

### ANTAGONISM OF EFFECTS OF APOMORPHINE

**Rationale** The dopaminergic agonist apomorphine produces several effects in mice, such as stereotypy, verticalization (climbing behaviour) and hypothermia. These effects are reduced by various class of antipsychotic drugs <sup>(1,2,3)</sup>.

**Method** Animals (Swiss NMRI male mice) are individually placed in transparent observation boxes. They receive placebo, apomorphine (1 mg/kg) or apomorphine plus the drug under study. Three parameters are measured 20-30 min after apomorphine injection:

- ➔ Stereotypies, graded 0 (absent) to 3 (intense).
- ➔ Verticalizations, graded 0 (normal position) to 1 (verticalization).
- ➔ Rectal temperature (in °C).

**Results** Apomorphine induces verticalizations (Fig. 1A), stereotypies (Fig. 1B) and hypothermia (Fig. 1C). The typical antipsychotic haloperidol reduces the three effects of apomorphine. The atypical antipsychotic clozapine reduces stereotypies and verticalizations but increases hypothermia induced by apomorphine.

**Conclusion** These results indicate that the Apomorphine test allows to evaluate the potential efficacy of antipsychotics and to differentiate between typical and atypical antipsychotics.

- References**
1. Puech AJ et al, Psychopharmacology 75:84-91, 1981
  2. Takahashi S et al, Psychopharmacology 145:295-302, 1999
  3. Park WK et al., Pharmacol Biochem Behav 82:361-372, 2005

**Fig.1 – Effects of haloperidol (Halo) and of clozapine (Cloz) on verticalizations (A), stereotypies (B) and hypothermia (C) induced by apomorphine. Differences vs Apomorphine group (black bars): \* p≤ 0.05; \*\*\* p≤ 0.001.**

