

Stony Brook University
Institutional Animal Care and Use Committee (IACUC)

A. Tail Biopsy

- 1) Mice may be identified by analysis of genomic DNA obtained from a tail biopsy. Sufficient DNA for PCR, Southern, and dot blot analysis can be obtained from a 3-6 mm fragment of the distal portion of the tail. The tail biopsy can be obtained by a trained investigator from mice under 3 weeks of age without anesthesia. If the mouse is older than 3 weeks or a larger section of tail is required, an appropriate anesthetic agent should be used.
- 2) Isoflurane is the preferred anesthetic agent and should be used whenever possible. If injectable anesthetic is used, it must be dosed according to body weight. For mice, ketamine (100 mg/kg) and Xylazine (5 mg/kg) can be injected IP. The recovery time for injectable anesthesia is much longer than with isoflurane.
- 3) When the animal is sufficiently anesthetized, remove 3-6 mm of the tip of the tail using a new scalpel blade or sharp sterile scissors.
- 4) Hemostasis can be achieved using a sterile gauze pad to apply direct pressure to the wound.
- 5) Only one biopsy is allowed for each animal. Additional biopsies require specific justification that has been approved by the IACUC.

B. Anesthesia Monitoring

Prior to the tail biopsy the following parameters must be monitored at a minimum to ensure adequate anesthesia:

- Respiratory rate
- Response to noxious stimulus (ie. Toepinch)
- Spontaneous movement

C. Anesthesia Recovery Monitoring

- 1) During recovery from anesthesia, the following clinical parameters must be monitored at a minimum of 15 minute intervals until the animal is ambulatory:
 - Respiratory rate
 - Movement
 - Ability to maintain sternal recumbancy
- 2) It is estimated that animals will recover within 3-5 minutes from isoflurane or 30-60 minutes from injectable anesthetic postoperatively.
- 3) To protect the animal from hypothermia they should never be placed on metal surfaces – place animals on a water re-circulating heating blanket or wrap them in a towel (while still allowing visible monitoring) to conserve body temperature. Thermal packs can also be used.