SENYAWA ASAM 2- METILESTER-1-H-PIROL-4-KARBOKSILAT DALAM EKSTRAK ETIL ASETAT BUAH SALAK VARIETAS BONGKOK SEBAGAI ANTIOKSIDAN DAN ANTIHYPERURICEMIA

[Studies on 2-Methylester-1-H-Pyrolle-4-Carboxylic Acid Compound in Ethylacetate Extract of Snake Fruit Variety
Bongkok as Antioxidant and Anthyperuricemic]

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Diterima 1 Juli 2009 / Disetujui 20 Mei 2010

ABSTRACT

The aim of the study was to determine the antioxidant and antihyperuricemia activity of ethyl acetate extract of snake fruit *(Salacca edulis* Reinw.) var. Bongkok. The research methods used in this study comprised of three stages. First stage, the isolation processes, consist ed of maceration, fractionation, and purification using several techniques of chromatography. The chemical structures of the isolated compounds were determined based on UV, IR, 1-D NMR, and 2-D NMR spectral data. The ethyl acetate extract of snake fruit var. Bongkok isolated was a new compound 2-methylester-1-H-pyrolle-4- carboxylic acid. In the second stage the antioxidant activity of the extract and the isolated compounds were measured by 1,1 diphenol (DPPH) method. The antioxidant activity of the extracts and the isolated compounds were expressed as $IC_{50,}$ The ethyl acetate extracts at concentrations of 0.2, 2, 20, 200, 400, and 2000 µg/mL showed inhibition of 9.67, 4.47, 41.89, 96.06, 82.54, and 90.60 % respectively, with an IC_{50} of 1.6 µg/mL. Ascorbic acid standards at the same concentration range showed an IC_{50} of 0.54 µg/mL. Meanwhile, at the same concentrations the 2-methylester-1-H-pyrolle-4-carboxylic acid showed free radical inhibition of 17.48, 21.48, 18.14, 31.87, and 62.34 % respectively, with an IC_{50} of 3.27 µg/mL. During the third stage, the antihyperuricemic properties of the extracts and the isolated compound were examinated *in vitro* using inhibition of xanthin oxidase method. The ethyl acetate extracts at concentrations of 0.01, 0.02, 0.2, 2, and 2000 µg/mL showed xanthin oxidase inhibition of 49.24, 49.58, 50.28 and 52.26 % respectively, with an IC_{50} of 24.75 µg/mL. At the same concentrations, the 2-methylester-1-H-pyrolle-4- carboxylic acid, showed xanthin oxidase inhibition of 27.7, 30.5, 37.3, 50.27 and 50.55 % respectively, with an IC_{50} of 48.86 µg/mL. Allopurinol as a standard drug showed an IC_{50} of 0.92 µg/mL.

Keyword : 2-methylester-1-H-pyrolle-4- carboxylic acid compound, ethyl acetate extract of snake fruit var. Bongkok, antioxidant activity, antihyperuricemia, IC_{50}.