

SOP No: AHT 20

SUBJECT: Hotplate response test in rodents

POLICY: This technique may only be performed by operators skilled in the technique.

PRECAUTIONS:

EQUIPMENT: Bring animals into room (with lighting levels as will be used in the experiment and doors shut) at least 30 mins before beginning experiment.
Tests should be recorded using a video camera to allow for future reference
A tested/accredited hot plate heated to 53°C

PROCEDURE: Normal laboratory lighting will be used.
Drugs/compounds should be given at appropriate absorption times prior to introducing rats/mice to the apparatus
Mice/rats will be individually placed on the hot plate
Test will be terminated after 20s, even if the animal hasn't responded.
Whilst this test involves noxious/painful stimuli, animals can avoid it (see assessment), at which point the test will be terminated
Once removed from the hotplate, animals will be returned to their home cage and their feet checked at 4 hours.
NOTE; basal measurements prior to disease induction/compound administration can serve as a control for each individual animal.

Assessment;

The latency (time, measured by a stopwatch) of the animal to lick its hind paws or jump to avoid the heat will be taken as the measure of pain threshold/hyperalgaesia
This can be measured immediately during the experiment or later from the recorded video.

RECOMMENDATION

DATE ISSUED: 25.02.2009

REVISED:

REFERENCES

1. Malmberg, A.B., and Bannon, A.W. (1999) Models of nociception: hot-plate, tail-flick, and formalin tests in rodents. *Current Protocols in Neuroscience*;8.9.1-8.9.15.