

Procedure Type: Tissue Collection for Genotyping

Procedure Title: Tail Clipping for Genotyping in Conscious Mice

Species: Mouse

Pain/Distress Category: C

Background Information:

Techniques will comply with ACUC Guidelines for “Antemortem Tissue Collection for Genotyping.” If techniques will not comply with ACUC Guidelines, insert variation with justification below in the section: "How does this procedure fit into or address your overall research goals?"

Tissue collection for genotyping guidelines: Obtaining blood/tissue samples from mice to determine the presence/absence of a particular gene product is a common procedure when breeding genetically modified mice. The tissue collection method used is largely dependent upon the quantity of DNA sample required for Polymerase Chain Reaction (PCR) analysis. Some analytical and confirmatory techniques may require more tissue. The most common method for collecting those tissue samples (< 5mm) is tail clipping.

Note: Can be performed on an awake, properly restrained pre-weanling mouse ≤ 21 days of age. Anesthesia is required if performed after the mouse is weaned (> 21 days of age; please use Pre filled Procedure “Tail Clipping for Genotyping in Anesthetized Mice”). Optimal age for sampling is between 10-17 days of age.

Procedure Description Tab:

Procedure Description:

Procedural Steps for tail clipping mice (please keep in mind that anesthesia is required for tail clipping of animals >21 days of age):

1. Manually restrain a mouse.
2. Moisten site with alcohol.
3. Using autoclaved, chemically disinfected, or glass bead sterilized scissors or blade, make a transverse cut approximately 2-4 mm from the distal tip of the tail. Place tissue sample into specimen vial.
4. Apply pressure to the tip of the tail with a sterile gauze pad until bleeding has stopped. Styptic powder or tissue adhesive can also be used to aid hemostasis.
5. Return pup to nestle materials within its cage once hemostasis has been achieved. It is very important to remove any blood from the paws before returning to the dam to discourage cannibalism.
6. Note: Disinfect scissors or blade between animals. Scissor blades should be sharpened, and blades should be replaced regularly to minimize tissue trauma.

How does this procedure fit into or address your overall research goals?

(Insert protocol-specific rationale here.)

Please list any clinical effects or changes from the normal health and behavior of an untreated animal which may occur as a result of this procedure.

While negative clinical effects from tail clipping are not expected, cannibalism of neonates, tissue trauma, and infection may occur.

Describe post procedure monitoring that will be performed.

Hemostasis will be verified before returning any animal to their home cage. Mice will be examined immediately following tail clipping for general appearance and activity level, as well as potential adverse events listed above.

What criteria will be used to determine if animals exhibiting clinical or behavioral changes should be euthanized?

If any abnormal signs are noted the animal will be euthanized immediately.

Updated/ACUC approved:
Dec. 2021