ABSTRACT

SYNTHESIS AND ANALGESIC ACTIVITY TEST OF 2-(4-CHLOROBENZOYLOXY)-5-METHOXY BENZOIC ACID IN MICE *(Mus musculus)*

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Molecular modification is a method that can be done to obtain new compound with greater activity. A salisilic acid derivative, 2-(4-chlorobenzoyloxy)-5-methoxy benzoic acid was synthesized and tested for analgesic activities. Synthesis of this compound based on esterification reaction by Schotten-Baumann. Its purity was screened by melting point test and Thin Layer Chromatography. UV-Vis Spectrophotometry, Infrared Spectrophotometry, and H-NMR Spectrometry used for confirming the structure of the new compound. In writhing test method, 2-(4-chlorobenzoyloxy)-5-methoxy benzoic acid was comparing to the standart reference drug, acetyl salicylic acid at equidose and also the control (CMC-Na suspension 0,5%). One way ANOVA showed that there was significant difference from the frequency of writhing in mice between groups of new compound, acetyl salicylic acid, and the control. Efficiency dose (ED_{50}) of 2-(4-chlorobenzoyloxy)-5-methoxy benzoic acid is 62,52 mg/kg body weight while Asetosal is 80,28 mg/kg body weight. It showed that 2-(4-chlorobenzoyloxy)-5-methoxy benzoic acid has higher analgesic activity than acetyl salicylic acid.

Keyword: synthesis, 2-(4-chlorobenzoyloxy)-5-methoxy benzoic acid, analgesic activity, Efficiency dose (ED_{50})