Quick Reference Summary Sheet

TECH 06a – Blood Collection from the Lateral or Medial Saphenous Veins in the Adult Mouse SOP

Procedure:

1. Gather all supplies needed.
2. Weigh animal. Calculate maximum volume to be collected based on planned collection frequency.

Species: Mouse	**Needle Gauge**	**Single blood sample**		**Multiple blood samples**	
Total Blood Volume 65ml/kg (60-70ml/kg)	25-26G	Maximum % Blood Volume Removed	Required recovery period before additional blood sampling	Maximum % Blood Volume removed in 24-hour period	Required recovery period
		7.5%	1 week	1%	24 hours
		10%	2 weeks	7.5%	1 week
		15-20%	4 weeks	10-15%	2 weeks
				20%	4 weeks

The total blood volume assumes that the mouse is a healthy adult that is normally hydrated and non-obese. When collecting multiple blood samples, a smaller volume of blood is taken at each sampling to allow time for hematological parameters to return to normal.

3. Restrain mouse manually or in a restrainer to access the medial or lateral saphenous veins. Hold skin to keep leg extended and occlude the vein. (See Figures 1 and 2).
4. Safely remove fur over the saphenous vein using fur clippers or a depilatory cream.
    a. If using a depilatory, do not leave on for more than 30 seconds and remove completely with water and gauze.
5. Locate the saphenous vein (See Figures 3 and 4).
6. Swab area with alcohol on cotton-tipped applicator and apply a thin layer of Vaseline®.
7. Puncture the vein perpendicular (90 degrees) to the skin with a new sterile 25-26G needle. (See Figure 5).
    a. Begin proximal (closest) to the body if multiple sampling is planned.
    b. Do not insert needle past bevel of the needle (1-2 mm deep).
8. Collect the blood into the desired collection tube
    a. Do not collect more than the maximum calculated volume.
    b. Include any blood not collected for sample in total volume (any extra bleeding, i.e. on gauze)
9. Apply direct pressure over puncture site for 60 seconds with a dry gauze or cotton tipped applicator.
    a. If still bleeding, repeat until bleeding has stopped.
10. Once bleeding has stopped (hemostasis), place the mouse back in its cage and monitor for 5-10 minutes to ensure bleeding doesn't resume.
11. For repeat samples, a new puncture site can be made distal to the previous site (towards the foot) or the other vein (lateral or medial saphenous) can be used.
12. Note procedure and date on cage card/monitoring records.

Potential Complications:

- Local reaction:
    - Bleeding, bruising, skin lesions, limping.
- Systemic reaction:
    - Pain, anemia (pale extremities), overheating, unable to breathe in restraint.

Figure 1 Medial Saphenous Vein

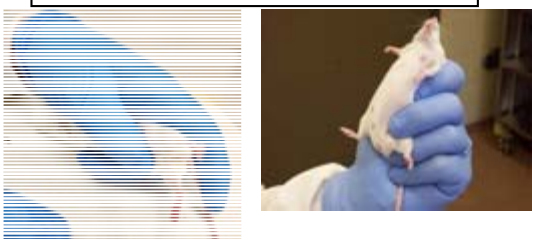

Figure 2 – Lateral Saphenous Vein

Figure 3 Medial Saphenous Vein

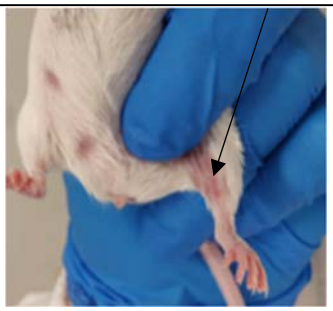

Figure 4 Lateral Saphenous Vein

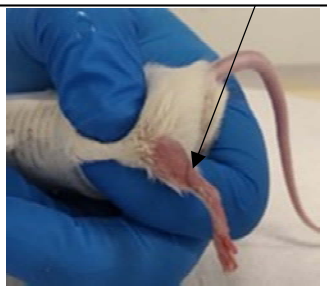

Figure 5