

Using Submerge Fermentation Method to Production of Extracellular Lipase by *Aspergillus niger*

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Abstract : In this study, lipase production has been investigated using submerge fermentation by *Aspergillus niger* in Kilka fish oil as main substrate. The Taguchi method with an L9 orthogonal array design was used to investigate the effect of parameters and their levels on lipase productivity. The optimum conditions for Kilka fish oil concentration, incubation temperature and pH were obtained 3 gr./ml 35°C and 7, respectively. The amount of lipase activity in optimum condition was obtained 4.59IU/ml. By comparing this amount with the amount of productivity in the olive oil medium based on the cost of each medium, it was that using Kilka fish oil is 84% economical. Therefore Kilka fish oil can be used as an economical and suitable substrate in the lipase production and industrial usages.

Keywords : lipase, *Aspergillus niger*, Kilka fish oil, submerge fermentation method

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