

## RNA Extraction Project – Sample collection guidelines

### Tissue Collection

Tissue must be protected from degradation and cross contamination throughout the collection process. Gloves should be worn at all times and any instrument used in removing or handling the tissue must be well cleaned and free of even residual material from any other subject or tissue specimen. If the tissue needs to be split it should be rapidly cut with a clean blade. The tissue should be quickly deposited into an appropriate clean container and frozen in dry ice/ethanol bath or liquid nitrogen. If flash freezing is not possible, specimens may be preserved in RNALater (Ambion). Specimens must be cut to <0.5 cm in at least one dimension with a clean blade then quickly submerged in 5-10 volumes of RNALater solution. Per RNALater manufacturer's specifications, the RNA is protected from degradation for 24 hours at 37°C, 1 week at 25°C, or 1 month at 4°C. For archival storage the samples should be incubated at 4°C overnight then transferred to -20 or -80°C. The RNALater MUST be removed prior to freezing! This is a particularly desirable method for small biopsies taken in a clinic setting where liquid nitrogen is inaccessible or inconvenient or for shipping specimens overseas where there is risk of delays.

### Blood Collection

Blood for RNA extraction should be drawn into a PaxGene (Qiagen) or Tempus (Thermo Fisher) tube. It is critical to RNA quality and yield that tubes be thoroughly mixed by inversion at the time of collection, that a full tube of blood be taken and that nothing is placed over the black fill mark on the manufacturer's label. Please be sure the collecting personnel have been thoroughly briefed in collection procedures. Tubes can be refrigerated for up to one week or frozen at -80°C for up to a year before being delivered to the Genomics Research Core for processing.

### Labeling

- Use printed labels for legibility and permanence
- Include Study Name, PI name, Study Reference ID, Date collected
- Do NOT INCLUDE any personal information that would reveal the identity of clinical subjects. Samples that include subject identifiers cannot be accepted by the Genomics Research Core

### Cells

Minimum handling is recommended to avoid changing the expression profile of living cells. Cells grown in suspension should be pelleted, media completely removed and snap frozen. No wash is necessary. Adherent cells should be lysed with lysis buffer appropriate for RNA extraction (e.g. Trizol® or RLT) and the lysate frozen until being submitted for processing. Please contact Genomics Research Cover personnel for clarification on any of these procedures.