🌐 EPM with room set-up and results

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1 *Works for me*   This document is published without a DOI.

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George lab protocol for EPM
by Lieselot Carrette and Marsida Kallupi
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Set up of the room (MTF video tracking room, see picture)
- Clear out the back square area of the room: remove anything unnecessary for the test
- Set up the maze in the middle with the arms pointing to the corners of the room
    o closed arms towards the upper right and lower left corners
    o directly under the camera mount that is attached to the ceiling (check recording that the maze is centered)
    o tape on the floor indicates correct position
- Set up the 2 red lamps on the tripods in-lign with the closed arms in the corners of the square area (~1m away from the edge of the maze, at the height of the closed arms) and shining away from the maze. Without any additional light this will create a lux level in the center of 5 without casting any shadows in any of the arms
- Table with equipment, computer table, cart with cages and your chair are outside of the square area, with you and the computer

behind the divider screen (ordered).
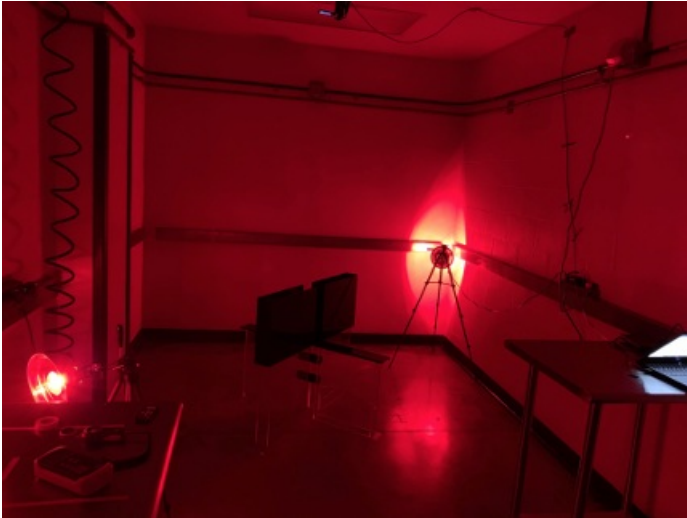
Test procedure for each rat:
- Clean the maze thoroughly between (or before or after) each rat with quatricide.
- Play white noise from the computer (with dimmed screen light, closed as much as possible). I used rain sound:https://www.youtube.com/watch?v=9oc8Fa7tb8c
- Start recording from the overhead camera (on or off-line with Anymaze software)
- Place rat in center of elevated plus maze with its head facing into a closed arm (keep placement of the rats in the maze consistent throughout the experiment and set timer to 5 min
- During the 5 min, you can manually score, but stay back from the maze, don't move and be quiet to not influence the animal's behavior. Preferentially stay behind the screen.
- At the end of the 5 minutes, take out the rat. Optionally stop the recording between each rat.

Analysis of the videos with Anymaze software is analyzed blind, by a researcher unfamiliar with the animal groups (see protocol by Cristina Corral)

Data in the graph below are the results obtained with this protocol on 8 naïve Wistar rats: 4 females (BW ~300 g) and 4 males (BW ~500 g)
- automatic analysis by Anymaze tracking 85% of body
- % open arm time = open arm time/5 min
- % open arm entries = open arm entries/(open and closed arm entries)
*leave out center entries