

KARAKTERISASI EKSTRAK KASAR LIPASE
Rhizopus stolonifer UICC 137

Sri Sumarsih
Jurusan Kimia Fakultas Matematika Dan Ilmu Pengetahuan Alam
Universitas Airlangga
Surabaya

ABSTRACT

There is an increasing commercial interest in enzymatic production of biologically active component, because there are a number of well-known advantages compared to chemical synthesis. One of the most valuable synthetic features of enzymes is their ability to discriminate between enantiomers of racemic substrates. Lipase have become of great interest to the chemical industries owing to their usefulness in both hydrolytic and synthesis reactions.

*The aim of this work was to study the production of lipase by *Rhizopus stolonifer* UICC 137, and determine the crude lipase preparation characteristics. The lipolytic activity was determined by titrimetric method toward olive oil-arabic gum emulsion as a substrate.*

The strain produced lipase at appreciable lipolytic activity when cultivated for 72 hours in medium containing 3 % glucose and 1 % olive oil. Our data suggest that the strain produced lipase since the exponential phase of its growth. Lipase with optimum lipolytic activity was obtained at late stationary phase. The optimum condition for lipolytic activity measurement were pH of 7,5 and temperature of 37° C. The crude enzyme had a specific activity of 20,2 Unit/mg protein, the V_{max} was 15,1 mol/min and K_M was 12,5 mg/ml. The crude enzyme retained 79,9 %, 68,0 % and 52,6 % of its lipolytic activity, when incubated for 90 minutes at temperature of 40, 50 and 60° C respectively.