

MARBLE BURYING TEST

Rationale Rodents use bedding material to bury noxious as well as harmless objects. Inhibition of object burying can be used as a screening test for anxiolytic activity and for treatments for obsessive-compulsive disorder (OCD) ^(1,2).

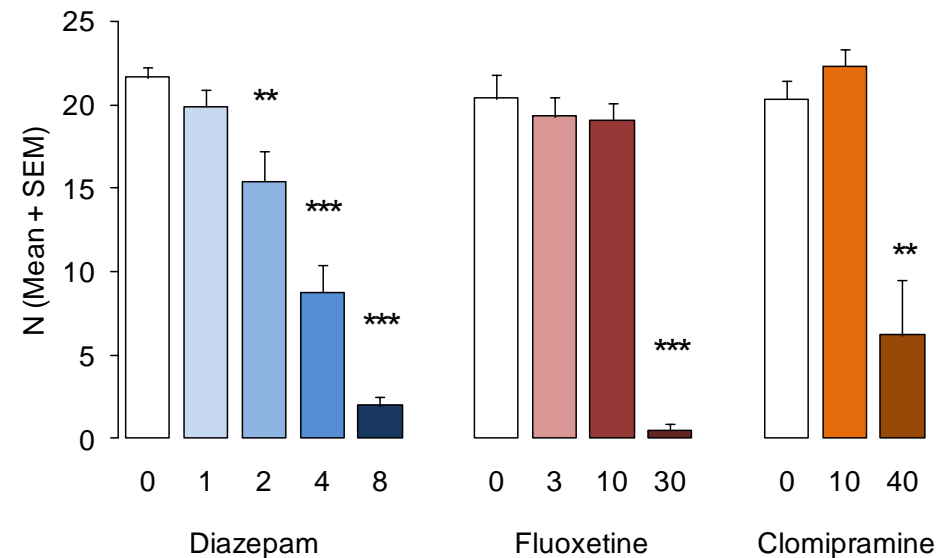
Method Animals (Swiss male mice) are individually placed for a 30-min session in an open-field covered with sawdust. Twenty-five clean glass marbles are evenly spaced 5 cm apart on sawdust. The number of marbles buried is counted at the end of the session.

→ *The number of marbles buried is an index of anxiety-related behavior and of obsessive-compulsive behaviors.*

Anxiolytic drugs and drugs which reduce OCD decrease the number of marbles buried.

Results Fig. 1 shows that the number of marbles buried is reduced by a benzodiazepine receptors agonist used as anxiolytic, diazepam, and by two serotonin uptake inhibitors which are active in OCD ⁽³⁾, fluoxetine and clomipramine.

*Fig.1 – Effects of diazepam, fluoxetine and clomipramine (doses in mg/kg) on the number of marbles buried. Differences vs control group (0 mg/kg: open bars): ** $p \leq 0.01$; *** $p \leq 0.001$.*



Conclusion These results indicate that **the marble burying test allows to evaluate the potential efficacy of drugs for treatments of anxiety and of OCD.**

References

1 Broekkamp CL et al, Eur J Pharmacol 126:223-229, 1986

2. Joel D, Prog Neuropsychopharmacol Biol Psychiatry 30:374-388, 2006

3. Greist JH et al, CNS Spectr 8(suppl 1):7-16, 2003