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(54) Title of the invention : SYNTHESIS AND CHARACTERIZATION OF N'-(3-HYDROXY-4-METHOXYBENZYLIDENE)-2-(NAPHTHALEN-1-YLOXY)ACETOHYDRAZIDE

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(57) Abstract :

The present invention discloses the synthesis, characterization, and pharmacological evaluation of a novel 1-naphthol-based acetohydrazide derivative, namely N'-(3-hydroxy-4-methoxybenzylidene)-2-(naphthalen-1-yloxy)acetohydrazide. The compound was synthesized through a systematic and efficient reaction pathway and purified to obtain high yield and stability. Structural elucidation was performed using IR and ¹H NMR spectral analysis, confirming the presence of characteristic functional groups and molecular integrity. The synthesized derivative was evaluated for analgesic activity using Eddy's hot plate method and for anti-inflammatory activity using the carrageenan-induced rat paw edema model. Experimental results demonstrated significant, dose-dependent pharmacological activity comparable to the standard drug indomethacin. The compound exhibited marked inhibition of inflammation and increased pain response latency, indicating potential COX-2 mediated action. Overall, the invention establishes 1-naphthol as a promising pharmacophoric scaffold for developing effective and safer therapeutic agents with enhanced anti-inflammatory and analgesic properties.

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