

**University of Prince Edward Island
Animal Care Committee
Standard Operating Procedure**

SOP #: ACC - CT04

SOP Title: Identification of Mice

SOP Section: Clinical Technique

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1.0 Introduction

- 1.1 Proper identification of research animals is an essential component of a research design. It allows an easy method for tracking an animal throughout a research project and assists animal care staff in providing appropriate care to the appropriate animal. This document identifies various methods of identifying individual or groups of mice. Cage cards must be used for all mouse cages and additional forms of identification can be added to individually identify mice within a cage.

2.0 Materials

- Cage cards
- Notching equipment
- Ear punch
- Permanent Marker
- Electric tattoo machine
- Micro-tattoo device

3.0 Procedures

3.1 Cage Cards - use for all mouse cages

- i. Use card required by the individual facility and ensure that at least the following information is included: species, strain or stock, source of animal, names and locations of responsible investigators, date of birth or arrival, and ACC protocol number.
- ii. Cage cards may be used as the sole method of identification if individual animal identification is not required.

3.2 Temporary Markings

- i. Use an indelible marker to write numbers, bars, or other distinguishable markings, on the tail or the ears.

Note: Temporary marking can be used for short-term individual identification; this marking lasts up to 3-4 days.

- ii. If temporary marking is to be used for duration exceeding 3-4 days, repeat markings every 3-4 days.

3.3 Tattooing

- i. Use an electric tattoo machine to write numbers on the tail.
- ii. Use only sterile and sharp tattoo needles.
- iii. This procedure is easier to perform under general anesthesia.
- iv. If not using general anesthesia, apply a local anesthetic on the tail before tattooing (EMLA cream or a local anesthetic spray).

3.4 Micro-tattooing

- i. Use a micro-tattooer to inject tattoo ink in the toe pads and/or the ears.
- ii. Whenever possible, use a simple identification code to limit the number of toes tattooed.
- iii. Have the identification code chart readily available in the animal room to allow prompt identification of individuals.

3.5 Ear Tags

- i. Mice should be ear tagged at weaning age or older.
- ii. Use tags that are no more than 5 mm long.
- iii. Rinse tag in 70% alcohol before use to help prevent ear infection.
- iv. Position the tag in the applicator so that the end with the hole is positioned over the notched area of the applicator; the pointed end should be opposite the hole.
- v. Scruff the mouse so that the ears are easily accessible.
- vi. Place the ear between the point and the hole of the tag; the numbers should be in an upward configuration so that they can be easily read without restraining the animal.
- vii. The tag should be positioned at the lateral base of the ear, approximately 3 mm from the edge of the ear pinna.
- viii. Once the tag is positioned correctly, squeeze the applicator firmly to apply the tag.
- ix. Monitor the tag implantation intermittently for signs of local infection.

3.6 Ear Notching/Punching

- i. **Do not** use this method in mice under 2 weeks of age.
- ii. Restrain the mouse by the scruff and use the ear punch to create holes and or notches in the ears, following an identification chart.
- iii. Whenever possible, use a simple code to limit the number of notches/punches.
- iv. Have the identification chart readily available in the animal room to allow prompt identification of individuals.
- v. If possible, use the excised tissue as a sample for genotyping, replacing the need for a tail biopsy.

3.7 Microchips

- i. **Do not** implant microchips in mice less than 3 weeks old.
- ii. Use appropriate anesthesia and analgesia to implant the microchip.
- iii. Apply disinfectant on the skin. (e.g. chlorhexidine, betadine)
- iv. Implant microchips subcutaneously in the dorsal neck area; the standard size for a mouse microchip is about 2 x 13 mm.
- v. Have a compatible reader available to allow identification of the mice.
- vi. Reuse microchips only after proper cleaning and sterilization (follow manufacturer's recommendation).

3.8 Toe Amputation

- i. The UPEI ACC **does not accept** toe amputation as a form of identification of mice.

4.0 **Safety**

- 4.1 When working with animals wear appropriate PPE, and be aware of allergy, zoonosis and injury risks.

5.0 **References**

- 5.1 *Guide for the Care and Use of Laboratory Animals*. National Research Council; National Academy Press, Washington, DC, 1996.
- 5.2 2003 Supplement on Refinement and Reduction in Production of Genetically Modified Mice. *Laboratory Animals*, vol. 37, no. 3, Suppl.1 July 2003.
- 5.3 Cornell Center for Animal Resources and Education, SOP 552, Identification of Mice