

Derivatives of Cucurbitacin-E-Glucoside Produced by Curvularia lunata NRRL 2178: Anti-inflammatory, Antipyretic, Antitumor Activities, and Effect on Biochemical Parameters

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Abstract

E glucoside (1) is a tetracyclic triterpenoid glucoside, isolated from Cucurbitaceae plants. In the present study the pharmacological and biochemical effects of cucurbitacin-E-glucoside and two of its microbial transformation derivatives (2 and 3) produced by Curvularia lunata NRRL 2178, were investigated. The isolated compounds were identified by ¹H and ¹³C NMR spectroscopy. The obtained results showed that 2 and 3 possess anti-inflammatory and antipyretic effects, compared with indomethacin and acetaminophen. Oral administration of 2 and 3 at dose of 1/10 of LD₅₀ for 30 days resulted in a significant decrease in the serum levels of glucose, cholesterol and triacylglycerol. Cucurbitacin–E-glucoside showed moderate cytotoxicity against tumor cell lines while compound 3 proved to be selective against colon carcinoma cell lines.

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