

Mouse Intraperitoneal (IP) administration

Animals must be restrained properly for the IP technique to be performed in a safe manner for both, the animal and the handler. A new needle for each animal must be used for each injection. It is highly recommended to wipe the skin with alcohol/chlorhexidine prior to injection in order to reduce the chance of infection. Avoid all unnecessary movement of the needle once inserted in the abdominal cavity to prevent laceration /damage of internal organs. It is recommended to warm up the fluid to be injected to a room or body temperature (by holding inside the palm of the hand for a few seconds) to avoid animal discomfort and drop in body temperature.

Necessary Supplies

- Alcohol/chlorhexidine for skin disinfection
- Cotton tip applicator/gauze to apply disinfectant solution
- 25-30 Gauge needle (As thin as suitable for the intended injection product)
- 0.3 - 1ml syringe

Technique

1. Gently restrain the mouse with the non-dominant hand by grasping the loose skin over the shoulders and behind the ears; the skin should be taut under the chin (submental region), but not so tight as to restrict breathing (**Image 1**). The “Three fingers” restraint method is recommended (Additional guideline available). Make sure to tuck the tail to secure the lower body of the animal to minimize undesired movements during the injection.
2. Turn the restrained animal face up. In order to identify the injection site, trace an imaginary line from the thorax to the pelvis dividing the abdomen into left and right sides (**Image 2**), and trace another imaginary line to divide the abdomen into cranial (upper abdomen) and caudal (lower abdomen). These lines divide the abdomen in four quadrants, the target site for IP injection is the mouse’s right caudal (lower) quadrant. This way we minimize the risk of injuring major organs (liver/stomach/spleen in the cranial abdomen) and anatomical structures (Colon, cecum, urinary bladder).
3. With the animal securely restrained and the target region clearly identified (the mouse’s lower right quadrant), disinfect the area with the gauze or Q tip applicator, and tilt the animal’s head down to help move the abdominal organs cranially.
4. Gently but securely insert the needle, bevel up, in a 30-45° angle. Pull back the plunger to ensure negative pressure, once confirmed administer the substance and pull the needle straight out.
5. Put the animal back into the cage and observe for complications.



Image 1- “Scruffing” restraint technique.

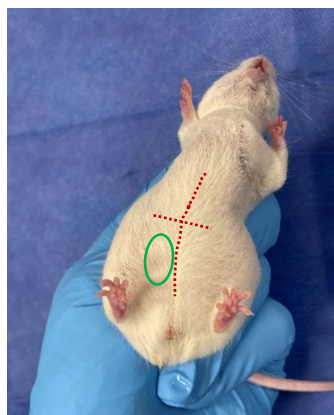


Image 2- IP landmarks. Red dotted lines dividing abdomen in four quadrants. Green oval shape identifying target region (lower right quadrant).

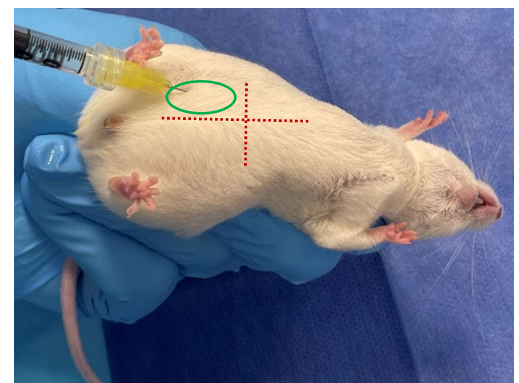


Image 3- 30° angle, bevel up, insertion of a 30G needle in the right lower abdomen (green oval shape).