ABSTRAK

Enzim urease merupakan metaloenzim yang mengandung nikel yang berfungsi untuk mengkatalisis hidrolisis urea menjadi amonia dan karbon dioksida. Enzim urease dalam penelitian ini diisolasi dari biji jagung. Penelitian ini bertujuan untuk ekstraksi dan karakterisasi enzim urease dari biji jagung serta uji antijamur terhadap jamur *C.albicans.* Enzim urease diekstrak dari biji jagung kemudian ditentukan aktivitasnya menggunakan metode Nessler dan diukur menggunakan spektrofotometer UV-Vis pada panjang gelombang 500 nm. Ekstrak kasar enzim selanjutnya diuji aktivitasnya terhadap *C.albicans* menggunakan metode difusi sumur. Hasil karakterisasi enzim urease dari biji jagung diperoleh aktivitas optimumnya sebesar 18,644 U/mL pada konsentrasi 0,25 M; pH 7; suhu inkubasi 35 °C. Laju maksimum (Vmaks) dan konstanta Michaelis-Menten (K_M) yang diperoleh sebesar 24,772 M/menit dan 0,093 M. Hasil uji antijamur urease terhadap jamur *C.albicans* diperoleh aktivitas penghambatan termasuk dalam kategori sedang dengan konsentrasi 100% sebesar 9,680 mm.

Kata kunci : antijamur, biji jagung, *Candida albicans*, urease

ABSTRACT

The urease enzyme is a nickel-containing metalloenzyme that functions to catalyze the hydrolysis of urea into ammonia and carbon dioxide. The urease enzyme in this study was isolated from corn kernels. This study aimed to extract and characterize the urease enzyme from corn kernels as well as an antifungal test against the fungus C.albicans. The urease enzyme was extracted from corn kernels and then its activity was determined using the Nessler method and measured using a UV-Vis spectrophotometer at a wavelength of 500 nm. The crude extract of the enzyme was then tested for its activity against C.albicans using the well diffusion method. The results of the characterization of the urease enzyme from corn kernels obtained the optimum activity of 18.644 U/mL at a concentration of 0.25 M; pH 7; incubation temperature 35 °C. The maximum rate (Vmax) and Michaelis-Menten constant (K_M) obtained were 24.772 M/minute and 0.093 M. The test results of urease antifungal against the fungus C.albicans obtained a medium inhibitory activity at 100% concentration of 9.680 mm.

Keywords : antifungal, Candida albicans, corn seed, urease