ABSTRAK

Harti Fornita Zendrato (01038200026)

AKTIVITAS PENGHAMBATAN XANTIN OKSIDASE EKSTRAK DAUN *Ficus necbudu* Warb.

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(XIV + 66 halaman; 6 tabel; 13 gambar; 4 lampiran)

Hiperurisemia merupakan kondisi jumlah asam urat berlebih yang dapat menyebabkan radang sendi. Produksi asam urat dikatalisator oleh xantin oksidase, sehingga penghambatan terhadap enzim tersebut harus dilakukan untuk menurunkan kadar asam urat. Flavonoid merupakan senyawa yang diduga menghambat xantin oksidase, salah satu tanaman dengan kandungan flavonoid adalah genus ficus dan salah satu spesiesnya yaitu *Ficus necbudu* Warb. Penelitian bertujuan mengetahui kemampuan menghambatan xantin oksidase (IC_{50}), total fenolik dan flavonoid serta hubungannya terhadap penghambatan xantin oksidase. Daun *Ficus necbudu* Warb diekstraksi bertingkat dengan pelarut n-heksan, etil asetat, dan etanol 96% dengan metode refluks, penentuan total fenolik, flavonoid dan uji penghambatan xantin oksidase menggunakan spektrofotometri UV-Vis. Hasil penelitian menunjukkan ketiga ekstrak daun *Ficus necbudu* Warb memiliki kandungan fenolik dengan ekstrak etanol 96% yang memiliki nilai lebih tinggi (89,20±3,49 mg GAE/g). Ekstrak daun tersebut juga memiliki kandungan flavonoid dengan nilai tertinggi pada ekstrak etil asetat (137,04±7,19 mg QE/g). Ketiga ekstrak memiliki kemampuan penghambatan xantin oksidase dana ekstrak n-heksana yang paling kuat (IC_{50}=17,17±3,93 µg/mL). Ekstrak etil asetat adalah ekstrak dengan korelasi fenolik dan IC_{50} paling kuat yaitu 0,982, sedangkan ekstrak etanol 96% adalah ekstrak dengan korelasi flavonoid dan IC_{50} yang paling kuat yaitu 0,736.

Kata kunci: Asam urat, xantin oksidase, *Ficus necbudu* Warb, flavonoid, fenolik.

Referensi: 77 (1904 - 2023)

ABSTRACT

Harti Fornita Zendrato (01038200026)

XANTHINE OXIDASE INHIBITION ACTIVITY OF Ficus necbudu* Warb. *LEAF EXTRACT

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Hyperuricemia is a condition characterized by an excess of uric acid that can lead to arthritis. Uric acid production is catalyzed by xanthine oxidase, thus inhibition of this enzyme is necessary to reduce uric acid levels. Flavonoids are believed to inhibit xanthine oxidase; one of the plants containing flavonoids is the genus Ficus, with one of its species being Ficus necbudu Warb. The research aims to determine the ability to inhibit xanthine oxidase (IC50), phenolic and flavonoid content, and their relationship to xanthine oxidase inhibition. Leaves of Ficus necbudu Warb were extracted using n-hexane, ethyl acetate, and 96% ethanol with reflux methods. Total phenolic and flavonoid content were determined, and the xanthine oxidase inhibition test was conducted using UV-Vis spectroscopic photometry. The results indicate that all three leaf extracts have phenolic content, with the 96% ethanol extract showing the highest value (89,20±3,49 mg GAE/g). The leaf extracts also exhibit of flavonoids, with the ethyl acetate extract showing the highest concentration (137,04±7,19 mg QE/g). The three extracts demonstrate strong inhibitory activity, with the n-hexane extract exhibiting the strongest inhibition (IC50=17,17±3,93 µg/mL). The ethyl acetate extract shows the strongest correlation between phenolic content and IC50 (0.982), while the 96% ethanol extract exhibits the strongest correlation between flavonoid content and IC50.

Keyword: Uric acid, xanthine oxidase, Ficus necbudu Warb*, flavonoid, phenolic*

References: 77 (1904 - 2023)