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Synthesis and pharmacological evaluation of pyrazole derivatives

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The pyrazole ring is an important structural moiety found in numerous pharmaceutically active compounds. This is mainly due to the ease preparation and the important versatile biological activity. When pyrazoles were discovered, they were mostly useful as an anti-inflammatory and analgesic but in recent times, they are known to exhibit antibacterial and several other pharmacological actions like antifungal, anti-inflammatory, analgesic, antipyretic, insecticides, herbicide and also used as dyestuffs in sunscreen materials and as analytical reagents. The present study involves synthesis of substituted pyrazole derivatives as an anti-inflammatory activity. From the literature survey carried out it was planned to synthesize substituted 1,5-dipehnyl-1H-pyrazole-3-carboxylic acid PDG 1.3(a-d) and PDG 2.3(a-d) as anti-inflammatory agent. Substituted pyrazole were synthesized by cyclo condensation reaction. The structure activity relationship of the pyrazole ring suggests that presence of bulky group on the 1st and 5th position increase selectivity and increase polarity on the 3rd position enhances anti-inflammatory activity. The pyrazole containing compounds were synthesized according to synthetic scheme. The synthesis of compounds was confirmed by TLC, IR, NMR and Mass Spectroscopy. The synthesized compounds were screened for anti-inflammatory and analgesic activity. The compound PDG 1.3c was found to be most active among the series.

Biography

Pinkal Hardikkumar Patel has pursued her PhD from Jodhpur National University and MPharm in Medicinal Chemistry from Maharaja Sayajirao University, India. She is an Associate Professor at Faculty of Pharmacy, Parul University, India. She has published more than 15 papers in reputed journals and presented more than 12 papers in in various conferences. She is the active Member in various universities.

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