



## Evaluation of Anti-Inflammatory and Analgesic Activity of Synthesized Substituted Isoxazole Derivatives

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**ABSTRACT:** Inflammation is the body's response to harmful stimuli, such as pathogens, damaged cells, or irritants. Inflammation is a protective attempt by the organism to remove the injurious stimuli and initiate the healing process. Inflammations are of two types: acute and chronic. The signs of acute inflammation are warmth, redness, pain, swelling and loss of function. Chronic inflammation is characterized by long lasting pain, redness and swelling. Non steroidal anti-inflammatory drugs (NSAIDS) are used to treat pain and inflammation but is often accomplished by side effects such as gastric ulceration, bleeding, and renal function suppression. The aim of this research was to synthesize substituted isoxazole derivatives and to evaluate anti-inflammatory and analgesic activity of synthesized derivatives. In the present study, the chemicals o-hydroxyacetophenone and 1H-indole-3-carbaldehyde were reacted to synthesize 2''-[5'-(1H-indol-3-yl)isoxazole-3'-yl]phenol. For pharmacological activity, rats were randomly divided into five groups. Group I animals served as control and received vehicle (CMC 0.5% solution) intraperitoneally. Group II (Diseased controlled vehicle group) animals were injected with 0.1ml of 1% carrageenan in planter of left hind limb. Group III (Standard control group) animals were treated with standard drug Diclofenac sodium (20mg/kg) intraperitoneally. Group IV animals were treated with test drug at a dose of 100mg/kg body weight, intraperitoneally as a suspension in CMC (0.5% solution). This study suggests that the isoxazole derivatives have significant anti-inflammatory and analgesic effect compared to standard (diclofenac). © 2019 iGlobal Research and Publishing Foundation. All rights reserved.

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