

## EFFECT OF INTRA-TEGMENTAL MICROINJECTIONS OF 5-HT<sub>1B</sub> RECEPTOR LIGANDS ON THE AMPHETAMINE- -INDUCED LOCOMOTOR HYPERACTIVITY IN RATS

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Previous research demonstrated that the mesoaccumbens dopamine (DA) pathway played a critical role in the behavioral effects of amphetamine in rodents. Nonetheless, recent findings have also indicated involvement of 5-hydroxytryptamine (5-HT, serotonin) transmission in these effects. In the present study, we investigated the role of 5-HT<sub>1B</sub> receptors located in the ventral tegmental area (VTA) in the amphetamine-induced locomotor hyperactivity in rats. Male Wistar rats, implanted bilaterally with cannulae in the VTA were infused with saline (0.2 µl/side), GR 55562 (an antagonist of 5-HT<sub>1B</sub> receptors; 0.1–1 µg/side) or CP 93129 (an agonist of 5-HT<sub>1B</sub> receptors; 0.003–0.03 µg/side) immediately prior to the injection of saline (1 ml/kg, *ip*) or amphetamine (0.5 mg/kg, *ip*). The monitoring of locomotor activity in photobeam chambers began at once and proceeded for 60 min. Neither GR 55562 nor CP 93129 affected basal locomotor activity. Pretreatment with GR 55562 (0.1–1 µg/side) did not affect the locomotor hyperactivity evoked by amphetamine. On the other hand, microinjections of CP 93129 (0.01–0.03 µg/side) enhanced the amphetamine-induced hyperlocomotor activity. GR 55562 (1 µg/side) markedly reduced the enhancing effects of CP 93129 (0.01 µg/side) on the amphetamine-induced hyperactivity. These findings indicate that 5-HT<sub>1B</sub> receptors located in the VTA do not play a major role in the hyperlocomotion elicited by amphetamine, whereas their activation may modulate the behavioral response to the psychostimulant.

**Key words:** 5-HT<sub>1B</sub> receptors, amphetamine, CP 93129, GR 55562, locomotor activation, rats

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