



Open Field Test

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Summary:

The Open Field test evaluates locomotion, anxiety and exploratory behaviors. Mice are placed at the periphery of a 44.5 × 44.5 × 20 (cm) clear Plexiglas arena with their head facing the wall and allowed to explore for 20 minutes. Movements (speed) and time spent in specific zones are tracked by infrared sensors. Typically, mice will spend more time in the periphery of the open field (avoidance) rather than in the center.

Reagents and Materials:

Reagent/Material	Vendor	Stock Number
Opto-Varimex 4 Systems w. infra-red beams	Columbus Instruments	
Auto Trak 5 software	Columbus Instruments	
Room with fluorescent lighting		
Lab coats/gloves/PPE		
Disinfectant	Nolvasan 10%	

Protocol:

1. SET-UP (acclimation of mice, calibration of room light, software setup)

- Acclimate mice in quiet room for 30 min prior to testing. **NOTE: Test males and females separately, running males first.**
- Clean chamber floors and walls of the open field arenas with 10% Nolvasan.
- Set room lights set at 70.00 Lux measured on tabletop. Set OptoVarimex Chamber lights between 150-200 Lux measured with light meter on chamber floor pointing up.
- Turn analyzer system on. Be sure all lights are on (green).
- Configure OptoVarimex AutoTrak 5 program.

2. CONFIGURATION of OPTOVARIMEX Auto Trak

- Open Auto Trak 5 program and select "Setup New Experiment".
- Click on Data filename and enter the file name. Save the file in Project folder.
- Select the "start on Position" under Experiment Start Mode which will automatically record motion detected inside an arena.

- d. Set experiment length to 00 hours, 20 minutes.
- e. Enter the mouse id under Subject ID by clicking the box you want to change. Make sure to uncheck the “enabled” checkbox for any arenas you are not using.
- f. Press the Start button under “Experiment” when you are ready to start the experiment. After you hit Start, the “Action” column will populate with start buttons if you need to manually start or override an arena.

3. PROCEDURE

- a. Press the Start button under “Experiment” to start the experiment. After you hit Start, the “Action” column will populate with start buttons if you need to manually start or override an area.
- b. Take mice from cage and place in the middle of a peripheral zone of the arena facing the wall. The software should automatically start tracking as soon as it detects a mouse in the arena. Do this for all animals.
- c. Check the software “Status” column to ensure timers are running for all the cages and leave room.
- d. Return in 20 minutes when the run is finished.
- e. Remove animals and return to home cages. Thoroughly clean the arenas with 10% Nolvasan before the next run. At the end of the testing, clean arenas with Coverage Plus.
- f. Click Analyze in the Auto Trak software window.
- g. Under the “Map” column, look for any entries that say “No Map”, click those and select the “KOMP” map checkbox under the Settings tab.
- h. Set the Bin Length to 300 (5 minutes).
- i. In the top menu bar, click “File” then “Export All Subjects” then “All Analysis”. This will export the CSV in the same folder where you saved the experiment file.