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Short communication

Differential effects of glycine on the anticonvulsant activity of D-cycloserine and L-701,324 in mice

Piotr Wlaź[1], Ewa Poleszak[2]

[1]Department of Animal Physiology, Institute of Biology and Biochemistry, Maria Curie-Skłodowska University, Akademicka 19,
PL 20-033 Lublin, Poland

[2]Department of Applied Pharmacy, Medical University of Lublin, Chodźki 1, PL 20-093 Lublin, Poland

Correspondence: Piotr Wlaź, e-mail: piotr.wlaz@umcs.lublin.pl

Abstract:
The anticonvulsant effects of D-cycloserine, which is a partial agonist of the glycine/*N*-methyl-D-aspartate (NMDA) receptor, and L-701,324, which is a selective and potent antagonist that acts at the glycine site, were studied in electroshock-induced seizures in mice. Glycine, which is a natural full agonist that acts at the glycine site, enhanced the seizure threshold-increasing effect of D-cycloserine. L-701,324 produced a marked increase in the seizure threshold, which was significantly reversed by the administration of glycine. These results suggest that indirect glycine/NMDA antagonistic mechanisms may be responsible for the anticonvulsant action of D-cycloserine.

Key words:
D-cycloserine, glycine, L-701,324, NMDA, maximal electroshock, seizure threshold, mice