ABSTRAK

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Program Studi : Farmasi

Judul : Uji Aktivitas Ekstrak Etanol Akar Singawalang (*Petiveria alliaceae*) Terhadap Penghambatan Enzim Tirosinase

Tanaman singawalang (*Petiveria alliacea*) memiliki manfaat pada daun dan akar, keduanya mengandung senyawa metabolit sekunder yang berperan sebagai antioksidan dengan nilai IC_{50} sebesar 0,120 mg/mL. Reaksi oksidasi terjadi dalam melanogenesis sehingga terbentuknya dopakrom. Pembentukkan dopakrom terjadi karena aktivitas enzim tirosinase meningkat dan pembentukan dopakrom dipercepat. Penelitian ini bertujuan untuk mengetahui kemampuan aktivitas akar singawalang dalam menghambat reaksi oksidasi enzim tirosinase. Pengujian dilakukan secara *in vitro* dan teknik *microplate reader* ELISA, enzim tirosinase dan substrat L-DOPA bereaksi menghasilkan dopakrom bewarna coklat yang dapat diukur. Asam kojat dan ekstrak etanol akar singawalang menunjukkan aktivitas penghambatan terhadap enzim tirosinase pada panjang gelombang 492 nm dan nilai IC_{50} asam kojat dan ekstrak etanol akar singawalang masing-masing sebesar 0,092 mg/mL dan 4,987 mg/mL.

Kata kunci: Tirosinase, Akar, Singawalang, *microplate reader* ELISA

ABSTRACT

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Title : Test Activity Ethanol Root Extract Singawalang (*Petiveria alliacea*) Against Tyrosinase Enzyme Inhibition

Singawalang (*Petiveria alliacea*) have the benefits are leaves and roots, both of them contain secondary metabolites that act as an antioxidant with IC50 value of 0.120 mg/mL. The oxidation reaction occurs in melanogenesis which involves the amino acid tyrosine and the enzyme tyrosinase that dopachrome. Formation dopachrome due to the activity of tyrosinase enzyme increased, resulting in the formation of dopachrome accelerated. This study aims to determine the root activity singawalang ability to inhibit tyrosinase enzyme oxidation reaction. Tests conducted in vitro and microplate technique ELISA reader to see the value of absorbance, enzyme tyrosinase and substrate L-DOPA reacted produce chocolate colored dopachrome that can be measured. Kojic acid and ethanol extract of the roots of singawalang show inhibitory activity against tyrosinase enzyme at a wavelength of 492 nm and IC_{50} values kojic acid and extract the root ethanol singawalang 0.092 mg mL and 4.987 mg/mL, respectively.

Keywords : Tyrosinase, Roots, Singawalang, microplate reader ELISA