LABORATORY ANIMAL BIOMETHODOLOGY WORKSHOP

Hamster Intranasal Injection (IN)

Procedure:

- Use a micropipetting unit pipette that can be calibrated or a syringe to deliver an accurate volume.

- Can be done under anesthesia or on conscious animals. Using inhalation anesthetics allows for an immobilized animal during the approach and delivery of the compound. This eliminates the possibility of the animal biting the dosing equipment, the loss of the compound due to jerking of the head, and injury to the animal's nasal tissue, eyes, or facial skin. The animal is also less likely to snort and spray the compound from the nares upon administration.

- Recommended volume: Administer a maximum of 50µL per nostril for rodents.

In a conscious animal:

- Restrain the hamster using the basic manual restraint technique and hold it in a vertical position.

- The head needs to be relatively immobile so that the pipette tip can be placed close enough to the nares to deliver the compound, but not so close as to poke or lacerate the nasal tissue.

- Place a small drop of a liquid compound at the nasal opening. The animal should inhale the droplet.

- Administer an additional volume, alternating nares until the entire volume has been given.

- When administering larger volumes, it is important to not constrict the chest during restraint. Chest compression impedes the ability of the animal to take sufficiently deep breaths to draw the liquid into the bronchi and lungs.

In an anesthetized animal:

- Place the hamster in dorsal recumbency. The position of the head influences the placement of the solution in the nares.

- Administer half of the compound directly into one side of the nasal opening, timing it with inhalation. Then, turn the animal over.

- As above, administer the other half of the volume into the other nasal opening.

Reference:

McGill University SOP 404 – Substance Administration:
http://www.mcgill.ca/research/researchers/compliance/animal/sop.

https://www.jove.com/science-education/10215/compound-administration-iii