

Expression and Characterization of Lipase from *Janthinobacterium* sp.

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Lipase (triacylglycerol acylhydrolase EC 3.1.1.3) is a glycerol esterase that catalyzes esterification, transesterification, acid degradation, alcohololysis and amino degradation. Lipases usually exhibit high chemical selectivity, regioselectivity and enantioselectivity, and also have high substrate specificity. In particular, low-temperature lipases isolated from microorganisms growing in a low-temperature environment such as the polar region exhibit high catalytic activity at low temperatures compared to other mesophilic and thermophilic lipases. Therefore, the low-temperature lipase can be very usefully used in the food and pharmaceutical industries, where the reaction must be performed at a relatively low temperature. In this study, polar-derived *Janthinobacterium* sp. The lipase gene isolated from PAMC25641 was cloned and purified by overexpression, and the biochemical properties of the isolated recombinant lipase enzyme were analyzed. This enzyme is expected to be highly likely to be industrially utilized as an enzyme that maintains activity for a long time at a temperature of 15° C or less.