

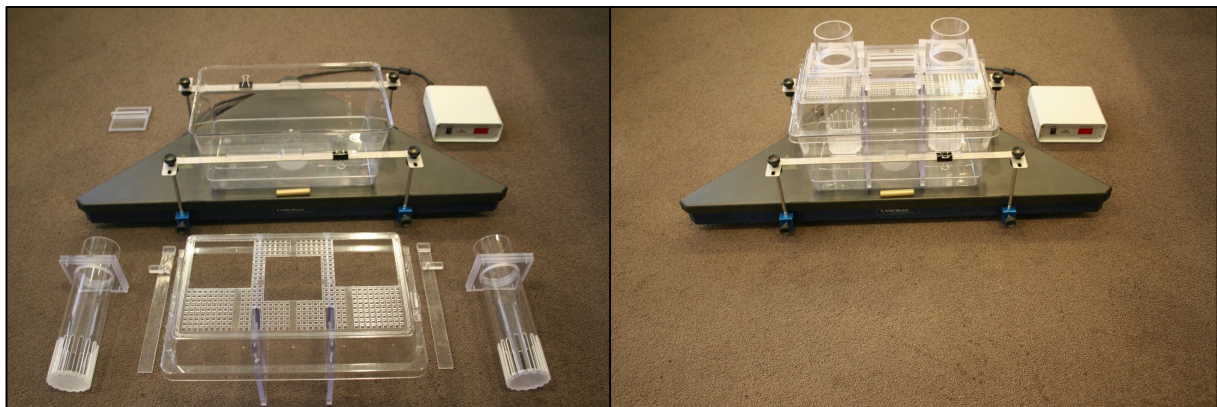
Sociability Test (mice)

LABORAS™
Let the computer score!

Definitions for the Automated Sociability Test

The LABORAS Sociability Test is the automated version of Sociability Test which is also known as the 3-Chamber Paradigm or Crawley's protocol for Sociability and Social novelty preference.

The LABORAS Sociability Cage consists of a standard Type-3 home cage which is divided in 3 chambers using two walls with sliding doors that control access to the left and right chamber. The left and right chamber each contains a cylinder in which another (familiar or unfamiliar) mouse can be introduced.



Usually the Sociability Test consists of one of the following protocols:

- 1) The cylinder in one chamber contains an unfamiliar conspecific (stranger 1) and the cylinder in the other chamber is empty (*Sociability preference*)
- 2) In the second phase, the now familiar conspecific (stranger 1) is introduced in the cylinder of one chamber and a second unfamiliar conspecific (stranger 2) is introduced in the (initially empty) cylinder in the other chamber (*Preference for Social novelty*)
- 3) As a variation on protocol 1 and 2, two unfamiliar conspecifics (strangers) can be introduced from the start in each of the cylinders in the left and right chamber.

The unfamiliar conspecifics (strangers) in the Sociability test can be a different strain of mice and also variations in genetics, age or gender can be used as part of the social behavior test protocols.

The test subject is introduced in the center chamber which serves as a neutral starting point of the test. In LABORAS the mouse cannot leave the center chamber before the doors are opened. This allows the researcher to precisely choose the start moment of the Sociability Test.

After opening the doors LABORAS determines the following parameters:

- the number of each chamber and each contact zone
- the time spent in each chamber and each contact zone
- the latency time to left and right chamber and left and right contact zone

The size of the contact zone can be adjusted in the LABORAS software.

LABORAS makes it possible to collect data of up to 8 Sociability Cages at the same time. To enable this kind of higher throughput testing, the LABORAS system allows individual start of each LABORAS platform which gives the animal technician ample time to prepare and start each Sociability Cage.

LABORAS provides also additional information including position tracking and behavioral data and can be easily combined with our Sonotrack Ultrasonic Vocalization measurement equipment, which can strengthen the application of the Sociability Test.

Pharmacological relevance

The Sociability Test provides a method to evaluate two important but distinguishable aspects of social behavior of the subject mouse: social affiliation/motivation, as well as social memory and novelty.

Several neuropsychiatric disorders are characterized by disruptions in social behavior and social recognition, including depression, autism spectrum disorders, bipolar disorders, obsessive-compulsive disorders, and schizophrenia.

In laboratory tests Sociability in mice is often investigated by comparing different mouse strains such as C57BL/6J, DBA/2J and FVB/NJ and CD-1, having different genetic backgrounds and social behavior.

Various pharmacological studies have also investigated the effect of dissociative drugs (such as PCP) to deteriorate social behavior and psychostimulant drugs (amongst others MDMA) to ameliorate decreased social behavior by diminishing responses to threatening stimuli and enhancing responses to rewarding social signals.

Integrative research using appropriate animal models and tests for social behavior may lead to the development of improved treatments for social psychopathologies.

For more information or other behaviors automatically detected by LABORAS, please visit the LABORAS page on our website.

