

Preparing and submitting samples for processing, sectioning and staining by the COCVD COBRE Pathology Core

Size:

- Optimum size of a piece of large organ (such as liver or adipose tissue) is less than or equal to 1 cm diameter, and about the thickness of a nickel.
- Depending on the tissue type, samples that are too large may be poorly preserved in the center due to inadequate penetration of fix and processing solutions. This is especially a problem for adipose samples; less so for liver and other porous tissues.
- Samples that are very small may give poor quality sections due to edge effects. This is especially an issue with very delicate tissues such as liver.
- If you are submitting very small organs such as mouse ovaries, tiny arteries, etc., you may obtain nylon biopsy envelopes, or fine-mesh biopsy cassettes from the Core. Envelopes are also helpful for preventing curling of arteries.

Orientation:

- For hearts, kidneys, brains, and anything else for which orientation matters, please bisect the sample in the desired plane, or instruct us as to the desired plane of sectioning.

If you cassette your samples yourself,

- Please sort tissue types into different containers, or use different color cassettes to distinguish them. This is because we use different processing protocols for different tissue types to obtain optimum results.
- If your adipose samples vary greatly in size, it is advisable to put very small samples (less than 0.5 cm in diameter) in a separate group than the large samples (1 cm diameter), as they are ideally processed on different protocols.

Containers:

- Your container should be large enough to hold a volume of fix or storage solution at least 10x the volume of tissue.
- A flat or rounded bottom is preferred. Tissue in a conical tube has poor exposure to the fix. Fixing and submitting samples in cassettes in a jar or beaker is encouraged.

Labeling:

- If you cassette your own samples, we advise labeling two faces, for accuracy of reading. Pencil is ideal, as it persists through the solvent baths.
- Please use sample names that are 6 characters or less. Ideal procedure is to assign each animal or tissue a unique serial number. Please keep track of long genotypes, diet and other experimental parameters in your lab notebook.
- You are encouraged to submit a list of typed sample numbers for us to cross-check against our interpretation of your handwritten labels.

Solution for transporting and submitting samples:

- ***Before submitting samples, please transfer from fix into 70% ethanol.***