

Tail Nick Blood Collection in Mice
IACUC Standard Procedure
Effective Date: August 2023

Description of procedure:

Tail vein sampling is suitable for a small volume of blood (less than 0.2 ml) by puncture (with a needle or lance) of the tail vein. It is suitable for all strains but is more difficult in black or pigmented mice. Multiple samples can be taken daily. This technique may be performed with or without anesthesia. This technique is best performed after animals have been warmed in order to dilate the blood vessel.

For information regarding maximum blood collection volume please refer to the [UCSF Mouse Blood Collection Guidelines](#). Please contact the IACUC office trainerIACUC@ucsf.edu for training or any assistance with this technique.

Supplies necessary:

- 4mm lancet or 22 gauge needles
- Gauze sponges
- Light source
- Heating source (75 watt bulb, water blanket, reusable warming pads, water warm to touch etc.)
- Blood collection tubes(capillary) or Microtainer
- Restraint device

Procedure:

1. Place mouse in restraint device exposing entire tail.
2. Dilate tail vessel with warm water or by exposure to heat source, taking care not to overheat (seen as excessive redness in light-pigmented tail or if water is overly hot to touch). Dilation will make vessel more visible and/or palpable and should occur within a few minutes.
3. Immobilize tail with non-dominant hand and visualize lateral tail vein.
4. Clean withdrawal site with alcohol wipe
5. Puncture vessel with needle bevel up or 4mm lancet tip, entering vein at a shallow angle beginning at the distal end of the tail.
6. Collect sample with a pipette or other collection tube, until the target volume is reached. Repeat samples may be performed via puncturing with a new needle, proximal to the previous site. (Do not reuse needle or lancet for subsequent attempts.)
7. Apply manual pressure (e.g., with gauze sponge) to stop bleeding.



Adverse effects to be considered:

Hematoma formation, dermal burns