SIB 1893, A SELECTIVE mGluR5 RECEPTOR ANTAGONIST, POTENTIATES THE ANTICONVULSANT ACTIVITY OF OXCARBAZEPINE AGAINST AMYGDALA-KINDLED CONVULSIONS IN RATS

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SIB 1893 (a non-competitive antagonist of group I metabotropic glutamate receptors), given at 40 mg/kg (but not at 20–30 mg/kg), shortened the afterdischarge duration in amygdala-kindled rats, being ineffective on other seizure parameters – seizure severity, seizure duration, and afterdischarge threshold. Oxcarbazepine (at 7.5 mg/kg, but not at 5 mg/kg), a newer antiepileptic drug, reduced seizure severity, seizure and afterdischarge durations. When combined at ineffective doses in amygdala kindling, SIB 1893 at 20 or 30 mg/kg and oxcarbazepine at 5 mg/kg, significantly reduced seizure and afterdischarge durations.

The results indicate that combinations of oxcarbazepine with antagonists of group I metabotropic glutamate receptors may offer a novel therapeutic approach in cases of drug-resistant epilepsy.

Key words: SIB 1893, metabotropic glutamatergic receptors, oxcarbazepine, amygdala kindling, seizures

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