



# Rodent Administration Routes

# Administration Routes

## Mice & Rats -Intramuscular Injection (IM)

IM injections are administered in the thigh muscles of the hind limb. Caution must be used to avoid injury to the sciatic nerve, which is located in close proximity to the femur.

1. Restrain the animal by grasping the skin along its back with your left hand (if right-handed).
2. Clean the injection site with alcohol.
3. Insert needle into thigh muscles, and directed away from the femur avoiding the sciatic nerve.
4. Pull back the syringe plunger to aspirate the syringe. Any blood indicates improper needle placement, and needle must be repositioned.
5. Administer substance in a steady, fluid motion. Take care not to administer fluid too rapidly.



# Administration Routes

## Mice & Rats –Subcutaneous Injection (SQ or SC)

SQ injections are administered in the space between the skin and the underlying muscles.

1. Restrain the animal by grasping the skin along its back with your left hand (if right-handed), as shown in picture.
2. Clean injection site with alcohol.
3. Insert needle at base of skin fold between thumb and finger.
4. Pull back the syringe plunger to aspirate the syringe. Any blood indicates improper needle placement, and needle must be repositioned.
5. Administer substance in a steady, fluid motion.



# Administration Routes

## Mice & Rats -Intradermal Injection (ID)

ID injections are administered between the layers of the skin. The animal must be under general anesthesia for this procedure.

1. Anesthetize animal as described in your approved Animal Study Proposal.
2. Clip hair on animal's back.
3. Clean the injection site with alcohol.
4. Insert needle between layers of skin at a 30° angle as shown in top picture.
5. Pull back the syringe plunger to aspirate the syringe. Any blood indicates improper needle placement, and needle must be repositioned.
6. Administer substance slowly with a maximum volume of 100ul per injection site to avoid tissue trauma. Proper injection results in a small, circular skin welt as shown in bottom picture.



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## Mice & Rats -Intravenous Injection (IV)

IV injections are most commonly administered via the tail vein in rodents.

1. Restrain animal in a mechanical restrainer.
2. Clean the injection site with alcohol.
3. Hold tail as shown in picture below. With tail under slight tension, insert the needle at least 3mm into lumen of the vein.
4. Do not aspirate the syringe, because this will collapse the vessel.
5. Administer the substance in a slow, fluid motion to avoid rupture of the vessel.
6. Remove needle, and apply pressure to stop bleeding before returning animal to cage.



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## Mice & Rats –Oral Gavage

Oral Gavage is used to administer substances directly into the stomach of the animal.

1. Restrain the mouse by grasping the skin along its back with your left hand (if right-handed).
2. Measure needle against animal's body as shown in top picture to ensure proper needle length.
3. Place tip of gavage needle in animal's mouth as shown in bottom image.
4. Slide needle tip down the back of the mouth, while moving tip toward the front in a fluid motion.
5. Never force a gavage needle --any resistance indicates improper placement.
6. Do not aspirate the syringe. Once needle is properly placed, administer substance.

