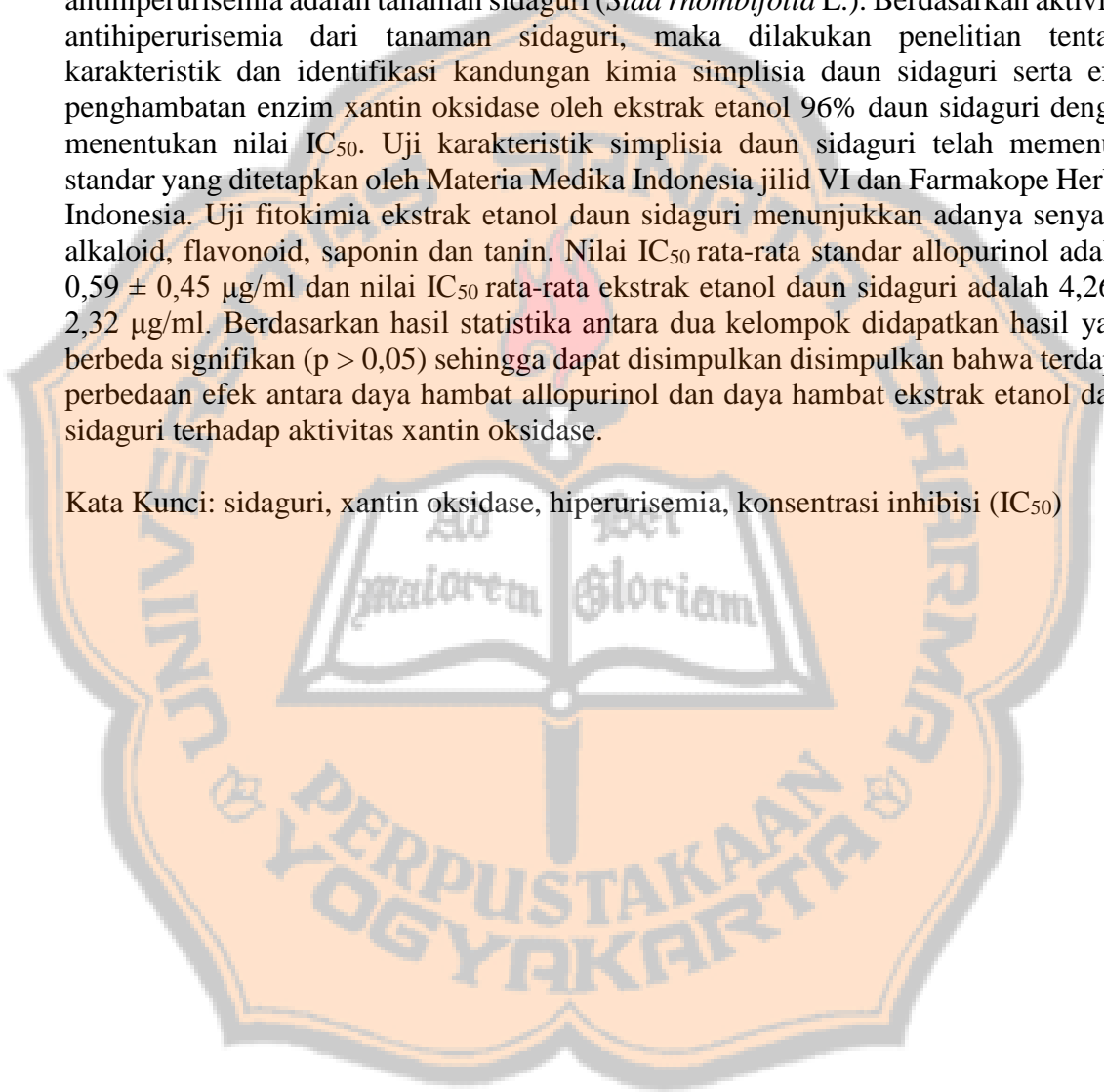


## ABSTRAK

Hiperurisemia adalah suatu keadaan yang ditandai dengan peningkatan kadar asam urat darah di atas normal. Xantin oksidase mengkatalisis oksidasi hipoxantin dan xantin menjadi asam urat. Salah satu tanaman obat yang memiliki aktivitas antihiperurisemia adalah tanaman sidaguri (*Sida rhombifolia* L.). Berdasarkan aktivitas antihiperurisemia dari tanaman sidaguri, maka dilakukan penelitian tentang karakteristik dan identifikasi kandungan kimia simplisia daun sidaguri serta efek penghambatan enzim xantin oksidase oleh ekstrak etanol 96% daun sidaguri dengan menentukan nilai  $IC_{50}$ . Uji karakteristik simplisia daun sidaguri telah memenuhi standar yang ditetapkan oleh Materia Medika Indonesia jilid VI dan Farmakope Herbal Indonesia. Uji fitokimia ekstrak etanol daun sidaguri menunjukkan adanya senyawa alkaloid, flavonoid, saponin dan tanin. Nilai  $IC_{50}$  rata-rata standar allopurinol adalah  $0,59 \pm 0,45 \mu\text{g/ml}$  dan nilai  $IC_{50}$  rata-rata ekstrak etanol daun sidaguri adalah  $4,26 \pm 2,32 \mu\text{g/ml}$ . Berdasarkan hasil statistika antara dua kelompok didapatkan hasil yang berbeda signifikan ( $p > 0,05$ ) sehingga dapat disimpulkan disimpulkan bahwa terdapat perbedaan efek antara daya hambat allopurinol dan daya hambat ekstrak etanol daun sidaguri terhadap aktivitas xantin oksidase.

Kata Kunci: sidaguri, xantin oksidase, hiperurisemia, konsentrasi inhibisi ( $IC_{50}$ )



## ABSTRACT

Hyperuricemia is a condition in which the levels of uric acid is above normal. Xanthine oxidase catalyses the oxidation of hypoxanthine and xanthine into uric acid. One of the medicinal plants that have antihyperuricemia activity is sidaguri plant (*Sida rhombifolia* L.). Based on the inhibition activity of sidaguri plant, therefore in this research, simplicia of sidaguri leaf will do a characteristic test and phytochemical test and inhibition assay of ethanol extract of sidaguri leaves with IC<sub>50</sub>. The characteristic test of simplicia of sidaguri leaf has fulfilled the standard by *Materia Medika Indonesia* volume VI and *Indonesian Herbal Pharmacopoeia*. Phytochemical test of ethanol extract of sidaguri leaves showed the presence of alkaloid, flavonoid, saponin and tannin compounds. The value of xanthine oxidase enzyme inhibition activity was performed by spectrophotometric method with wavelength 291,5 nm. Phytochemical test of ethanol extract of sidaguri leaf showed the presence of alkaloid, flavonoid, saponin and tannin compounds. The mean IC<sub>50</sub> value of allopurinol standard was 0,59 ± 0,45 µg / ml and the mean IC<sub>50</sub> value of sidaguri leaf ethanol extract was 4,26 ± 2,32 µg / ml. Based on the statistical result between two groups, there were significant different results (p > 0,05) so it can be concluded that there is a difference between allopurinol's inhibitory effect and ethanol extract of sidaguri leaf's inhibitory effect.

Keywords: sidaguri, xanthin oxidase, hyperuricemia, inhibition concentration (IC<sub>50</sub>)

