



STANDARD OPERATING PROCEDURE

TITLE: Satellite Box Exploration in the Intellicage

CATEGORY: Behavioral Assay

Introduction

Goal: This document aims to provide the reader information on how to test novel environment exploration in the Intellicage.

Materials

- Subjects – any strain of mouse may be used.
- Apparatus – two Intellicages each with four gated, RFID-reading corners.
- Software – IntellicagePlus Designer, Controller, and Analyzer
- Accessories: Bedding that will not get caught in corner gates, plastic shelters (2 per cage centered under the food tray), water bottles (300mL, placed two per corner for a total of eight per cage), water containers (300mL, used to block corners when animals need to be removed and to weight down food tray and prevent animal escape), RFID tags and reader.

Test Settings

- Mice should be housed on a 12L/12D light cycle.
- Mice should be injected with RFID tags prior to placement in the apparatus.
- Multiple mice can be placed in each cage with a maximum of 15 mice per cage.
- Mice should be socially housed prior to the experiment.

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Testing procedures:

- A small satellite box should be attached to the apparatus prior to housing any mice in the Intellicage. The entrance to this box should be blocked.
- Mice should be given a period of time to habituate to the Intellicage. Water should be available at all four corners.
- The entrance to the satellite box should then be opened and the animals should be allowed to freely explore it for the next four days.

Data Analysis

Parameters of interest during include:

- Latency to first entrance into the satellite box
- Frequency of visits per day