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	SOP: Mouse Tail Biopsy Guidelines
	Author: Alan G. Brady DVM, ACLAM

Tail biopsy is a common technique for collection of DNA from mice. Alternative techniques include hair sample, oral swabs and ear punch (see references 1-6). The following guidelines should be used:

1. If biopsy is required, it should always be described in the IACUC protocol for the project and must be approved by the IACUC before proceeding.
2. Ideal age for biopsy is 10-21 days. At this age, the distal part of the tail is not ossified, making the procedure less painful to the animal and facilitating completion of the procedure. Anesthesia is required for biopsy of animals older than 21 days. Consult a Comparative Medicine veterinarian for information regarding anesthesia.
3. No more than one cm of tail should be sampled. A one cm biopsy should provide sufficient DNA for analysis.
4. Use a sterile blade for each animal biopsied to avoid cross infection of animals and contamination of the sample. If reusable instruments are to be used (e.g. scissors), they must be disinfected with ethanol or chlorhexadine between animals.
5. After completion of the biopsy, the animal should be monitored for control of bleeding at the biopsy site. Bleeding can be controlled with application of gentle pressure to the biopsy site.

Suggested Reading:

1. Hofstetter JR, Zhang A, Mayeda AR, Guscar, T, Nurnberger JI and Lahiri DK. Genomic DNA from Mice: A Comparison of Recovery Methods and Tissue Sources. *Biochem Mol Med* 1997 Dec; 62(2):197-202.
2. Dennis, MB. IACUC Review of Genetic Engineering. *Lab Animal* 2000 Mar; 29(3):34-37.
3. Irwin MH, Moffatt RJ and Pinkert CA. Identification of Transgenic Mice by PCR Analysis of Saliva. *Nat Biotechnol* 1996 Sep;14(9): 1146-8.
4. Schmitteckert EM, Prokop CM and Hedrich HJ. DNA Detection in Hair of Transgenic Mice - A Simple Technique Minimizing the Distress on the Animals. *Laboratory Animals* 1999; 33/4: 385-389.
5. Couse JF, Davis VL, Tally WC and Korach KS. An Improved Method of Genomic DNA Extraction for Screening Transgenic Mice. National Institute of Environmental Health Sciences, National Institutes of Health. *BioTechniques* 1994; 17:1030-1032.
6. Malumbres M, Mangués R, Ferrer N, Lu S and Pellicer A. Isolation of High Molecular Weight DNA for Reliable Genotyping of Transgenic Mice. *BioTechniques* 1997; 22/6:1114-1119.