

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

Shinta Marlin, author

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### Abstrak

Ekstrak daun *Garcinia hombroniana* Pierre telah diketahui mengandung senyawa flavonoida, namun belum diketahui aktivitas antioksidan dan penghambatan aktivitas lipoksigenasenya. Penelitian ini bertujuan untuk mengetahui aktivitas antioksidan dengan metode FRAP (Ferric Reducing Antioxidant Power) dan penghambatan aktivitas lipoksigenase dari ekstrak daun *G. hombroniana* menggunakan kontrol positif baikalein. Pada penelitian ini dilakukan juga penetapan kadar flavonoida total secara kuantitatif dengan metode kolorimetri  $AlCl_3$  pada ekstrak teraktif menggunakan kontrol positif kuersetin.

Hasil uji menunjukkan bahwa ekstrak n-heksana, etil asetat dan metanol daun *G. hombroniana* Pierre memiliki aktivitas antioksidan dengan nilai  $EC_{50}$  berturut-turut yaitu 36,260; 2,969; dan 7,416  $\mu$ g/mL dan dapat menghambat aktivitas lipoksigenase dengan nilai  $IC_{50}$  berturut-turut yaitu 2,052; 0,134; dan 1,314  $\mu$ g/mL. Ekstrak etil asetat daun *G. hombroniana* Pierre memiliki aktivitas antioksidan dan penghambatan aktivitas lipoksigenase teraktif. Kadar flavonoida total ekstrak etil asetat daun *G. hombroniana* Pierre sebesar 42,004 mg QE/g sampel. Ekstrak daun *Garcinia hombroniana* Pierre memiliki aktivitas antioksidan dan dapat menghambat aktivitas lipoksigenase.

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*Garcinia hombroniana* Pierre leaves extract have been known to contain flavonoid compounds, but it has not been known yet for its antioxidant activity and inhibition of lipoxygenase activity. This study aims to determine antioxidant activity tested by using FRAP (Ferric Reducing Antioxidant Power) method and inhibition of lipoxygenase activity of *G. Hombroniana* leaves extract using baikalein as the positive control. Total flavonoid assay is also quantitatively done by  $AlCl_3$  colorimetric method on the most active extract using quercetin as the positive control.

The test results showed that the n-hexane, ethyl acetate and methanol extract of *G. hombroniana* Pierre leaves have antioxidant activity which showed by  $EC_{50}$  value; consecutively are 36.260; 2.969; dan 7.416  $\mu$ g/mL, and can inhibit lipoxygenase activity which showed by  $IC_{50}$  value consecutively are 2.052; 0.134; and 1.314  $\mu$ g/mL. Ethyl acetate extract of *G. hombroniana* Pierre leaves has the most active antioxidant activity and inhibition of lipoxygenase activity. Total flavonoid content of ethyl acetate extract of *G. hombroniana* Pierre leaves is 42.004 mg QE/g sample. *Garcinia hombroniana* Pierre leaves extract has antioxidant activity and can inhibit lipoxygenase activity.