

OBJECT RECOGNITION TEST

Key-words: Memory, Attention, Exploratory behavior, Alzheimer, Aging

The object recognition test measures **non spatial memory** in rodents^(1,2,3). It can be conducted on mice and rats.

Rationale – Memory is assessed by measuring animal's ability to recognize an object previously presented.

This test gives information on: **Short-term or long term memory**
The promnesic or the amnesic effect of a drug
Exploratory behavior, which is related to **attention**

Method – The animal is subjected to two 6-min trials in an open-field. On the sample trial, the animal is exposed to two identical objects. On the choice trial, the animal is tested with one of the objects presented on the sample trial (familiar object) and a new object. The time spent in exploring objects is recorded on the two trials.

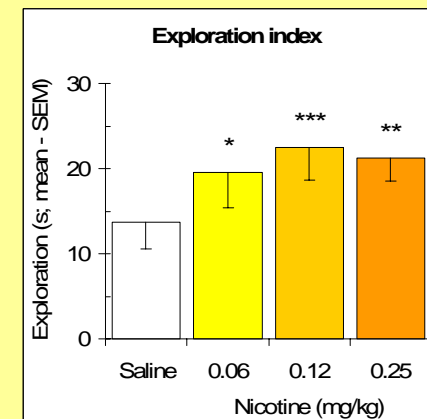
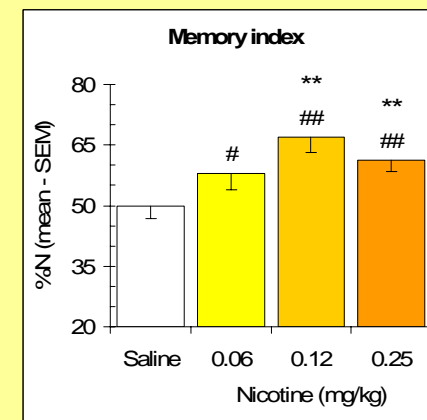
- **The memory index** is the percentage of time spent in exploring the new object on choice trial: %N
 → %N > 50% in an animal which remembers the familiar object
- **The exploration index** is the time spent in exploring objects on sample trial

Example

Nicotine: Increases the memory index, i.e. improves memory
Increases the exploratory behavior

- References;**
1. Ennaceur and Delacour, Behav. Brain Res. 31:47-59, 1988
 2. Puma et al., Eur Neuropsychopharmacol 9:323-327, 1999
 3. Bizot et al., Prog Neuropsychopharmacol Biol Psychiatry 29:928-935, 2005

Effect of nicotine in C57BL/6 mice



Difference vs. 50%: # p < 0.05; ## p < 0.01
 Difference vs. Saline: * p < 0.05; ** p < 0.01; *** p < 0.001