

Lab Guide to Sample Preparation

Fixation:

- Tissue samples should be fixed as soon as possible after sacrifice. Optimum times for fixation from protocols should be observed as over-fixation for long periods may lead to changes in bone density as well as degradation of cells, antigens and enzyme activity.
- At the very least, remove skin from limbs/skull and dissect off the soft tissue if appropriate. If time is at a premium and a large number of samples have to be prepared in one batch, transfer each individual sample to fixative immediately after sacrifice and dissect off the soft tissue later in the day.
- Use 10-20 times volume of fixative per size of sample to ensure optimal fixation. Do not squeeze tissues into tiny tubes without free movement, as this will impair fixation and decalcification.
- Protect samples from light if bones have been treated with fluorescent label e.g. calcein, tetracycline.

Sample Labelling:

- Label the body of the sample container, not only the lid, legibly, with full details i.e. sample ID, tissue, fixation and date. Lids may be removed from containers and may get mixed up!
- Use indelible ink for labelling – it's best to print a label if possible, or write in biro on a blank label. Felt tip marker pen may wash off or smudge easily.
- Use separate labelled containers for left and right limbs, kidneys, lungs etc. to ensure correct identification, rather than storing them together.
- If sending samples by post/courier, please ensure they are in leak-proof containers and that the containers are double-bagged inside the transport box and include a sample list.
- Include full list of all samples e.g. “left tibia, right tibia”, rather than “left leg” if samples are separate pieces of tissue. The list of samples is required in order to cross check the samples received against the matching list details. Provide study details and which CT and histology procedures are required. Images of tumour from Light Tools or IVIS are very helpful in choosing the appropriate orientation of the sample in wax or resin, as are references to publications.

Notes:

- Studies may take up to 3 months to complete all processes if CT, histology and histomorphometry are required.
- Please ask the lab staff for protocols, advice etc. in advance of preparing your samples for CT or histology if you're planning to do something unfamiliar.