

# **Galanin N-Terminal fragment (1-15) induces a stronger effect than Galanin in depression- and anxiety- like related behavioural tests in rats.**

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Galanin (GAL) and GAL Receptors are implicated in anxiety- and depression-related behaviours. The GAL N-terminal fragment (1-15) [GAL(1-15)] also induces depressant- and anxiogenic- like actions. In this work, we have compared the effects of GAL and GAL(1-15) in depression- and anxiety- related behaviours using the Forced Swimming Test (FST) and the Open Field Test (OFT).

In the first set of experiments, rats (n=8-10) were injected with GAL 3nmol, GAL(1-15) 3nmol or vehicle 15min before the FST. Two sessions were conducted: a 15min. pre-test followed 24h later by 5min. test. The duration of immobility and climbing were recorded during the test. In the second set, rats (n=6-10) were injected with GAL 3nmol, GAL(1-15) 3nmol or vehicle 15min before the OFT. Time and entries in the central square during 300 Sec. were scored.

In the FST, the increase in the immobility induced by GAL(1-15) was significantly higher ( $p<0.01$ ) than the one induced by GAL. In the climbing response GAL(1-15) also induced a significantly stronger decrease ( $p<0.05$ ) in climbing compared with GAL.

In the OFT, GAL(1-15) significantly decrease the number of entries ( $p<0.01$ ) and time ( $p<0.05$ ) in centre while GAL lacks of effect.

These results indicate that GAL(1-15) has more powerful effects than GAL in depression-like behaviour in the FST and anxiogenic-like effects in the OFT. These findings may give the basis for the development of novel therapeutic drugs targeting GAL(1-15) system for treatment of depression and anxiety disorders.

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