



International Journal of Advanced Research in Biology, Ecology, Science and Technology (IJARBEST)

Vol. 2, Special Issue 8, February 2016 in association with

KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY, VIRUDHUNAGAR

DEPARTMENT OF BIOTECHNOLOGY

ORGANIZES

DBT, NEW DELHI SPONSORED NATIONAL LEVEL CONFERENCE ON CONTEMPORARY TRENDS IN
BIOENERGY AND GREEN TECHNOLOGY: CHALLENGES AND OPPORTUNITIES [ORA-2016]

(25-26TH FEBRUARY 2016)

PRODUCTION AND OPTIMIZATION OF LIPASE BY SOLID STATE FERMENTATION

A.T.Ramana, S.Mohana, V.Bhagiyalakshmi
Final Year, Anna Bioresearch Foundation,
Department of Biotechnology, Anna Engineering College,
Tiruvannamalai, Tamilnadu-606603
Email: ramanan_a@ymail.com
vbhagiyalakshmi@gmail.com

ABSTRACT

Lipase is an enzyme that hydrolyzes lipids, the ester bonds in triglycerides, to form fatty acids and glycerol and Lipases are actively used in various industries which include food and dairy, pharmaceuticals, organic synthesis and detergent and cosmetics. It comprises of bioactive molecules that could be having beneficial application in agriculture, medicine, animal feed and other industries. Lipases occur widely in nature, but only microbial lipases are commercially significant. Production of enzyme by *Aspergillus niger* was tested using solid-state fermentation (SSF). The optimum temperature, pH, inoculation time, carbon source, were found to be 30°C, 6.5, 96 h, glucose, ammonium sulphate, respectively. The extracted extracellular crude lipase was purified to homogeneity by using ultrafiltration, microfiltration. The purified enzyme was estimated by Lowry's method and the lipase was extracted and purified using ammonium sulfate precipitation. Lipase from *Aspergillus niger* was further investigated immobilized from with in chemically inert.

Keywords: Lipase, *Aspergillus niger*, Solid State Fermentation, Physical factors, Ultrafiltration, Precipitation, Immobilization.

IJARBEST
Research at its Best III