Behaviour: Open field exploration (OF)

1. Purpose

Mice are recorded with digital video equipment exploring an open field for 5 minutes**.** Behaviours sensitive to detecting fear (or anxiety) and locomotion are analysed.

The purpose of the Open field is two-fold. Primarily it is used to establish the baseline level of anxiety-like behaviours. Secondly, some of the specific behaviours recorded are used to determine differences in locomotor activity.

2. Procedure

Mice are run in a white Perspex with matt finish open field, 75 cm square, with 42 cm high walls. The entire apparatus is placed on an IR light bed to facilitate the recording with InfraRed (IR) filtered cameras. The florescent lights are on at 1000 Lux.

Each mouse is placed in the corner of the open field and allowed to explore for 5 minutes, after which they are removed to their home cage and the maze is cleaned. To clean the maze, the entire surface to the open field is wiped down with Trigene wipes and allowed to air-dry.

Use mice housed and treated according to environmental conditions in the Battery Protocol.

HOME OFFICE LICENCED PROCEDURE?: YES (can be done under delegation).

3. Materials

- Noldus Ethovision version 3.1.16 (Tracksys, Nottingham UK)
- Elevated Open Field maze with IR lighting underneath (Tracksys, Nottingham UK) (75 x 75 cm (white matt interior), walls are 42 cm**)**
- Digital camera with IR filters (Tracksys, Nottingham UK)
- Transgene wipes (Medichem, Seven Oaks UK)
- AVID chip Identification reader

4. Quality Control

A panel of inbred strains are used to establish protocol. The WT mice are monitored for drift in the baseline phenotype. Video record of each mouse is recorded and archived, so if necessary, the tapes can be analysed subsequently. This may be for novel analysis or for confirmatory analysis.

The list of variables below are collected from each animal and downloaded into *g2c in_vivo*, the database for the behavioural data for subsequent analysis.

- for each of 3 separate zones (open arms, closed arms and central square)
    - In zone frequency
    - In zone total duration
    - In zone latency of first occurrence
- distance moved total
- distance moved max

6. Supporting Information

7. Document History

This document created on 21 January 2008.

Amended: 4 March 2008