

## STRESS-INDUCED HYPERTHERMIA

*Key-words: Anxiety, Stress, Hyperthermia, Temperature Anxiolytics*

The stress-induced-hyperthermia (**SIH**) test is a model of **anxiety-related** behavior in mice <sup>(1,2)</sup>.

**Rationale** – The anxiety-related behavior is measured by the increase in body temperature induced by manipulation.

**Method** – Singly-housed mice are subjected to two measurements of rectal temperature, 15 min apart. The first measure of temperature (T1) induces a stress which causes an hyperthermia. **SIH** is measured by the difference of body temperature between the second measure (T2) and the first one: **Delta (T2-T1)**

- Delta (T2-T1) is an index of anxiety-related behavior.  
→ Anxiolytic drugs decrease Delta (T2-T1)

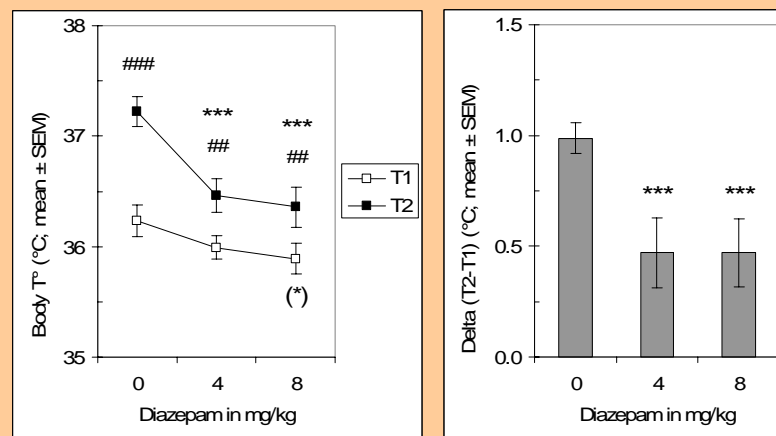
**Example**

**The anxiolytic drug diazepam decreases the SIH.**

**References;**

1. Groenink et al., Pharmacol Biochem Behav 54:249–254, 1996
2. Bouwknecht et al., Neurosci. Biobehav. Rev. 31:41–59, 2007

**Effect of diazepam (injected per-os 60 min before the test) on the first measure (T1) and on the second measure (T2) of temperature (left) and on the Delta (T2-T1) (right) in C57BL/6J male mice.**



Difference vs. control group (Diazepam 0 mg/kg): (\*) 0.05 < p < 0.10; \*\*\* p < 0.001.  
Difference T2 vs. T1: ## p < 0.01; ### p < 0.001