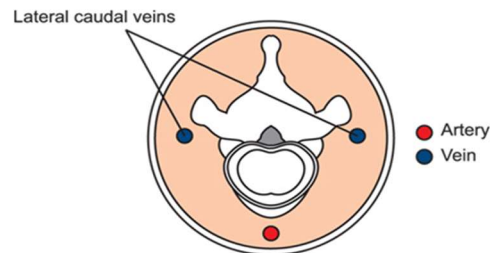


## Rodent Tail Vein Injection

Intravenous (IV) administration of compounds can be done using the lateral tail veins in rodents. injections can be performed with the animal restrained in a rodent restrainer or anesthesia can be used. The tail can be warmed prior to injection to dilate the blood vessels, which may help facilitate injections.

### Necessary Supplies:

- 70% isopropyl alcohol
- 25 to 27 gauge needles and syringes
- Gauze pads



### Technique:

1. Place the animal in the rodent restrainer with the tail exposed. **(Image 1)** Position the animal on its side, so that the lateral tail vein is facing up. Tighten the locking mechanism to reduce animal movement but ensure the animal can breathe comfortably.
2. Wipe the tail with alcohol to disinfect the skin. This will also increase visibility of the vein.
3. Holding the tail in your non-dominant hand, locate the lateral tail vein in the middle third of the tail.
4. Ensure there are no air bubbles in the syringe prior to injection.
5. Gently but securely insert the needle with the bevel facing up, at a 15-20° angle. If no resistance is felt, slowly administer the compound. Only the vein will blanch if the injection is successful. **(Image 2)**
6. If you feel resistance, stop, and reposition the needle proximally. If the injection is administered subcutaneously (SQ) rather than IV, there will be blanching of the subcutaneous tissue. **(Image 3)**
7. Slowly withdraw the needle and apply gentle pressure to the injection site using a clean gauze pad to prevent bleeding.

### Notes:

- A new needle must be used for each animal.
- The maximum recommended volume of administration is 5-10 mL/kg. (ie. 0.25mL for 25g mouse or 2mL for 200g rat)
- Warming of the tail can be done by placing the tail in a cup of warm water or by placing the animal's enclosure on a heating pad (85°-95°F) for 1-2 minutes.



**Image 1-** Proper restraint and needle placement.



**Image 2-** Successful injection: vein if filled with blue dye.



**Image 3-** Unsuccessful injection: bleb (blue circle) with blanching of surrounding tissue

### Additional References:

<https://www.jove.com/v/54039/injection-syngeneic-murine-melanoma-cells-to-determine-their>