

TEST OF CHRONIC MILD STRESS (CMS)

Key-words: Depression, Anhedonia, Antidepressants

The test of CMS measures **anhedonic-like state**, which is a core symptom of **depression**, in rodents ^(1,2).

Rationale – One of the core symptoms of depression is the inability to feel pleasure, namely anhedonia. Stress plays a key role in triggering depression. In the test of CMS, animals are subjected to stressors. These stressors induce a decrease in sucrose consumption, indicating an anhedonic-like state. This effect is reduced by antidepressants.

Method – Animals are subjected to a chronic mild stress (CMS). The intake of a sucrose solution is measured once a week. Drug testing begins when CMS induces a significant and stable decrease in sucrose intake. Animals receive daily injections of the drug studied or vehicle for control group.

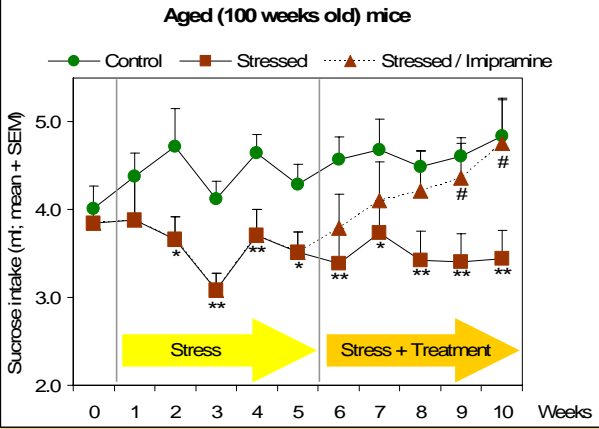
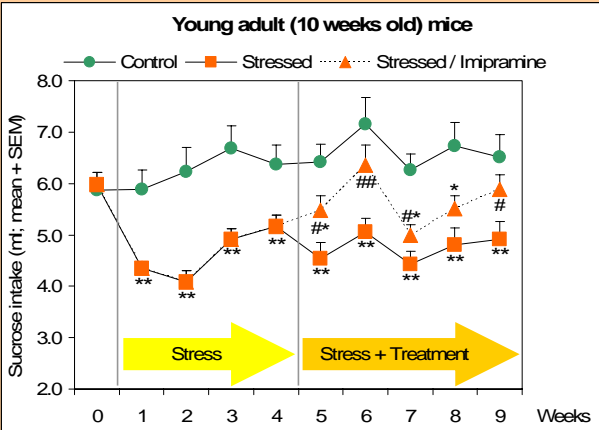
- **The index of anhedonia** is the amount of sucrose consumed.
A decrease in sucrose intake indicates anhedonic-like state.

Example

Imipramine, a reference antidepressant compound antagonizes the decrease in sucrose intake induced by CMS in both young adult and aged mice
This decrease of anhedonic-like state indicates an antidepressant effect

References; 1. Willner et al, Psychopharmacology (Berl), 93:358-364, 1987
2. Pothion et al., Behav Brain Res 155:135-146, 2004

Effect of imipramine (20 mg/kg, 1 injection/day) on sucrose intake in CBA/H mice



Difference vs. Control group: * p<0.05; ** p<0.01
Difference vs. Stressed group : # p<0.05; ## p<0.01