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ABSTRACTS
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Epilepsy is one of the most common neurological diseases and affects a large number of the world’s population. Antiepileptic drug therapy is symptomatic and none of them have many undesirable side effects and moreover some type of the seizures cannot be controlled by these drugs. Therefore to develop new anticonvulsant agents is still popular. (Arylalkyl)imidazoles is a group of anticonvulsant drugs and nafimidone is one of the representatives of this group. There are many articles in the literature about the SARs of this group and the structural requirements for the activity. In the recent years, it has been reported that nafimidone oxime ethers also showed remarkable anticonvulsant activity.

Therefore, in this study, we aimed to prepare some oxime esters and to test their anticonvulsant activities to establish new SARs and to obtain new anticonvulsant compounds. For this purpose three new oxime ester derivatives of nafimidone were synthesized by esterification of nafimidone oxime. Structures of these compounds were confirmed by IR, 1H-NMR MASS and elementary analysis data. Their anticonvulsant activities were determined by maximal electroshock seizure (MES) and subcutaneous metrazole seizure (ScM) tests in mice ip and neurotoxicity of the compounds was evaluated by rotord test according to ASP.

We found that all of the oxime ester derivatives of nafimidone have anticonvulsant activities against MES and/or ScM seizures and none of the compounds showed neurotoxicity in rotorod test. These activities were found to be comparable to the oxime ethers.

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