

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