

ABSTRAK

INHIBISI ENZIM ALFA-AMILASE DARI FRAKSI DAUN GAHARU (*Aquilaria malaccensis* Lam.) SEBAGAI ANTIDIABETES MENGUNAKAN SPEKTROFOTOMETRI UV-VIS.

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Penderita Diabetes Melitus cenderung mengalami peningkatan setiap tahunnya, pada hasil skrining fitokimia serbuk simplisia dan ekstrak etanol daun gaharu menunjukkan adanya senyawa flavonoid, yang dapat menurunkan kadar glukosa darah dengan merangsang pelepasan insulin dari sel β pankreas yang tidak mengalami kerusakan, sehingga mampu mengembalikan fungsi sel β pankreas dan meningkatkan sekresi insulin. Tahapan penelitian yang dilakukan meliputi penyiapan bahan, karakterisasi simplisia, penapisan fitokimia, ekstraksi, fraksinasi, pemantauan ekstrak dan fraksi serta uji aktivitas inhibisi enzim alfa amilase. Hasil penapisan fitokimia terhadap simplisia daun gaharu menunjukkan terdapat golongan senyawa flavonoid, tannin, kuinon, saponin, fenolat dan steroid atau triterpenoid. Fraksinasi dilakukan pada ekstrak kental menggunakan metode ekstraksi cair-cair sehingga didapat 3 fraksi yang bersifat non polar, semi polar dan polar. Penghambatan tertinggi enzim alfa amilase terjadi pada konsentrasi pengenceran fraksi etil asetat dengan konsentrasi 2,5 mg/mL yaitu sebesar 74,55 %, sehingga dapat dikatakan memenuhi syarat karena diatas 50%. Data grafik kurva jika nilai R^2 diatas 0,9 yang artinya dapat menghambat enzim alfa amilase dengan baik & pada perbandingan diagram diketahui kalau daun gaharu memiliki kandungan senyawa flavonoid yang dapat menurunkan kadar glukosa dalam darah.

Kata Kunci : Inhibisi, Enzim alfa amilase, Fraksinasi, daun gaharu, Spektrofotometri Uv-Vis (ultra vilolet-visible).

ABSTRACT

INHIBISI ENZIM ALFA-AMILASE DARI FRAKSI DAUN GAHARU (*Aquilaria malaccensis* Lam.) SEBAGAI ANTIDIABETES MENGUNAKAN SPEKTROFOTOMETRI UV-VIS.

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Diabetes Mellitus sufferers tend to experience an increase every year, the results of phytochemical screening of simplicia powder and ethanol extract of gaharu leaves show that there are flavonoids, which can reduce blood glucose levels by stimulating the release of insulin from undamaged β cells of the pancreas, so that it can restore β cell function. pancreas and increase insulin secretion. The stages of the research carried out included preparation of materials, characterization of simplicia, phytochemical screening, extraction, fractionation, monitoring of extracts and fractions as well as testing for alpha amylase enzyme inhibition activity. The results of phytochemical screening on the simplicia of gaharu leaves showed that there were groups of flavonoids, tannins, quinones, saponins, phenolics and steroids or triterpenoids. Fractionation was carried out on viscous extracts using the liquid-liquid extraction method in order to obtain 3 fractions that were non-polar, semi-polar and polar. The highest inhibition of the alpha amylase enzyme occurred at a concentration of ethyl acetate fraction dilution with a concentration of 2.5 mg / mL, which was 74.55%, so it can be said to meet the requirements because it is above 50%. Curve graph data if the R^2 value is above 0.9 which means that it can inhibit the alpha amylase enzyme well & in the comparison diagram it is known that gaharu leaves contain flavonoid compounds that can reduce glucose levels in the blood.

Keywords: Inhibition, alpha amylase enzyme, fractionation, agarwood leaves, Uv-Vis (ultra violet-visible) Spectrophotometry.