Shock Center Protocol

Protocol: Spontaneous Alternation

Date: 2/9/17
Originator: J Neal

Note:

Following is the MNBF protocol for Spontaneous Alternation. Shock Center performs Spontaneous Alternation in the MNBF with their equipment.

Habituation

1) Before moving mice to MNBF for habituation, number the tail of each animal before placing in box.
2) Load boxes, as they are completed, onto a pallet for transportation to MNBF
3) Once in Spontaneous Alternation room, turn room lights to their lowest setting using dimmer. Turn on test lights which are plugged into a power strip beside the computer.
4) Allow mice to habituate for 1 hour

Setting up Experiment

5) Open Ethovision XT program from desktop. Under Create a New Experiment, select New Template Experiment followed by Use a Custom Template and browse for the Template folder. Open the "Spontaneous Alteration Template" experiment file within that folder and click OK.
6) Name your new experiment. Do not use symbols in experiment name, except dashes or underscores. Keep the name short, if there are too many symbols the sequence tracker program, which analyzes arm entry order, may not work.
7) Under Setup tab, click on Arena Settings and grab a background image. Adjust arena borders if necessary since the Y maze position can shift during cleaning. Reposition center zone lines if necessary.
   Note: If any of the arenas do not appear in the background image, the light board is either not plugged in or broken. Try to fix the connection but if you can't then DO NOT use the arena because the mice will not be detected.
8) Under Setup tab click on Trial Control Settings. Check that Condition-Time (1) states "after a delay of 8 minutes." 8 minutes is the total amount of time your mouse will be tested in the maze.
9) Under Setup tab click on Trial List. You need only add the mouse IDs to the Subject ID column. Arena, Trial Control, and Detection settings columns can be kept blank.

Running Experiment

10) Wipe down arenas with 70% ethanol so that the first group is exposed to ethanol scent. This maintains consistency as all mice tested after the first group will be exposed to 70% ethanol after cleaning the arena.
11) Cover maze with lid and additional Plexiglas rectangles at the end of each arm, leaving only the front entry arm uncovered.
12) Under Acquisition tab, click Acquisition and navigate to Acquisition Control window (if not visible, go to Show/Hide dropdown in right left corner of page and select Playback Control.) Click the camera symbol  to reset the background. Press green play button (a circle) to begin acquisition for your

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first set of 2 mice. Add mice to the open entry arm and then cover with Plexiglas rectangle. Once the program detects the mouse it will begin recording for 8 minutes.

13) Wait until testing has ended for both mice. Remove mice and return to home cage.
14) Thoroughly wipe down maze floor and walls with 70% ethanol.
15) Repeat steps 9-12 with next set of mice until finished.
16) At the end of testing, unplug light boxes and turn off testing light power strip.

Collecting Data

17) Under Analysis tab, select Export> Raw Data.
18) By default the destination folder should be the Export Files Folder of your experiment:

    Click Start Export. Close Ethovision when export is complete.
19) Follow the Sequence Tracker instructions guide to collect arm entry sequence data.