

Passive Avoidance Test
IACUC Standard Procedure
Effective Date: October 2021



Description of Procedure:

This procedure measures the basic ability to learn and remember the presence & place of a shock stimulus that requires minimal training and produces rapid learning with extensive control over the unconditioned aversive stimulus.

, The shock's intensity used in this task should be the minimal amount needed to motivate the animal; it should also be very brief (1-2s) and only one training trial is used for each animal. Mice should not be tested in the passive avoidance apparatus until they have undergone all other less stressful testing procedures. Mice exhibiting any abnormalities indicative of locomotor disabilities or pain perception (i.e. hyperalgesia) must be excluded from testing.

Supplies:

- Dual compartment testing apparatus
- Electroshock generating device

Procedure Steps:

Training Trial:

1. The testing apparatus is a trough-shaped alley divided into two distinct compartments that are separated by a sliding door. The white, brightly lit compartment is free of aversive stimulation whereas the black, dark compartment is equipped with shock capability. The apparatus is cleaned with Vimoba before use.
2. The training trial begins by placing the animal in the white compartment facing the door.
3. The door is opened to allow access to the dark compartment.
4. The latency to enter the dark compartment is recorded.
5. When the animal steps into the dark compartment with all four paws, the door is closed and a 1-2 second foot shock is delivered (0.2-0.5 mA shock, minimum required to elicit flinching, running, jumping, and/or vocalization).
6. The animal remains in the dark compartment for an additional 10 seconds after the termination of the aversive stimulus before being removed and placed back into its home cage.
7. The apparatus is cleaned with 70% ethanol in between animals.

Test Trial:

1. At the time of the test trial (usually 1-7 days after training), the animal is again placed inside the white compartment and the door is raised to allow access to the dark compartment.
2. The latency to re-enter the dark compartment is recorded; however, there is no aversive stimulus applied to animal upon re-entry into the dark compartment during testing.