

**Ventral Tail Artery Blood
Collection in Rats
IACUC Standard Procedure
Effective Date: May 2022**



Description of procedure:

Blood collection from the ventral tail artery allows for the maximum allowable sample volume with minimal trauma to the animal.

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

Supplies:

- Isoflurane anesthesia system
- Sterile 23-25 Butterfly Infusion set
- Blood collection tubes
- Gauze sponges

Procedure Steps:

The rat should be anesthetized and placed in dorsal recumbency. Animals should be placed on a rechargeable heat pack or circulating warm water pad to keep them warm during anesthesia. Arterial dilatation can be induced by applying slight pressure 1 to 2 inches from the tip of the tail with a finger. Cut the Butterfly infusion set tubing so that only about 0.5 inches remain. Visualize the artery by rotating the tail slightly from one side to the other. Insert the needle bevel up into the tail artery entering at a 20 to 30 degree angle (see Image 1). If placed properly the tubing will immediately begin to fill with blood (see Image 2). If blood flow is slow or stops, slowly withdraw the needle a short distance to re-establish flow. Retries should be done in a more proximal location on the tail and a new needle is recommended. Apply gentle pressure with a piece of gauze on the site to cease blood flow after needle withdrawal. When animals are fully recovered they can be returned to their cage. Observe to make sure bleeding does not resume.



If you would like training in the above technique, please contact the IACUC Training and Compliance staff by email at trainerIACUC@ucsf.edu (email become the main contact).

Literature search words required:

Literature search was performed for refinement of this Standard Procedure on 4/03/2022:

Key Words	Search Site	Years Covered
Ventral tail artery blood collection, rats	Pubmed	Full database search to 2022
Ventral tail artery blood collection, rats	Google Scholar	Full database search to 2022

Agents:

This procedure requires anesthesia. All agents administered to animals should be listed in the “Agents” section of RIO

Potential adverse effects to be considered:

Blood loss