

Optimal Culture Conditions for the Production of Lipase from *Yarrowia lipolytica* Y-2178

Geon-Ho Lee, Deuk-Soo Kim, Young-Mi Kim and Hak-Ryul Kim

Department of Animal Science and Biotechnology, Kyungpook National University

TEL: 053-950-5754, Fax: 053-950-6750

Abstract

Lipases are versatile enzymes that catalyze the hydrolysis of triacylglycerols and a large variety of natural and unnatural esters and have ability to generate ester compounds in microaqueous conditions. They are widely distributed in animal, plants and microorganisms. Especially microbial lipases have gained industrial potential owing to economical production by fermentation, extracellular secretion and various reactive characteristics. In the past decade, interest in lipases has increased markedly and much information is already available about a number of factors affecting the production of lipases. However, there are still needs for development of new microbial strains producing lipase and environmental optimization for the scaled-up production of lipase. In this study we tried to optimize the composition of medium and culture conditions for maximal production of lipase from *Yarrowia lipolytica* Y-2178. Various carbon sources and nitrogen sources were tested and various cultural factors including metal ions, incubation temperature and time, initial pH, substrate concentration, media volume, inoculum size were investigated. The production of lipase by *Yarrowia lipolytica* Y-2178 was optimized by using glycerol and glucose as carbon source and combination of yeast extract and peptone as nitrogen source. Other optimal cultural conditions were presented in the text.

References

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