

Synthesis, anticonvulsant and antidepressant evaluation of some new 2-heptyl-1-(5-substituted phenyl-[1,3,4]oxadiazol-2-ylmethyl)-1H-benzimidazole derivatives

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ABSTRACT Some new 2-heptyl-1-(5-substituted phenyl-[1,3,4]oxadiazol-2-ylmethyl)-1H-benzimidazole derivatives (**6a-j**) were synthesized by the reaction of (2-heptyl-benzimidazol-1-yl)acetic acid hydrazides (**5a-j**) with various substituted aromatic acids in the presence of phosphorus oxychloride. The synthesized compounds **6a-j** were evaluated for anticonvulsant potential using the subcutaneous pentylenetetrazol method. An actophotometer was used to measure the antidepressant effect of the synthesized compounds, while a motor impairment model in mice was used to assess their neurotoxicity. At a dose level of 30 mg/kg body weight, compounds **6c**, **6f**, and **6g** is exhibited the most pronounced anticonvulsant activity. On the other hand, out of all the screened derivatives (**6a-j**), derivatives **6a**, **6b**, **6d**, and **6e** were shown to be moderately potent.

KEY WORDS Antiepileptic potential, Benzimidazole, Epilepsy, 1,3,4-oxadiazole.

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