We validated and optimized a new mouse sociability algorithm of LABORAS system with the comparison of results determined by t-tests. A target mouse DBA/2 strain was used and placed into the cylinders, except when DBA strain was measured wherein NMRI mice were used. Male mice weighing 25-40 g were obtained from the following breeders: NMRI from TsuCoop, Hungary; C57Bl/6J and DBA/2 from Envigo (formerly Harlan), Germany/UK, and CD-1 from Charles River, Germany. Drugs and vehicle (phys. saline) were administered intraperitoneally in a volume of 10 ml/kg. Statistical analysis was performed with GraphPad Instat or GraphPad Prism (GraphPad, San Diego, USA).

**Background:**
Autism spectrum disorder is characterized by impaired sociability as one of the major symptoms in humans. The novel 3-chamber sociability test is a widely accepted animal behavioural assay which can be used to examine social behaviour of rodents [1,2].

**Aim of the study:**
Here we designed and validated a new algorithm to measure social preference of mice in an automated behavioural analysis system (LABORAS®), Metris b.v., the Netherlands [3]. The system allows parallel automated observations therefore, time and labour consuming observational work can be replaced. Validation involved the investigation of three different strain groups, their social preferences and the effects of drugs (3,4-methylenedioxymethamphetamine (MDMA) and phencyclidine (PCP)). Furthermore, it was also investigated how aggression contributes to social behaviour in this assay.

**Methods:**
As a target mouse DBA/2 strain was used and placed into the cylinders, except when DBA strain was measured wherein NMRI mice were used. Male mice weighing 25-40 g were obtained from the following breeders: NMRI from TsuCoop, Hungary; C57Bl/6J and DBA/2 from Envigo (formerly Harlan), Germany/UK, and CD-1 from Charles River, Germany. Drugs and vehicle (phys. saline) were administered intraperitoneally in a volume of 10 ml/kg. Statistical analysis was performed with GraphPad Instat or GraphPad Prism (GraphPad, San Diego, USA).

**Conclusion:**
1. We validated and optimized a new mouse sociability algorithm of LABORAS system with the comparison of results determined by the system and the scores of two independent blinded observers.
2. We could measure alteration of sociability due to:
   - increase of time spent in contact with social cylinder or
   - decrease of avoidance and less time spent in contact with the empty one.
3. Changes in sociability caused by drugs and at the same time their effect on activity could also be measured with this novel sociability set-up in mice.