Uji aktivitas antioksidan dan penghambatan aktivitas enzim lipoksigenase serta penetapan kadar flavonoida total dari ekstrak daun garcinia lateriflora blume = Antioxidant activity and lipoxygenase enzyme inhibition assay with total flavonoid content from garcinia lateriflora blume leaves extract

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Abstrak

Garcinia lateriflora Blume dilaporkan memiliki aktivitas antioksidan menggunakan metode DPPH (2,2-Difenil-1-Pikrilhidrazil) dengan nilai IC50 berturut-turut pada ekstrak metanol, etil asetat dan n-heksana bagian daun sebesar 6,18; 8,03; dan 156,8 µg/mL. Sementara, belum ada literatur yang menyatakan pernah dilakukan penelitian penghambatan aktivitas lipoksigenase oleh tanaman ini. Tujuan penelitian ini adalah memperoleh data aktivitas antioksidan dan menilai potensi penghambatan aktivitas lipoksigenase dari tiga ekstrak daun Garcinia lateriflora Blume. Metode pengujian meliputi, aktivitas antioksidan dengan metode FRAP (Ferric Reducing Antioxidant Power), penghambatan aktivitas lipoksigenase secara in vitro, analisis kualitatif flavonoida dengan kromatografi lapis tipis, serta penetapan kadar flavonoida total menggunakan metode kolorimetri AlCl3 pada ekstrak teraktif. Hasil uji menunjukkan aktivitas antioksidan dengan metode FRAP dari ekstrak metanol, etil asetat, dan n-heksana daun Garcinia lateriflora Blume, memiliki nilai EC50 berturut-turut 9,567; 16,555; and 50,550 µg/mL µg/ml dan aktivitas penghambatan lipoksigenase dengan nilai IC50 berturut-turut 0,693; 0,793; and 1,316 µg/mL. Ekstrak teraktif pada kedua uji adalah ekstrak metanol yang memiliki kadar flavonoida total sebesar 6,298 mg QE/g (quercetin equivalent). Berdasarkan hasil penelitian dapat disimpulkan ekstrak metanol, etil asetat, dan n-heksana daun Garcinia lateriflora Blume memiliki aktivitas antioksidan dan penghambatan lipoksigenase, serta ekstrak metanol sebagai ekstrak teraktif memiliki kandungan flavonoida terbesar.

.....Garcinia lateriflora Blume has been reported have antioxidant activity using DPPH (2,2-Diphenyl-1-picrylhydrazyl) method with IC50 of methanol, ethyl acetate and n-hexane leaves extract were 6.18; 8.03; and 156.8 µg/mL, repectively. Meanwhile, there has been no literature which stated have done research about lipoxygenase inhibition activity by this plant. The aim of this study is to determine the potential antioxidant activity and lipoxygenase inhibition activity from three leaf extract of Garcinia lateriflora Blume. Test methods cover, antioxidant activity assessed using FRAP (Ferric Reducing Antioxidant Power) method, in vitro lipoxygenase inhibition activity, qualitative analysis of flavonoid using thin layer chromatography and total flavonoid content using AlCl3 colorimetric method of the most active extract. The results showed that EC50 for antioxidant activity using FRAP method of methanol, ethyl acetate and n-hexane Garcinia lateriflora Blume leaves extract were 9.567; 16.555; and 50.550 µg/mL and IC50 for lipoxygenase inhibition activity were 0.693; 0.793; and 1.316 µg/mL, respectively. The most active extract on both of test is methanol extract which has total flavonoid content, 6.298 mg QE/g (quercetin equivalent). Based on test results can be concluded Garcinia lateriflora Blume leaves extract has antioxidant and lipoxygenase inhibition activities, with methanol extract as most active extract that contains most flavonoid.