



Cornell University

Cornell Center for Animal Resources and Education

CARE208.01 Mouse Tail Snipping

The intent of this standard operating procedure (SOP) is to describe procedures required for effective and humane tail snipping in mice. This SOP is intended for use by principle investigators, scientists, technicians, and students who are sufficiently trained in mouse tail snipping procedures. This SOP is approved by the Cornell Institutional Animal Care and Use Committee (IACUC) and the Cornell Center for Animal Resources and Education (CARE). Any exemption must be approved by the IACUC prior to its application.

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1. Introduction

This SOP describes the materials and procedures that promote humane and effective tail snipping. Tail snip samples are used in DNA analysis for the identification of transgenic strains of mice.

Note: Unless IACUC approved, tail snipping cannot be performed on mice older than 28 days of age and should not be performed on strains with coagulation disorders.

2. Materials

- a. Gloves.
- b. Scissors or disposable scalpel blades.
- c. Gauze (e.g. 4x4 inch).
- d. Centrifuge tubes.
- e. Restraint mechanism.
- f. Chemical cautery agent.
- g. Antiseptic agent or device for scissor disinfecting (Clidox, Alcide, hot bead sterilizer, etc.).
- h. Antiseptic agent for asepsis of the mouse tail (e.g. alcohol)

Note: Providone-iodine or chlorhexidine solutions may interfere with DNA analysis.

3. Procedures

- a. Preparation
 - i. Put on gloves.
 - ii. Sanitize the scissors.

Note: Do not remove more than 5 mm. of tail. Removal of more tail or a second after recovery must be specifically approved by the IACUC.

- b. Tail snipping procedure; mice <21 days of age:
 - i. Gently, but securely, restrain mouse (manual or mechanical).
 - ii. Swab the tail with antiseptic (e.g. alcohol).
 - iii. Snip tail with sanitized scissors or disposable scalpel.

Note: Remove biologic material and sanitize the scissors after each snipping if you are snipping several mice tails.
 - iv. Place tissue sample into a centrifuge tube.
 - v. Check for bleeding, if bleeding occurs:
 - Restrain the mouse and apply pressure to the cut portion of the tail with gauze until bleeding has stopped.
 - Utilize a chemical cautery agent if simple pressure does not stop bleeding (e.g. silver nitrate or Kwik Stop[®]).
 - Use heated scissors to cauterize the cut end of the tail if you are using a hot bead sterilizer,.
 - vi. Return the mouse to its cage.
- c. Tail snipping procedure, mice 21-28 days of age:
 - i. Perioperative Analgesia
 - Provide analgesia starting 12 hours prior to tail snipping and 24-48 hours following tail snipping. Select and dilute one analgesic agent in the mouse's drinking water as defined in the table below.

Analgesic Agent	Water bottle concentration
aspirin	2.0 mg/ml
ibuprofen	0.05 mg/ml
acetaminophen	2.0 mg/ml
carprofen	0.027 mg/ml

- Label the water bottle with the drug name, concentration, date of dilution, and your initials.
- Note:** As an alternative, analgesia can be provided as defined in CARE SOP102, Analgesia.
- ii. Provide local or general anesthesia during the procedure:
 - Brief general anesthesia is provided with isoflurane by placing the mouse in an induction chamber to achieve unconsciousness. Follow CARE SOP 712 for waste anesthetic gas scavenging.
 - Brief local anesthesia is provided by application of Ethyl Chloride spray immediately prior to snipping the tail.
 - iii. Perform the tail snipping as defined in sections 3a-b of this document.

- d. Aftercare
 - i. Recheck all mice upon completion of sampling to ensure tail bleeding is not occurring.
 - ii. Monitor the mouse for any changes in behavior.

4. Safety

- a. Please refer to CARE Zoonoses web page.
- b. Please be aware that working with rodents can cause work related allergies. Refer to the CARE Allergens Prevention web page.
- c. Please see CARE 707 for Animal Related Injury.

5. Contingencies

- a. General: PCR amplification often requires small amounts of tissue and therefore could be performed with an ear punch sample.
 - i. Emergency veterinary care is available at all times including after working hours , weekends and holidays by CARE (pager 1-800-349-2456).

6. References

- a. http://www.research.uky.edu/ori/univet/resources/sop/SOP_IACUC_101_mouse_tail_snip.pdf
- b. <http://www.nd.edu/~ndflsc/TailSnipProcedure04.pdf>
- c. http://hsc.unm.edu/som/research/acc/docs/Mouse_Script.pdf
- d. <http://oacu.od.nih.gov/UsefulResources/NINDSPIGuide2006.pdf>
- e. <http://www.research.cornell.edu/care/documents/SOPs/CARE712.pdf>
- f. http://vetmed.duhs.duke.edu/guidelines_for_rodent_analgesia.htm
- g. http://iacuc.yale.edu/procedures/carprofen_mice7-121.pdf
- h. <http://www.research.cornell.edu/care/documents/SOPs/CARE102.pdf>
Analgesia
- i. <http://www.research.cornell.edu/care/documents/SOPs/CARE712.pdf> Waste Anesthetic Gas Scavenging Systems
- j. CARE Zoonoses Web Page
<http://www.research.cornell.edu/care/zoonoses.html>
- k. CARE Allergens Prevention web page
<http://www.research.cornell.edu/Care/documents/OHS/AllergyPreventionFactSheet.pdf>
- l. CAE SOP 707 Animal Related Injury
<http://www.research.cornell.edu/care/documents/SOPs/CARE707.pdf>

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