

STUDI POTENSI EKSTRAK ETANOL 80% *Acacia decurrens*, *Eucalyptus globulus*,
Acmena acuminatissima, *Toona sinensis* MELALUI UJI AKTIVITAS ANTIRADIKAL
BEBAS

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ABSTRACT

Free radicals are molecules that have characteristic very reactive because of their unbound electrons. To turn back into their stability, free radicals bind electron from other molecule or release unbound electron. This study determined to determine free radical scavenger activity from ethanol 80% extract of many plants such as stem, stem bark and leaf of *Acacia decurrens*, stem and leaf of *Eucalyptus globulus*, stem and leaf of *Acmena acuminatissima*, stem bark and leaf of *Toona sinensis*.

The methods that used in this experiment are spectrophotometry and TLC autography. The instrument for spectrophotometry method is UV-Vis spectrophotometer, absorbance was measured at λ 497 nm, 517 nm and 537 nm. Samples were measured in three wavelength, data of three absorbances used to determine quantification absorbance and % DPPH 0,004% submerge. % DPPH 0,004% submerge and value of sample analyze used linier regresion, then determined IC50 value from each samples. The part of plant, as samples, which has lower IC50 value is sample which has bigger potential free radical scavenger activity. TLC autography used in this experiment to determine compound of extract that have activity as free radical scavenger. The TLC plate were eluted with hexane: ethyl acetate: formic acid = 0,5: 10: 1, then each plates sprayed with different spot presence like DPPH 0,2% in methanol, anisaldehyde H2SO4, FeCl3 or steamed with ammonia's steam.

The result of spectrophotometry method is IC50 value. IC50 value of stem, stem bark and leaf of *Acacia decurrens* in 30 minutes are 12,969 ppm, 4,306 ppm and 10,694 ppm, and IC50 value of stem, stem bark and leaf of *Acacia decurrens* in 60 minutes are 12,539 ppm, 4,114 ppm and 9,430 ppm. IC50 value of stem and leaf of *Eucalyptus globulus* in 30 minutes are 6,523 ppm and 5,232 ppm and IC50 value of stem and leaf of *Eucalyptus globulus* in 60 minutes are 5,695 ppm and 5,026 ppm. IC50 value of stem and leaf of *Acmena acuminatissima* in 30 minutes are 16,721 ppm and 23.513 ppm. IC50 value of stem and leaf of *Acmena acuminatissima* in 60 minutes are 16,199 ppm and 22,466 ppm. IC50 value of stem bark and leaf of *Toona sinensis* in 30 minutes are 9,957 ppm and 7,502 ppm and IC50 value of stem bark and leaf of *Toona sinensis* in 60 minutes are 8,795 ppm and 7,141 ppm.

Keyword: free radical scavenger activity, *Acacia decurrens*, *Eucalyptus globulus*, *Acmena acuminatissima*, *Toona sinensis*, DPPH, UV-Vis spectrophotometry, TLC-autography.