

Recommended Standard Methods of Blood Collection: *Rabbits*

Method	Maximum volume (<i>per sample</i>)	Anesthesia Required	Description	Special Considerations
Marginal Ear Vein	Up to 0.5 - 10 mL, depending on the size and strain of the rabbit.		The rabbit is restrained (<i>state method of restraint</i>) and the dorsal surface of the ear is shaved with an electric clipper and cleaned with three alternating scrubs of 70% alcohol and betadine. The vein is normally occluded distally (away from the animal) before the needle is inserted. Blood is collected from the tip of the ear using a 19-23 gauge butterfly needle, away from the base of the ear. Blood flow is stopped by applying pressure with sterile gauze placed at the blood sampling site for approximately 2 minutes to achieve hemostasis.	<ul style="list-style-type: none"> • Serial blood samples can be taken by moving towards the base of the ear on the same vein and by alternating ears. Up to eight samples may be taken in any 24-hour period, depending on sample volume. • The ear should be warmed in order to dilate the vessel. This can be done by gently stroking; it should not be necessary to use a heat lamp. • The fur should not be plucked. • Local anaesthetic cream (e.g. EMLA cream) can be applied to the site 30 minutes prior to blood sampling. • Restraint: It can be helpful to wrap the animal in a large cloth to avoid inadvertent movement.
Central Ear Artery	up to 20 mL		The rabbit is restrained (<i>state method of restraint</i>) and the ear is shaved with an electric clipper and cleaned with three alternating scrubs of 70% alcohol and betadine. Once blood starts to flow place receptacle under the needle for blood collection. If the vessel collapses, gently stroke the ear until the vessel relaxes and blood begins to flow. A syringe may also be used. When using a syringe it is very important not to apply too much negative pressure, as this will collapse the artery. Upon completion of either blood collection technique, pressure is applied with sterile gauze placed at the blood sampling site for approximately 2 minutes to ensure hemostasis.	<ul style="list-style-type: none"> • Gentle stroking and tapping of the ear may make the artery more visible. A rolled up piece of gauze placed on the underside of the ear will aid in holding. • The fur should not be plucked. • Local anaesthetic cream (e.g. EMLA cream) can be applied to the site 30 minutes prior to blood sampling. • Restraint: It can be helpful to wrap the animal in a large cloth to avoid inadvertent movement.
Cardiac Puncture (<i>Non-survival</i>)	60 - 200 mL, depending on the size of the rabbit	YES	The rabbit is anesthetized and blood samples are taken from the heart using a 19-21 gauge needle, preferably the ventricle, which can be accessed either via the left side of the chest, through the diaphragm, from the top of the sternum or via a thoracotomy. Blood will be withdrawn slowly to prevent the heart from collapsing.	<ul style="list-style-type: none"> • Ensure euthanasia of the animal post-procedure.

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NOTES:

Total blood volume of a rabbit is 60 ml/kg or 6.0 % of total body weight (BW).

No more than 1% of the animal's blood volume in one collection or over a 24 hour period.

No more than 7.5% (4.5 ml/ kg BW) of total blood volume can be collected in a single or multiple draws over a week period.

If 10 % (6 ml/kg BW) of total blood vol, must allow 10 days recovery before next draw.

If 15 % (9 ml/ kg BW) of total blood volume is collected, must allow 15 days recovery before next draw.

*** A Comparative Medicine Veterinarian must be consulted if blood will be drawn from a USDA covered species.**