

O-29: EFFECT OF ST. JOHN'S WORT EXTRACT AND SINGLE COMPOUNDS ON STRESS INDUCED HYPERTHERMIA IN MICE

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Emotional or stress induced hyperthermia (SIH) is the rise of body temperature following exposure to psychological stress and has been demonstrated across species. In the present experiments we used exposure to an open field (OF) as inescapable stressor. Exposure of male BL6/C57J mice to OF stress significantly increased body temperature ($\Delta T = 1.3\text{ }^{\circ}\text{C}$, $p < 0.05$). Home cage animals did not show alterations in body temperature. Distinct classes of drugs probed the mechanism of OF induced hyperthermia (OFIH). Specifically, we tested the ability of an extract of St. John's wort (STW3), hypericin, hyperforin as well as selected flavonoids to inhibit the ΔT rise of OFIH. Oral administration of STW3 (500mg/kg) as well as hypericin (0.1 mg/kg) 60 min prior to testing significantly decreased ΔT ($p < 0.05$) in the OF group. The effects were comparable to those of the reference compounds diazepam (1 mg/kg) and propranolol (5 mg/kg). Hyperforin (8 mg/kg) did not affect ΔT . In conclusion, the OFIH is a simple, discrete stress paradigm for detecting stress reactivity. The mediators of psychogenic hyperthermia remain unknown but probably involve a complex integration of GABAergic and β -adrenergic signals.