CENTRAL NERVOUS SYSTEM
Novel Object Recognition

The spontaneous object recognition task has become the test of choice for assessing aspects of declarative memory in rodents. The paradigm consists of two phases. In the sample phase animals are exposed to two identical objects (A1 and A2) in an open field arena. After a variable retention delay animals are reintroduced to the apparatus which now contains one object identical to the sample phase (A1) and one new object (B1) never before seem[1]. Normal rats will preferentially explore the new object in this choice phase. Temporal lobe alterations such as Alzheimer disease can cause object recognition deficit [2].

Species: *Rattus norvegicus* (Sprague Dawley)
Number of animals/group: 8 - 10 animals
Route of administration: upon request
Treatment mode: upon request

Main read-outs: total time investigating objects
Facultative read-outs: ambulation, discrimination ratio

Validation Data

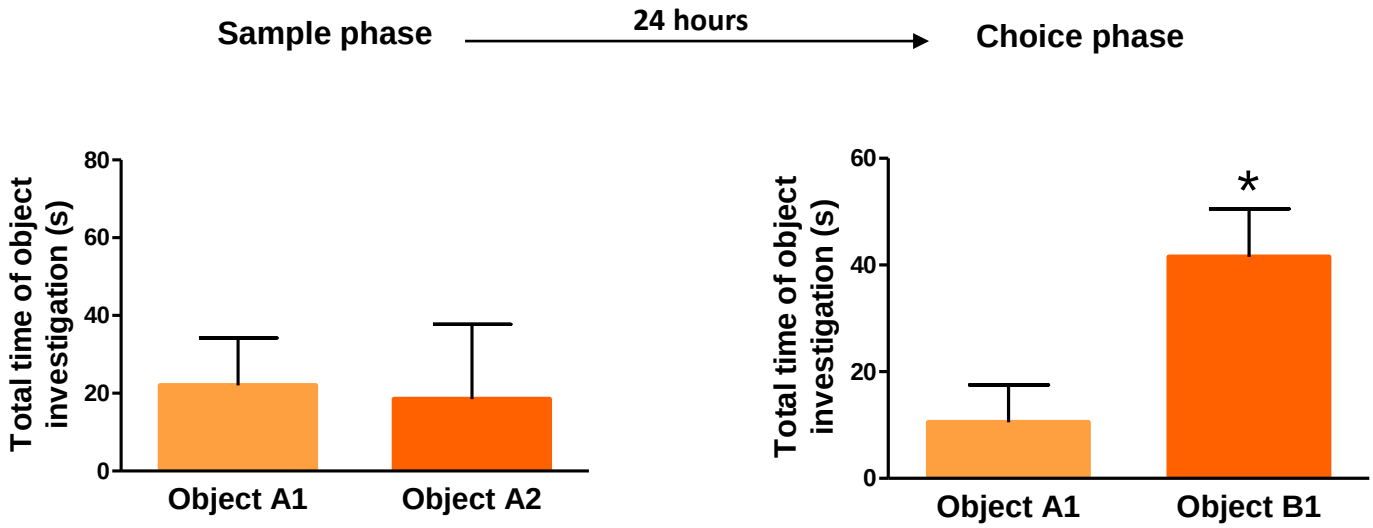

Figure: Objects exploration time in the sample phase (two identical objects, A1 and A2) and in the choice phase (one new object is introduced, A1 and B1). In the sample phase both objects are equally investigated. In the choice phase animals expend more time exploring the new object. Each column represents median ± interquartile range. Non-paired Mann-Witney test was used for statistical analysis *,$P < 0.05$.

To avoid bias and to allow reproducibility all *in vivo* experiments follow the ARRIVE guidances[3]. Rat colony originated from Charles River Laboratories is breed and maintained in SPF conditions. Raw data are inspected by quality assurance unity. The experimental procedures were approved by the CIEnP Committee on the Ethical Use of Animals.

References:

1 - Winters BD, Saksida LM, Bussey TJ. Object recognition memory: neurobiological mechanisms of encoding, consolidation and retrieval. Neurosci Biobehav Rev. 2008 Jul;32(5):1055-70.

2 - Vann SD, Albasser MM. Hippocampus and neocortex: recognition and spatial memory. Curr Opin Neurobiol. 2011 Jun;21(3):440-5

3 - Kilkenny C, Browne WJ, Cuthill IC, Emerson M, Altman DG. Animal research: reporting in vivo experiments: The ARRIVE guidelines. PLoS Biol. 8 (6): e1000412, 2010.

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