

High Level Amylase Production by *Pseudomonas stutzeri* ML-18; Isolation, Identification and Media Optimization in a Fermentation System using Response Surface Methodology (RSM)

Ahmad Gholami, [Aboozar Kazemi](#), [Mojtaba Lorpour](#), [Ghasemi Younes](#)

Abstract

The bacterium *Pseudomonas stutzeri* ML-18 was isolated from the kitchen waste water of a sweet shop. The production of amylase by this bacterium was investigated and optimized using statistical approaches (Response Surface Methodology (RSM); Box–Behnken design). The optimized medium was obtained with these conditions; (% w/v) KH₂PO₄ 0.1, Na₂PO₄ 0.25, NaCl 0.1, KNO₃ 0.1, CaCl₂ 0.005, tryptone 0.2, MgSO₄·7H₂O 0.005, starch 1 and pH 8. The amylase activity in optimized medium was 243.614 U/ml. furthermore, high level of amylase production (245.612 U/ml) was observed by using fermentor system.