

## ABSTRAK

**Latar belakang :** Daun afrika (*V. amygdalina*) memiliki aktivitas antidiabetes dengan isolat flavonoid yang belum diketahui.

**Tujuan :** Mengetahui perbedaan kadar total flavonoid dan mengetahui isolat flavonoid fraksi daun afrika (*V. amygdalina*) dalam inhibisi enzim  $\alpha$ -glukosidase yang dinyatakan sebagai persen inhibisi dan IC<sub>50</sub>.

**Metode :** Ekstrak metanol daun afrika (*V. amygdalina*) di fraksinasi metode partisi cair-cair dilanjutkan dengan metode kromatografi cair vakum. Pita KLT preparatif. Isolat flavonoid murni diidentifikasi menggunakan pereaksi geser, spektrofotometri Uv-Vis, dan FT-IR serta pengujian inhibisi enzim  $\alpha$ -glukosidase.

**Hasil :** Kadar total flavonoid tertinggi ditemukan pada fraksi N-heksana daun afrika (*V. amygdalina*). Fraksi etil asetat merupakan fraksi terpilih dikarenakan memiliki keberagaman senyawa flavonoid paling banyak dengan KLT sehingga terpilih untuk isolasi. Isolat senyawa flavonoid diidentifikasi menggunakan pereaksi geser, spektrofotometri Uv-Vis, dan FT-IR menunjukkan golongan flavonoid dihidroflavonol. Isolat flavonoid memiliki aktivitas inhibisi enzim  $\alpha$ -glukosidase tergolong sangat lemah.

**Kesimpulan :** Isolat flavonoid fraksi etil asetat daun afrika (*V. amygdalina*) diduga memiliki struktur dasar flavonoid golongan dihidroflavonol dengan aktivitas aktivitas inhibisi enzim  $\alpha$ -glukosidase tergolong sangat lemah.

**Kata kunci :** Daun afrika (*V. amygdalina*), ekstrak metanol, fraksi etil asetat, kadar total flavonoid, KLT analisis, KLT preparatif, isolat flavonoid, aktivitas inhibisi enzim  $\alpha$ -glukosidase.

## ABSTRACT

**Background:** African leaves (*V. amygdalina*) demonstrate antidiabetic properties linked to an unidentified flavonoid isolate

**Objective:** To assess the variations in total flavonoid levels and to identify the flavonoid isolates from african leaf fractions (*V. amygdalina*) in their capacity to inhibit the  $\alpha$ -glucosidase enzyme, expressed as percentage inhibition and IC<sub>50</sub>.

**Methods:** The methanol extract of African leaves (*V. amygdalina*) was fractionated utilizing a liquid-liquid partition method, followed by vacuum liquid chromatography. Preparative TLC bands were obtained. Pure flavonoid isolates were identified through the use of specific reagents, UV-Vis spectrophotometry, FT-IR analysis, and  $\alpha$ -glucosidase enzyme inhibition assays.

**Results:** The highest total flavonoid content was observed in the N-hexane fraction of African leaves (*V. amygdalina*). The ethyl acetate fraction was selected due to its superior diversity of flavonoid compounds as determined by TLC, making it the preferred choice for isolation. The isolated flavonoid compounds were identified using specific reagents, UV-Vis spectrophotometry, and FT-IR, confirming that the flavonoid group was dihydroflavonol. The flavonoid isolates exhibited minimal  $\alpha$ -glucosidase enzyme inhibition activity.

**Conclusion:** Flavonoid isolates derived from the ethyl acetate fraction of African leaves (*V. amygdalina*) are believed to possess a fundamental flavonoid structure belonging to the dihydroflavonol group, exhibiting minimal  $\alpha$ -glucosidase enzyme inhibitory activity.

**Keywords:** African leaves (*V. amygdalina*), methanol extract, ethyl acetate fraction, total flavonoid content, thin-layer chromatography analysis, preparative thin-layer chromatography, flavonoid isolate,  $\alpha$ -glucosidase enzyme inhibitory activity.