

SOP No: AHT 22

SUBJECT Passive avoidance test - mice

POLICY: This technique may only be performed by operators skilled in the technique
This assay is used as a measure of negative-reinforcement/ aversive-experience learning and memory in response to a mild electric shock

PRECAUTIONS:

EQUIPMENT: A Perspex box divided into two by a wall with an automated opening and closing door ('guillotine' style). One half is dark and the other is illuminated. The dark half of the box has an electrical grid on the floor

PROCEDURE Carry animals into the room (with lighting levels to be used in the experiment and doors shut) at least 30 mins before beginning experiment.
Program the software (eg Ethovision)
Drugs/compounds should be given at appropriate absorption times prior to introducing rats/mice to the apparatus.
Mice are placed in the light compartment and allowed to explore for 5 minutes.
The automatic door will open, providing access to the dark compartment.
When the mouse enters the dark compartment, a mild electric shock (1s 0.5mA scrambled shock) is delivered
The door remains closed for 1min.
At the end of each trial, remove the animal and thoroughly clean the box with 70% alcohol solution, and dry with paper towelling.
Subsequent trials will be exactly as described in habituation but performed between 5min and 72hrs later.
For the controls, the protocol will be exactly the same except NO shock will be delivered in training
The latency differences to enter the dark compartment in test phase compared to training will serve as a measure of strength of a memory for aversive experiences on a short- (5min) to long-term (72h) basis.

RECOMMENDATION

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REVISED:

REFERENCES

1. Almonte, A. G., Hamill, C. E., Chhatwal, J. P., Wingo, T. S., Barber, J. A., Lyuboslavsky, P. N., David Sweatt, J., Ressler, K. J., White, D. A., & Traynelis, S. F. (2007). Learning and memory deficits in mice lacking protease activated receptor-1. *Neurobiol Learn Mem.*