Uji penghambatan aktivitas lipoksigenase fraksi etil asetat daun belimbing (averrhoa carambola l.) dari tiga daerah di Jawa Barat = Lipoxygenase inhibitory assay of ethyl acetate fraction starfruit leaves (averrhoa carambola l.) from three areas in West Java

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Abstrak

Daun Averrhoa carambola L. telah digunakan sebagai obat tradisional yang dimanfaatkan untuk terapi ganguan inflamasi pada kulit. Pemilihan tumbuhan dari tiga daerah di Jawa Barat Depok, Subang, dan Sukabumi di karenakan terdapat budidaya tumbuhan belimbing dengan kualitas baik dan memiliki kriteria media tumbuh yang tepat. Penelitian ini bertujuan untuk menguji aktivitas antiinflamasi dengan metode penghambatan lipoksigenase terhadap fraksi etil asetat daun Averrhoa carambola L. dari tiga daerah di Jawa Barat, serta penetakan kadar flavonoid total dan fenol total.
Nilai IC50 terhadap kadar flavonoid dan kadar fenol yang diperoleh dari masing-masing fraksi etil asetat dianalisis hubungannya menggunakan software SPSS versi 22.0. Simplisia daun belimbing di ekstraksi dengan metode maserasi menggunakan etanol 70, kemudian di fraksinasi dengan partisi cair-cair dengan pelarut air, heksan dan etil asetat hingga didapatkan fraksi etil asetat, kemudian dilakukan pengujian penghambatan aktivitas lipoksigenase dengan substrat asam linoleate.
Hasil uji menunjukan bahwa fraksi etil asetat daun averrhoa dari daerah depok, subang dan sukabumi memiliki aktivitas penghambatan lipoksigenase dengan nilai IC50 sebesar 19,38; 16,65; dan 15,07 g/mL. Kandungan flavonoid total dalam fraksi dari daerah Depok, Subang dan Sukabumi secara berturut-turut adalah 14,875; 16,884; dan 22,274 mgQE/gram sampel. Kandungan fenol total dalam fraksi dari daerah Depok, Subang, dan Sukabumi secara berturut-turut adalah 54,10; 61,06; dan 72,18 mgGAE/gram sampel. Nilai IC50 terhadap kadar flavonoid total dan kadar fenol total menunjukkan keduanya saling berhubungan kuat.
.....Averrhoa carambola L leaves have been used as a traditional medicine used for the therapy of inflammatory disorders of the skin. Plants selection from three areas in West Java Depok, Subang, and Sukabumi are done because there is the cultivation of star fruit with good quality and has appropriate growth media criteria. This study aims to examine anti inflammatory activity by lipoxygenase inhibition method against ethyl acetate fraction of Averrhoa carambola L. leaves from three areas in West Java, and determination of total flavonoid and total phenol concentration.
IC50 to total flavonoid and total fenol content obtained from ethyl acetate fraction were analyzed using SPSS version 22. Averrhoa carambola L. leaves simplicia was extracted by maceration method using ethanol 70, then fractionated with liquid liquid partition with water solvent, hexane, and ethyl acetate, until the ethyl acetate fraction was obtained. After that, inhibition of lipoxygenase activity of the ethyl acetate fraction was tested with linoleate acid substrate.
The test results showed that the fraction of ethyl acetate of averrhoa leaves from depok, subang and sukabumi areas had inhibit activity of lipoxygenase enzyme with IC50 value of 19,38 16.65 and 15.07 g mL. The total flavonoid concentration in the fractions of Depok, Subang and Sukabumi areas respectively was 14,875, 16,884 and 22,274 mgQE gram of sample. The total phenol concentration in the fractions of Depok,

Subang and Sukabumi respectively was 54,10 61,06 and 72,18 mgGAE gram of sample. IC50 to total flavonoid and total phenol content show both strongly interconnected.