INTISARI

UJI AKTIVITAS ANTIOKSIDAN PERASAN KOMBINASI EKSTRAK RIMPANG JAHE (*Zingiber officinale*), KUNYIT (*Curcuma longa Linn*), LENGKUAS (*Alpinia galanga*) DAN KENCUR (*Kaempferia galanga L*)

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Famili Zingiberaceae termasuk didalamnya jahe (*Zingiber officinale*), kunyit (*Curcuma longa Linn),* lengkuas (*Alpinia galanga*) dan kencur (*Kaempferia galanga L*) mengandung banyak senyawa diantaranya *gingerol, kurkumin* dan *flavonoid* yang memiliki sifat antioksidan alami. Tujuan dari penelitian ini adalah untuk mengetahui aktivitas antioksidan perasan kombinasi ekstrak rimpang jahe, kunyit, lengkuas dan kencur menggunakan metode DPPH (1,1-Diphenyl-2-Picrylhydrazyl) dan menghitung nilai IC_{50}. Kombinasi rimpang jahe, kunyit, lengkuas dan kencur diambil air atau sarinya menggunakan *juicer* kemudian disaring dengan kain batis. Selanjutnya dilakukan identifikasi kualitatif, untuk mengetahui senyawa *gingerol*, *kurkumin* dan *flavonoid*, dari hasil identifikasi kualitatif terbukti perasan kombinasi ekstrak rimpang jahe, kunyit, lengkuas dan kencur mengandung senyawa *gingerol*, *kurkumin* dan *flavonoid.* Selanjutnya dilakukan uji aktivitas antioksidan menggunakan alat spektrofotometer UV-Vis pada panjang gelombang 500 nm pada menit ke-30. Hasil penelitian menunjukkan bahwa perasan kombinasi ekstrak rimpang jahe, kunyit, lengkuas dan kencur memiliki aktivitas antioksidan, pada formula I nilai IC_{50} sebesar 23,5 ppm (sangat kuat), formula II nilai IC_{50} sebesar 171 ppm (sedang) dan formula III nilai IC_{50} sebesar 552 ppm (sangat lemah).

Kata Kunci : *Zingiber officinale*, *Curcuma longa Linn*, *Alpinia galanga*, *Kaempferia galanga L*, Antioksidan, DPPH (*1,1-Diphenyl-2-Picrylhydrazyl*), *IC_{50}.*

Keterangan : 1. Peneliti, 2. Pembimbing 1, 3. Pembimbing 2

ABSTRACT

THE ANTIOXIDANT ACTIVITY TEST OF EXTRACT COMBINATION JUICE GINGER RHIZOME (Zingiber officinale), TURMERIC (Curcuma longa Linn), GALANGAL (Alpinia galanga) AND Kaempferia galanga L

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The Zingiberaceae family includes ginger (Zingiber officinale), turmeric (Curcuma longa Linn), galangal (Alpinia galanga) and Kaempferia galanga L contains many compounds including gingerol, curcumin and flavonoid which have natural antioxidant properties. The purpose of this study was to determine the antioxidant activity of extract combination juice ginger rhizome, turmeric, galangal and Kaempferia galanga L using the DPPH (1,1-Diphenyl-2-Picrylhydrazyl) method and calculate the IC_{50} value. The combination of ginger rhizome, turmeric, galangal and Kaempferia galanga L is taken with water or juice using a juicer and then filtered with a batis cloth. Furthermore, qualitative identification was carried out, to determine gingerol, curcumin and flavonoid compounds, from the results of qualitative identification it was proven that the of extract combined juice ginger rhizome, turmeric, galangal and Kaempferia galanga L contained gingerol, curcumin and flavonoid compounds. Furthermore, the antioxidant activity test was carried out using a UV-Vis spectrophotometer at a wavelength of 500 nm at 30 minutes. The results showed that the combined extract juice ginger rhizome, turmeric, galangal and Kaempferia galanga L extracts had antioxidant activity, in formula I the IC50 value was 23,5 ppm (very strong), formula II IC50 value was 171 ppm (moderate) and formula III IC50 value was 552 ppm (very weak).

Keywords : *Zingiber officinale, Curcuma longa Linn, Alpinia galanga, Kaempferia galanga L, Antioxidant* , DPPH (*1,1-Diphenyl-2-Picrylhydrazyl*), IC_{50}.