Rodent Blood Sample Collection

Technique Comparison Guide

Survival Procedures (Volumes refer to Mice)

Collection Technique	Volume	Advantages	Disadvantages
Submental Vein (mice)	<0.2ml*	• No anesthesia required • Ease of locating target vessels for sampling with training • Moderate to large sample recovery • Easy to stop post collection bleeding • Can be performed rapidly decreasing risk of hemolysis and platelet clumping	
Lateral saphenous	<0.2ml*	• No anesthesia required • Ease of locating target vessels for sampling with training • Moderate to large sample recovery • Can use the same site multiple times by alternating hind legs • Can be performed rapidly decreasing risk of hemolysis and platelet clumping	• Harder to stop post collection bleeding • Can cause temporary lameness of the limb if procedure is prolonged
Submandibular/Facial Vein (mice)	<0.2ml*	• Can be done with or without anesthesia • Ease of locating target vessels for sampling with training • Moderate to large sample recovery • Can use the same site multiple times by alternating sides of the face • Can be performed rapidly decreasing risk of hemolysis and platelet clumping for sampling	• More challenging to visualize target veins for sampling • More challenging to stop post collection bleeding
Tail Tip Puncture	<50µl*	• No anesthesia required • Ease of locating target vessels with training • Can use the same site multiple times • Easy to stop post collection bleeding	• Small sample recovery • Slower blood flow which can increase risk of platelet clumping and hemolysis of sample

Terminal Procedures (Volumes refer to Mice)

Intra-cardiac Puncture	<1ml*	• Easy to perform with training • Large sample recovery	• Can cause increased hemolysis if inapproriate size needle and syringe or vacutainer used.
Caudal Vena Cava	<1ml*	• Large sample recovery	• Requires more training than intra-cardiac puncture

*Estimated whole blood volumes only based upon an adult mouse. Actual volumes should be determined by NIH phlebotomy guidelines by total blood volume and approved IACUC animal use protocols.