



**SCREENING SELECTION IDENTIFICATION PRODUCTION AND
OPTIMIZATION OF BACTERIAL LIPASE ISOLATED FROM INDUSTRIAL
REJECTION OF GAS STATION**

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ABSTRACT

Production of extracellular lipase in submerged culture of *Bacillus licheniformis* has been investigated. Bacterial Lipase producers were isolated from industrial rejection of gas station. One of the sixty isolated strain exhibited a higher lipase activity was selected and identified based on their morphological and biochemical characteristics. The effect of incubation time, medium pH, temperature, carbon source and nitrogen source for the lipase production was studied. The lipase production was maximum at pH 8, temperature 40°C and incubation time 48 hours by the lipase producing bacteria *Bacillus licheniformis*. With a selected carbon source, olive oil and glucose were suitable substrate to maximize lipase production (1.5 U/ml). The optimized concentration of olive oil and glucose was 1% and 1%, respectively. The effect of nitrogen source on lipase production indicated that the yeast extract was suitable substrates for accelerating lipase production (1.47 U/ml).

Keywords: lipase, Bacillus, screening, production, and olive oil.

INTRODUCTION

Lipases or triacylglycerol acyl ester hydrolases are carboxylesterases that catalyze both hydrolysis and synthesis of esters formed from glycerol lipases can hydrolyze long chain water-insoluble triglycerides into diglycerides,

monoglycerides, glycerol and fatty acids [1,2]. Lipases are ubiquitous enzymes which are widely distributed in plants, animals and microbes [3]. The ability of lipases to perform very specific chemical transformation (biotransformation) has