sample should be stored at -80°C (preferable) or -20°C.

**Formalin-fixation:**

**Direct**

The tissue should be placed and stored in 10% phosphate-buffered formalin (e.g. VWR Cat. #: 72060-074) at room temperature until processed.

**Paraffin-embedded**

The tissue should be fixed in 10% phosphate-buffered formalin for 1-6 hours. The tissue should be removed from the formalin and then mounted in paraffin and stored at room temperature. For PCR analysis, multiple 5-10 μm sections should be cut and placed in a sterile collection tube.

**FLUID SAMPLES**

- For genetic testing, blood samples should be stored at 4°C and shipped at room temperature.
- For viral and genetic testing, fluid samples (other than blood) should be stored at -20°C (or colder), or at 4°C if freezing is not available. However, **storage at 4°C and shipping on wet ice may decrease the probability of detecting RNA viruses.**
- For viral and genetic testing, tracheal aspirate samples should be frozen (at -80°C) as quickly as possible as they contain high levels of nucleases.
- For Viral PCR Analysis, at least 1ml of fluid is preferable to allow repeat analysis, if necessary.