Short Communication

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Synthesis and pharmacological screening of some benzimidazole derivatives

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Abstract

The main objective of the medicinal chemistry is to synthesize the compounds that show promising activity as therapeutic agents with lower toxicity. Benzimidazole derivatives are very useful compound with well-known biological activity. Notable among these are antibacterial, antiviral, antifungal, analgesic, anti-inflammatory and anticancer. In the current research work, the title compounds 5-ethoxy-2-substituted benzimidazole, were synthesized by nitration of phenacetin with concentrated nitric acid it gives N-(2-nitro-5-ethoxyphenyl) acetamide (I). Compound (I) on reduction with alcohol gives 5-ethoxy-2-nitroaniline (II). Reaction of compound (II) with hydrazine hydrate produced 5-ethoxy ortho phenylene diamine (III). The reaction of compounds (III) with substituted acids yielded the corresponding 5-ethoxy-2-substituted benzimidazole (IV). The identification and characterization of the synthesized compounds were carried out by elemental analysis, melting point, thin layer chromatography, FT-IR, NMR and mass data to ascertain that all synthesized compounds were of different chemical nature than the respective parent compound. The compounds were screened for anti-inflammatory activity. The antiinflammatory activities of compounds were done by using Carrageenan induced rat paw edema method. The test compounds IVa, IVd and VIg showed significant anti-inflammatory activity compared with the standard drug Ibuprofen.

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Biography

Sunila T Patil has completed M Pharm from T.V.E.S?s College of Pharmacy Faizpur, affiliated to North Maharashtra University Jalgaon passed with first class and PhD from Jodhpur National University, Jodhpur. She published 10 international research articles in impact factor journals. She has attended 16 national & international seminar/conferences and has presented 8 papers in various seminars. Also she has acted as co-coordinator for 2 one day workshop.

