

## Effects of Galanin N-Terminal fragment (1-15) in the anhedonic behavioural tests in rats.

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The Galanin N-terminal fragment (1-15)[GAL(1-15)] induces depressant- and anxiogenic-like actions in behavioural tests in rats. Since anhedonia is a core feature of depression, we have analyzed GAL(1-15) actions in anhedonic-like behaviour tests: saccharin Self-administration, Sucrose Preference test (SPT), Novelty suppressed feeding (NSF) and Female urine sniffing test (FUST).

Three sets of experiments were conducted in the saccharin Self-administration. First, a dose-response curve of GAL(1-15) 1nmol, 3nmol or vehicle was performed. We have also compared the effects in the number of saccharine reinforcements of GAL 3nmol and GAL(1-15) 3nmol. In the last experiments, rats received GAL(1-15) 3nmol and the GALR2 antagonist M871 3nmol. In SPT, NSF and FUST we have analyzed the effects of GAL(1-15) 3nmol in the sucrose intake and preference, the latency of the first feeding episode and the female urine sniffing duration respectively.

GAL(1-15)3nmol significantly decreased the number of reinforcement of saccharin self-administer ( $p < 0.01$ ), while 1nmol lacked effect. GAL(1-15) also significantly reduced the number of reinforcement ( $p < 0.01$ ) compared with GAL. The GALR2 antagonist significantly blocked ( $p < 0.05$ ) the decrease in the number of saccharin reinforcements induced by GAL(1-15). The administration of GAL(1-15) decreased the sucrose intake 8 ( $p < 0.05$ ) and 24 hours ( $p < 0.01$ ) In the SPT, increased the latency of feeding ( $p < 0.001$ ) in the NSF and significantly decreased sniffing duration in the FUST.

All these results indicate that GAL(1-15) induces a strong anhedonia-like phenotype in several behavioural tests, confirming an important role of this neuropeptide in anhedonia.

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