

IACUC Use Only

Original Approval Date: 06/03/09

Most Recent Approval Date: 06/25/15

Procedure Number : LAH09-02

Genus (if other than mus):

Procedure Type: Major Surgery Minor Surgery Non-Surgical

Procedure Name: Subcutaneous Microchip Implantation

1. Procedure Description

Include exact details of any/all chemical, biological, radiation, or physical agents as well as route(s)/ dose(s)/ volume(s)/ frequency and duration

This procedure is for the implantation of a RFID transponder subcutaneously in the mouse. This procedure may be performed in an awake, physically restrained mouse provided the mouse is 3 weeks of age or older and the delivery needle is 18g or smaller in diameter.

The mouse must be anesthetized if less than 3 weeks of age or the delivery needle is larger in diameter than 18g.

- The microchip must be appropriate for use in mice, encapsulated in biocompatible material, and sterilized prior to implantation. Most microchips can be purchased already sterilized and preloaded into an individually packaged syringe (e.g., Nonatec transponder).
- Once the mouse is physically restrained or anesthetized, fur at the injection site is wetted with 70% ethanol to permit the introduction of the needle into a sparsely haired area. This will minimize the introduction of hair into the subcutaneous space.
- The microchip is inserted subcutaneously in the inter-scapular space.
- The needle is slowly withdrawn and the skin is flattened at the injection site to re-appose the wound edges.
- After placement of the microchip the injection site in the skin may be closed with a medical grade cyanoacrylate adhesive, e.g., Surgi-Lock.

2. Anesthetic/Analgesic Regimen

a. Please list all anesthetics/analgesics used in this procedure in the following table.

If not applicable, please check here NA

Example:

Anesthetic Agent	Diluents Used	Dose & Route of Administration (e.g. 1mg/kg I.V.)	Volume
Isoflurane	Oxygen	Inhalation to effect ~2%	
OR Tribromoethanol	Sterile PBS	400 mg/kg IP	0.2ml/10g body weight

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tribromoethanol	Sterile PBS	400 mg/kg IP	0.2 ml/10 g
Or isoflurane	oxygen	Inhalation to effect; for most procedures 1-3%	
Or ketamine/xylazine	Sterile PBS	100 mg/kg ketamine & 10 mg/kg xylazine IP	0.1 ml/10 g

Analgesic Agent	Dose & Route of Administration (e.g. 1mg/kg I.V.)	Volume

b. Supportive care while animal recovers from anesthesia:

- After implantation, the mouse is placed on a paper towel in lateral recumbency in a clean, warm cage.
- Temperature in the recovery area is controlled to prevent hypothermia during recovery.
- Supplemental heat is provided by placing the recovery cage on a circulating hot water blanket, slide warmer, or other device. The cage is warmed to 80-95⁰F and the mouse is provided a means to move away from the heat source once awake. This is accomplished by providing supplemental heat to only ½ of the cage. To avoid overheating the animal the temperature inside the cage, at mouse level, is frequently monitored with a thermometer.
- While the mouse is recovering from anesthesia the surgeon or designee* must remain in the same room, or adjacent animal room, until the mouse has recovered from anesthesia and can be returned to the animal room. Check on the animal at least every 15 minutes to ensure the animal is recovering normally.
 - * Designee: one who has been approved to perform a surgical procedure or has received training in anesthesia and recovery by a LAHS surgical trainer.
- The mouse is not returned to the animal room until it is able to walk around the cage.

3. Post Procedure Care

Describe post procedure care, including frequency of observations, schedule for removal of sutures/clips, etc...

Immediately post procedure the mouse must be observed for:

Bleeding: if present pressure will be applied with clean gauze at the site until homeostasis.

Difficulty breathing: if present the mouse will be euthanized.

Difficulty moving: if present the mouse will be euthanized.

4. References if applicable:

The official current copy of this document is online at The Jackson Laboratory's internal website.