



STANDARD OPERATING PROCEDURE

TITLE: Hot Plate Test

CATEGORY: Behavioral Assay

Introduction

Goal: This document aims to provide the reader information on how to run the Hot Plate Test. The Hot Plate test is used to measure acute thermal nociception in rodents. It is useful for assessing pain sensitivity.

Materials

- Subjects – any strain of mouse or rat may be used.
- Apparatus – Hot Plate (IITC Inc. Model 39) and included transparent cages
- Accessories: Thermometer

General Testing procedures:

- Animals should be acclimated to the testing room an hour prior to testing.
- The surface of the hot plate is heated to a constant temperature of $55^{\circ}\text{C} \pm 0.2$ as measured by the built in digital thermometer. Temperature should additionally be verified with a surface thermometer.
- The subject should be placed on the apparatus, covered with the transparent cage, and the timer should be started.
- The latency to respond with either a hind paw lick, hind paw flick, or jump (whichever comes first) is measured to the nearest 0.1 seconds by deactivating the timer when the response is observed.
- The maximum trial length is 30 seconds. Terminate the trial if the subject does not respond within that time.
- Remove the subject and return it to its home cage.

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Data Analysis

Compare the latency to response between each group.