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Synthesis and screening of new indole derivatives as anticonvulsant agents

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Isatin is an endogeneous compound isolated in 1998 and reported to possess a wide range of central nervous system activities. Surendranath pandya et al. reported the synthesis and anticonvulsant activity of some novel n-methyl/acetyl, 5-(un)-substituted isatin-3-semicarbazones. In the last few years, Isatin derivatives have been discovered which show potential hypnotic, antibacterial and MAO inhibitory activity. It is evident from the literature survey that Isatin derivatives dialkylamino alkyl derivatives showing more promising central nervous system and anticonvulsant activities. In the present work, some new 5-[2(3)-dialkylamino alkoxy] Indole 2, 3-diones were prepared from 5-hydroxy isatin. The structures of the products were characterized by IR, NMR and MASS Spectral studies. All the compounds were evaluated for anticonvulsant effect by MTT assay method. Some of these compounds showed good anticonvulsant activity compared with standard compounds. The compounds were mostly synthesized by conventional methods and described in experimental selection and also by the methods established in our laboratory. A new series of five 5-[2(3)-dialkyl amino alkoxy] Indole 2,3 dione derivatives were synthesized by reacting 5-hydroxyindole 2,3 dione with 2-N,N di alkylamino alkyl halides. Evaluation of these compounds as anticonvulsants, activity revealed that the compounds (IIIa,IIIb) with a dimethyl and diethyl amino ethyl chain derivatives was found to be relatively superior in anticonvulsant activity and other compounds (IIIc, IIId, IIIe) are next in the order of activity. All the compounds showed less neurotoxicity compared to Diazepam.

Biography

Konda Swathi has completed her Postdoctoral studies from Kakatiya University and PhD from the same University. She has published more than 25 papers in reputed journals and presented above 25 research papers in international and national conferences.

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