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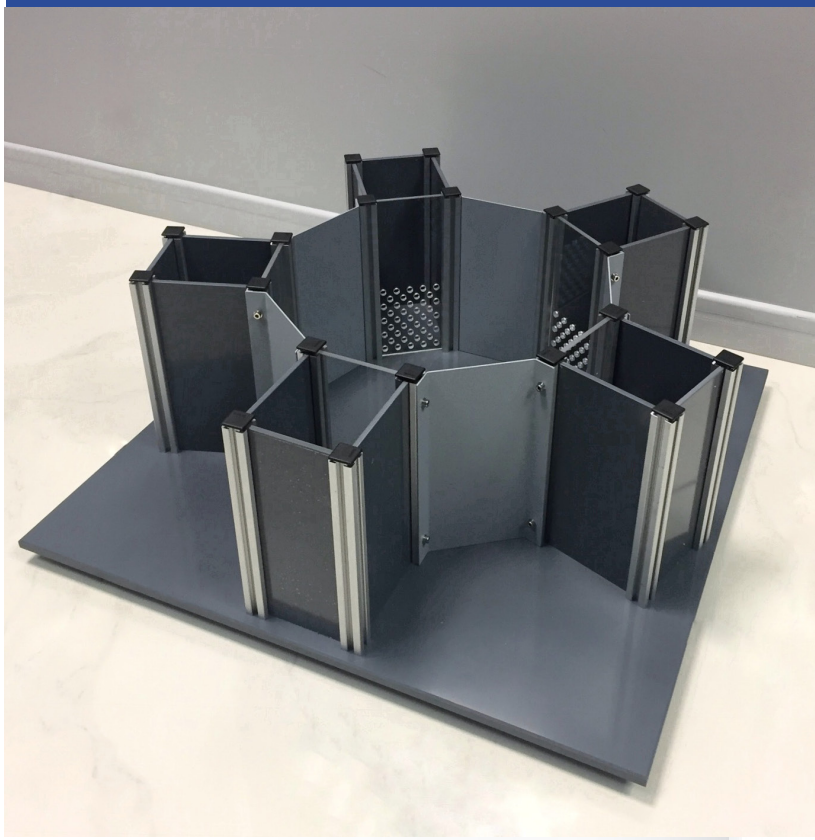
BEHAVIOUR, MAZES, TRACKING

Agora Maze
(Socio-Box Test for Mice)

Cat. No. 46573



General

"A fundamental prerequisite for living in social communities is a highly complex set of social skills that governs interactions between individual members of a group. In consequence, impairments in these social skills, prominently prevalent in human psychiatric disorders such as autism and schizophrenia, have devastating consequences for individuals and society" (Meyer-Lindenberg and Tost, 2012; Lai et al., 2014; Green et al., 2015).

Research has shown that, although human social behavior is generally more complex, humans and animals share some aspects of social behavior; developing new tools for the assessment of social skills in mouse models is essential to further advance in the understanding of these diseases.

We have designed a **new social interaction cage**, based on the **SocioBox** model (see bibliography).

The experimental design of the new **Agora Maze** allows evaluation of preference for social novelty or the propensity to spend time with a previously un-encountered mouse rather than with a familiar mouse.

The main principle of this test is based on the free choice by a subject mouse to spend time in any part of an open circular arena (*αγορα, the name is reminiscent of the central public space in ancient Greek city-states, literally meaning "gathering place")* attached to 5 cubicles with an animal inside each.

NEW SOCIABILITY TEST

- Social Interaction
- Social Memory & Novelty
- Gender Difference
- Autism
- Parkinson Disease
- Schizophrenia

Main Features

- Optimized for Videotracking
- The grey floor gives high contrast with both light and dark animals
- One central Arena, and 5 external boxes for stimulus mice
- Transparent, perforated dividers to permit social interaction and exchange of odors
- Designed for quick replacement of stimulus mice
- Can be quickly disassembled to facilitate cleaning

Ugo Basile: more than 25,000 citations

AGORA-MAZE
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Rationale of the Test

The Method (SocioBox) was originally described by D.Krueger-Burg et alia, in their paper "*The SocioBox: a Novel Paradigm to Assess Complex Social Recognition in male Mice*".

The original design, a large central square, and 5 cubicles positioned around its perimeter, enables confronting the subject (a wild--type male mouse) with 5 timulus mice, and subsequently see how readily the subject identifies an unfamiliar mouse among 5 newly acquainted animals.

The SocioBox therefore allows diagnosis of social recognition deficits, prevalent in human psychiatric disorders such as autism and schizophrenia.

In contrast, female mice exhibit lower locomotor activity during social exploration and little or no social recognition in the SocioBox paradigm, likely reflecting inherent differences in gender-specific territorial tasks.

The ***Agora***, the model we designed based on the SocioBox paper, was used at University of Aberdeen with the specific interest in smell related behaviours, with the purpose of understanding mechanisms of PD.

An early phenotype of PD is *anosmia* (loss of the sense of smell) may be translated to animals using a behavioural task that is dependent on smell as well as social interaction (see bibliography).

Outline of the Procedure

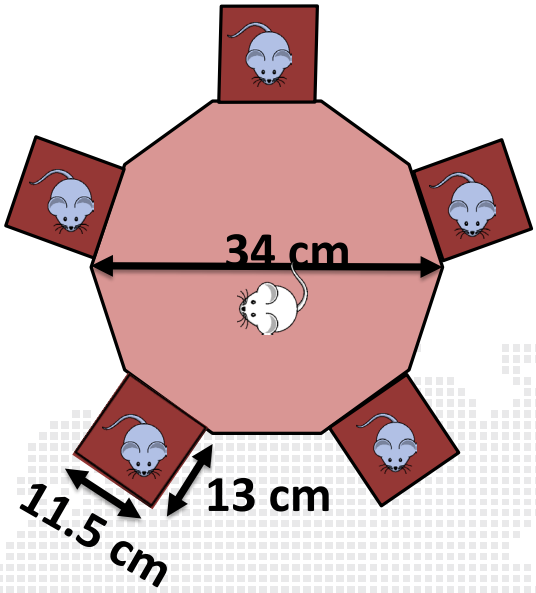
in the habituation session the test animal is exposed to the empty arena for 10 min. in the test session, 5 stranger mice are confined in the cubicles around the perimeter of the arena and the experimental mouse can select between up to 5 partners for social interaction.

In the recognition phase the test animal is conflicted with a novel and 4 familiar interaction partners.

The Agora Maze

The Agora Maze 46573 consists of a 50x50cm grey base, on which 5 cubicles, and 5 blank walls are conveniently positioned to enclose a central square, having a cross diameter of 34 cm.

The 5 cubicles are dimensioned 13x11.5cm, with 25cm height. Social interaction in rodents and especially mice is highly dependent on smell; detachable clear sliders, divide each cubicle from the central square; holes in the clear panels permit exchange of odors.



The whole device can be easily disassembled for cleaning between tests.

Videotracking

The Agora is optimized for videotracking, the ideal tool to automatize the test, allowing the experimenter to record the session without being present in the room.

Additional parameters can be recorderd, such as time spent, as well as distance travelled by the mice in the area closer to the wall of the arena and in the centre.

Images courtesy of Institute of Medical Sciences, University of Aberdeen, UK

Ordering Information

46573 **Agora-Maze**, Sociability Apparatus for Mice, complete

Physical

Dimensions	61x58x27(h)cm
Weight	9Kg
Shipping Weight	14Kg
Packing	80x60x44cm

Bibliography

Method Paper

- D. Krueger-Burg et alia: "**The SocioBox: a Novel paradigm to Assess Complex Social Recognition in Male Mice**" Front. Behav. Neurosci., 11 August 2016 - https://doi.org/10.3389/fnbeh.2016.00151

Papers citing the Agora

- S. Sanchez-Garcia & G. Riedel: "**Agora: a Complex Social Recognition Paradigm**" poster presented at Measuring Behavior 2018