	University of British Columbia Animal Care Centre	Standing operating procedure	SOP # : TECH 02
		Blood collection	Effective date: August 3, 07
Title: Blood collection from the lateral saphenous vein in mice and rats.			

1.0 REFERENCE DOCUMENTS AND RELATED SOPS

- 1.1 Guide to the Care and Use of Experimental Animals. Volume 1, Second Edition.

2.0 MATERIALS AND EQUIPMENT LIST

- 2.1 Appropriate animal restrainer
- 2.2 Clippers or Nair + 70% Isopropyl alcohol
- 2.3 Cotton swab
- 2.4 Glycerin or petroleum jelly
- 2.5 Blood collection tube or micro-hematocrit capillary tube
- 2.6 Critoseal
- 2.7 25-26 G needle or animal lancet
- 2.8 2 x 2 " gauze




Most common restrainers for mice and rats



Material and equipment list

3.0 CALCULATIONS

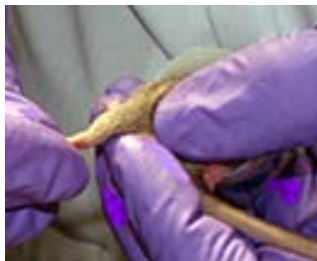
- 3.1 As a general rule most mammals have close to 70 ml per kg of circulating blood volume. 10% of this volume (7 ml/kg) can be taken from healthy animals without deleterious effects. This amount can usually be removed every 2-3 weeks.
- 3.2 A volume of 200 μ l can readily be collected using this saphenous vein technique.

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4.0 PROCEDURES

Single or serial blood samples can be collected from rodents without anesthesia using the lateral saphenous vein.

- 4.1 Choose the appropriate restrainer for the species.
- 4.2 The animal is held head first in a restrainer so that only the rear legs and tail are free. The rear leg can be stretched out to its natural position.



Mouse



Rat

- 4.3 To secure the animal and elevate the vein, the skin on the upper thigh is gently but firmly squeezed, using the same hand holding the restrainer.



Mouse

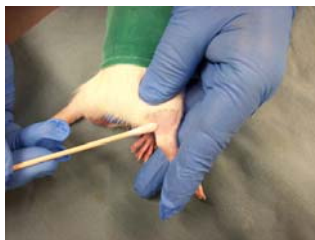


Rat

- 4.4 The hair is removed either by clippers or by using a depilatory cream and swabbed using 70 % alcohol. Depilatory cream should not be left in contact with the skin for more than one minute and can be wiped away with alcohol.




Mouse

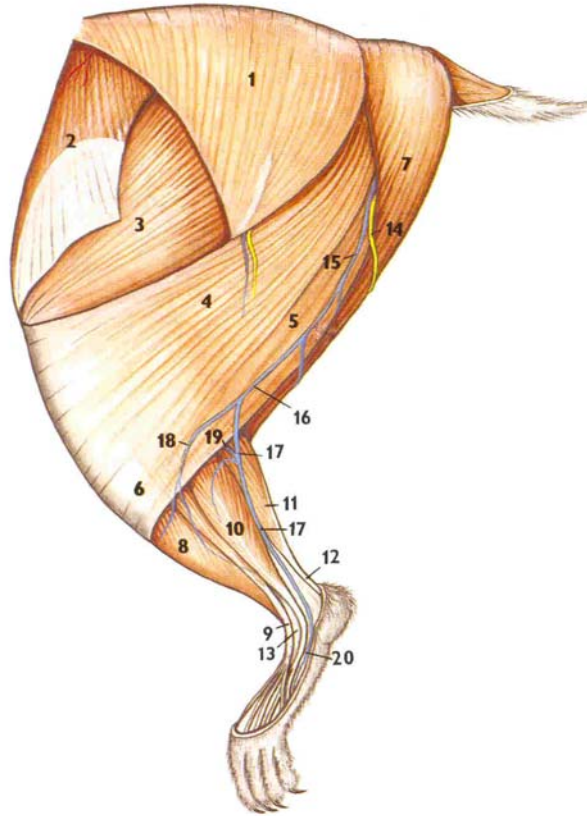


Rat



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4.5 Locate the vein (see number 17)




4.6 A thin film of bland ointment such as Vaseline® or Glycerin can be applied to prevent blood from seeping and allow for blood drop formation.



Mouse



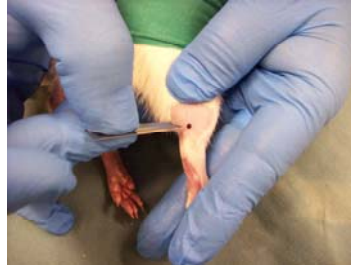
Rat

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4.7 Using a **25-26 gauge needle or an animal lancet**, the vessel is punctured at a 90° angle at the most proximal visible aspect and blood is collected as it drips from vein.



Mouse



Rat

4.8 Collect your sample.



4.9 A dry gauze sponge is used to apply pressure to the puncture site and the pressure on the upper thigh is released.

4.10 Remove the mouse from the restrainer and place it in its cage.

4.11 Monitor the animal for 5-10 min to ensure hemostasis (bleeding has stopped).

4.12 For repeat samples, the scab may be brushed off with a dry gauze sponge or a new puncture can be made distal to the previous site (towards the foot). A **volume of 200 µL** can be readily collected using this technique.

5.0 HISTORY OF SOP

Initial Creation Date: August 3, 07		Created By: Daniel Harvey
Date approved: August 10 th , 2007		
History		
Revision #	Revision Date	Revision By