

ABSTRAK

Cahaya Immanuel Sefian, 24020221140052. **Karakterisasi Dan Skrining Enzim Amilase, Protease, Lipase, Dan Selulase Yang Dihasilkan Isolat Khamir EK. 008 A Dan EK. 008 B** (di bawah bimbingan Endang Kusdiyantini dan Arina Tri Lunggani).

Khamir adalah mikroorganisme yang mampu menghasilkan berbagai jenis enzim penting yang berperan dalam berbagai proses biokimia dan bidang industri. Penelitian ini bertujuan untuk skrining enzim amilase, protease, lipase dan selulase yang dihasilkan oleh isolat khamir EK. 008 A dan EK. 008 B, serta menentukan kondisi optimum aktivitas enzim yang dihasilkan. Penelitian meliputi peremajaan isolat, identifikasi makroskopik dan mikroskopik isolat khamir EK. 008 A dan EK. 008 B, skrining enzim (amilase, protease, lipase, dan selulase) dengan pengukuran zona bening. Produksi crude enzyme berdasarkan berdasarkan zona bening terbesar hasil skrining enzim. Karakterisasi enzim dengan variasi pH (5, 7, 8), suhu (30°C, 37°C, 45°C), serta waktu inkubasi (15, 30, 60 menit), pengukuran absorbansi 410 nm, dan pengukuran uji ANOVA. Hasil pengujian menunjukkan bahwa kedua isolat mampu menghasilkan enzim amilase, protease, dan lipase, dengan zona bening terbesar pada enzim lipase untuk kedua isolat tersebut, sementara aktivitas selulase tidak terdeteksi. Pada uji karakterisasi, pH terbaik adalah pH 7 untuk kedua isolat, suhu terbaik adalah 37°C untuk isolat EK. 008 A dan 30°C untuk isolat EK. 008 B, serta waktu inkubasi terbaik adalah 30 menit. Hasil penelitian ini menunjukkan bahwa isolat khamir EK. 008 A dan EK. 008 B memiliki potensi sebagai sumber enzim ekstraseluler, terutama lipase, yang dapat digunakan dalam bidang bioteknologi.

Kata Kunci : *Amilase, Enzim, Khamir, Lipase, Protease, Selulase, Skrining*

ABSTRACT

Cahaya Immanuel Sefian, 24020221140052. ***Characterization And Screening Of Amylase, Protease, Lipase, And Cellulase Enzymes Produced By Yeast Isolates EK. 008 A And EK. 008 B*** (under the guidance of Endang Kusdiyantini and Arina Tri Lunggani).

Yeast is a microorganism capable of producing various types of important enzymes that play a role in various biochemical processes and industrial fields. This study aims to screen for amylase, protease, lipase, and cellulase enzymes produced by yeast isolates EK. 008 A and EK. 008 B, as well as to determine the optimum conditions for enzyme activity. The study included the rejuvenation of isolates, macroscopic and microscopic identification of yeast isolates EK. 008 A and EK. 008 B, enzyme screening (amylase, protease, lipase, and cellulase) with clear zone measurement. Crude enzyme production was based on the largest clear zone resulting from enzyme screening. Enzyme characterization was performed with variations in pH (5, 7, 8), temperature (30°C, 37°C, 45°C), and incubation time (15, 30, 60 minutes), absorbance measurement at 410 nm, and ANOVA test measurement. The test results showed that both isolates were capable of producing amylase, protease, and lipase enzymes, with the largest clear zone in the lipase enzyme for both isolates, while cellulase activity was not detected. In the characterization test, the optimal pH was 7 for both isolates, the optimal temperature was 37°C for isolate EK. 008 A and 30°C for isolate EK. 008 B, and the optimal incubation time was 30 minutes. The results of this study indicate that yeast isolates EK. 008 A and EK. 008 B have potential as sources of extracellular enzymes, particularly lipase, which can be used in the field of biotechnology.

Key words: Amylase, Cellulase, Enzyme, Lipase, Protease, Screening, Yeast