

BEHAVIORAL EFFECTS OF D-AP7 IN RATS SUBJECTED TO EXPERIMENTAL HYPOXIA

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Behavioral effects of D-AP7 in rats subjected to experimental hypoxia.
A. NADLEWSKA, H. CAR, R. WIŚNIEWSKA, Z. HOŁY, K. WIŚNIEWSKI.
Pol. J. Pharmacol., 2003, 55, 337–344.

We investigated the effects of D-AP7 [D-(–)-2-amino-7-phosphonoheptanoic acid], a specific, potent antagonist of NMDA receptor on certain forms of behavior in control groups of rats and in rats submitted to hypoxia. D-AP7 given intracerebroventrically (*icv*) at a dose of 5 nmol was tested in the open field test, passive avoidance test and in elevated plus maze test.

D-AP7 did not significantly change the locomotor and exploratory activity, but it exhibited a tendency to enhance motility of rats in the open field test. It impaired the acquisition and did not influence the consolidation and retrieval in the passive avoidance situation. D-AP7 did not produce any significant effects in the elevated plus maze in rats which did not undergo hypoxia.

Short-term hypoxia (about 3 min) decreased the crossings, rearings and bar approaches in the open field test and impaired acquisition, consolidation and retrieval processes. It did not evoke any changes in elevated plus maze.

In hypoxia-treated groups of rats, D-AP7 enhanced locomotor and exploratory activity and it did not change the acquisition and retrieval processes. D-AP7 administered before hypoxia impaired the consolidation in the passive avoidance test vs. D-AP7-treated group of rats. D-AP7 shortened the time spent in open arms and decreased the number of entries in open arms in hypoxia-treated groups of rats.

In conclusion, in hypoxia-treated groups of rats, D-AP7 enhanced motility, exhibited anxiogenic-like effect and impaired consolidation in passive avoidance.

Key words: *D-(–)-2-amino-7-phosphonoheptanoic acid (D-AP7), locomotion, passive avoidance, elevated plus maze, hypoxia, rats*

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