

GALANIN N-TERMINAL FRAGMENT (1-15) MODIFIES THE 5-HT_{1A} RECEPTOR AGONIST [H³]-8-OH-DPAT BINDING IN THE DORSAL RAPHE AND HIPPOCAMPUS OF THE RAT.

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We have described that Galanin N-terminal fragment (1-15) [GAL(1-15)] is associated with depressive effects and also modulates the antidepressant effects induced by the 5-HT_{1A} receptor (5-HT_{1A}R) agonist 8-OH-DPAT. The aim of this study is to analyze the ability of GAL(1-15) to modulate 5-HT_{1A}R at the autoreceptor and postsynaptic receptor level in rats by using quantitative autoradiography.

We analyzed the effect of intracerebroventricular GAL(1-15)-3nmol (n=6) or aCSF (n=6), 10 minutes, 2 and 5 hours after the injection, on the binding characteristics of the 5-HT_{1A}R agonist [H³]-8-OH-DPAT in sections of the Dorsal Raphe (DR) and Dorsal Hippocampus, specifically CA1 and Dentate Gyrus (DG). Student's *t*-test was used to compare the experimental groups.

GAL(1-15) produced a time-dependent effect on the binding of [H³]-8-OH-DPAT. In CA1 and DG, a significant increase in the K_D and B_{max} was observed, by 90%($p < 0.05$), at 10 minutes and 2 hours after injection. However, 5 hours after GAL(1-15) the only significant change remaining was the increase in B_{max} at the DG.

The coinjection of the GALR2 antagonist M871 blocked significantly the effects induced by GAL(1-15) in both areas.

In DR, 2 hours after injection GAL(1-15) only produced a decrease in the B_{max} by 20%($p < 0.05$).

These results indicate that GAL(1-15) interacts with 5-HT_{1A}R at the receptor level in DR and Dorsal Hippocampus. Therapeutic strategies based on these results could be developed for the treatment of depression disorders.

This work has been supported by Junta de Andalucía CVI646 and Spanish Ministry of Economy PSI2013-44901-P.