

Veterinary Health Care Team: Guidelines for Optimal Histology Sample Submission

SAMPLE SUBMISSION

- ▶ Use 10% buffered formalin with a tissue-to-formalin ratio of 1:10.
- ▶ Slice tissues into ≤ 1 cm sections to ensure proper fixation
- ▶ Store samples in sealed, screw-top plastic pots or larger sealable buckets
- ▶ Label containers clearly with: animal ID/name, date, site
- ▶ Properly fixed tissue in formalin can later be processed for:
 - Polymerase chain reaction for Antigen Receptor Rearrangements - PARR
 - Histochemical staining
 - Immunohistochemistry
 - Sequencing, *in situ* hybridisation – (ISH)

COMMON HANDLING ERRORS:

- ▶ Delayed fixation
- ▶ Crushing tissue with forceps.
- ▶ Stretching or distorting tissue
- ▶ Overuse of electrocautery

INFORMATION TO BE INCLUDED WITH THE SAMPLE?

- ▶ Comprehensive patient history
- ▶ Accurate description of lesion (s)
- ▶ Clinical observations or concerns

MARKING MARGINS

- ▶ Use small suture to tag edges
- ▶ Apply surgical ink
- ▶ Indicate the area of concern on the submission form or diagram

NON-DIAGNOSTIC PATHOLOGY REPORT

- ▶ Incomplete patient history
- ▶ Poor sample quality
 - too few, too small, or superficial
 - presence of necrosis, ulceration or inflammation obscuring features
- ▶ Artefacts due to poor handling, improper transport or delayed fixation
- ▶ Undifferentiated or poorly differentiated tumours

SET OWNER EXPECTATIONS

It's best to inform owners ahead of time that not all biopsies provide a definitive answer even if all the proper steps are followed.

