FERMENTATION OF PENICILLIN G ACYLASE BY A MUTANT STRAIN OF *Escherichia coli* ATCC 11105

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ABSTRACT

Penicillin G acylase production by a mutant derivative of *Escherichia coli* ATCC 11105 in a complex medium using phenylacetic acid as inducer is carried out in a stirred jar fermentor. The initial phenylacetic acid concentration was 0.08% and fed into the culture continuously after the sixth hour of fermentation until a total amount of 3 g/l is added. Optimal pH and temperature for enzyme production are 7.0 and 28 °C respectively. Highest activity was obtained at the dissolved oxygen concentration with regard to 80% of saturation. Enzyme synthesis in mutant strain is partially repressed by glucose, lactose, maltose and sucrose, completely repressed by glycerol at 0.2% concentrations of these carbon sources.