

GALANIN(1-15) ENHANCED THE ANTIDEPRESSANT-LIKE EFFECTS OF ESCITALOPRAM IN THE OLFATORY BULBECTOMY RATS IN THE FORCED SWIMMING TEST THROUGH 5-HT1A RECEPTORS.

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We previously described that Galanin (1-15) [GAL(1-15)] enhances the antidepressant-like effects induced by the SSRI Fluoxetine in the forced swimming test (FST) in naïve rats. In this work, we have analyzed in olfactory bulbectomy rats (OBX) the effect of GAL(1-15)-Escitalopram (ESC) combination in the FST and the involvement of GALR and 5-HT1A receptors in these effects. In the first set of experiments, OBX rats received three injections of ESC (10mg/Kg) (23, 5 and 1 hour) and a single injection of a threshold dose of GAL(1-15) (1nmol) and GALR2 antagonist M871 (3nmol) alone or in combination 15 minutes before the FST. Secondly, we have generated siRNA 5HT1A knockdown rats, and we have evaluated the effects of ESC and GAL(1-15) administration in the FST. One-way ANOVA followed by Fisher's least significant difference test was used. In the FST, GAL(1-15) (1nmol) enhanced the antidepressant-like effects of ESC, reducing immobility ($p<0.05$) and increasing the swimming time ($p<0.05$). M871 blocked the behavioural effects of GAL(1-15) in the immobility time ($p<0.001$) and in the swimming time ($p<0.05$) in the FST. Moreover, the decrease in 5-HT1AR was sufficient to block GAL(1-15) enhancement of the antidepressant-like effects mediated by ESC. Our results indicate a potent effect of the combination GAL(1-15) with SSRIs in reversed depressive symptoms in the animal model of chronic depression OBX. The results open up the possibility of using GAL(1-15) in combination with SSRIs as a novel strategy for treating depression.

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