

Saphenous Vein Blood Collection in Rodents

IACUC Standard Procedure

Effective Date: June 2025

Description of procedure:

Saphenous sampling is suitable for a small volume of blood (less than 0.2 ml) by puncture of the saphenous vein. It is suitable for many rodents but is more difficult in pigmented mice. Needle gauge varies depending on rodent size/species. Multiple samples can be taken by alternating between rear legs. This technique must be performed under anesthesia unless described within the approved protocol and performed by trained personnel.

For information regarding maximum blood collection volume please refer to the [UCSF Blood Collection Guidelines](#).

Supplies necessary:

- 22-25 gauge needle (gauge dependent on rodent size, suitable for most adult strains: mouse 25ga, rat/hamster 22ga)
- Light source
- Heating source under anesthetized rodent
- Alcohol wipe
- Blood collection tubes (capillary tube or Microtainer)
- Petroleum jelly or eye lube
- Gauze sponge
- Electric razor

Procedure:

1. Anesthetize the animal with isoflurane, place eye lube, and transfer to mask to maintain anesthesia in lateral recumbency.
2. Shave the hair on rear lateral portion of leg, from just above the foot to below the knee.
3. Apply a dab of petroleum jelly or eye lube, to the shaved skin above the ankle.
4. Apply digital pressure from behind knee to help visualize and isolate the vein.
5. Puncture the vessel with the needle bevel oriented up and at a 45° angle entering vein at the most visible site.
6. Collect the sample with a pipette or other collection tube, until the target volume is reached.
7. Apply gauze with gentle pressure to stop bleeding.
8. Fully recover the animal from anesthesia before returning to home cage.



Step 2. Shave lower rear leg.



Step 3. Apply lube to decrease wicking and increase surface tension of blood droplet.



Step 5. Note the finger restraint by thumb and index finger.



Step 6. Use a capillary tube to collect desired volume.

Agents: Isoflurane anesthesia. All agents administered to animals should be listed in the "Agents" section of protocol.

Adverse effects to be considered: hematoma formation.