

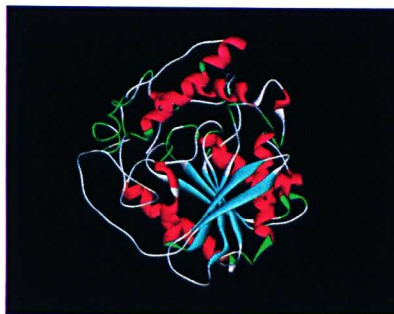
Production of an Organic Solvent Tolerant Lipase



We have isolated a new organic solvent-tolerant *B. sphaericus* strain 205y that are capable of growing in the presence of BTEX (Benzene, Toluene, Ethyl-Benzene and Xylene) from Port Dickson, Malaysia. This new strain of *B. sphaericus* that is stable in solvent, produces an organic solvent-stable lipase. The ability of lipase to survive in organic solvent environment is critical in the use of this enzyme in oleochemical processing.

The lipase gene was cloned and the lipase expressed in *Escherichia coli* with an 8-folds increase of enzyme activity after 3h induction with 1mM IPTG. The expressed crude enzyme showed a slight enhancement of 110% and retained 90% of its activity after 30 min incubation at 37°C in *n*-hexane (25% v/v) and *p*-xylene (25% v/v), respectively. Lipase is also used in detergent formulation. However it has great potential for use in oleochemical, food and medical and industry

Production of this enzyme through large-scale fermentation of the cloned *E.coli* carrying the lipase gene has good commercial potential.



Bacillus sphaericus 205y: predicted structure by homology modelling

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