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Optimization of Starting Time and Period of Induction and Inducer Concentration in the Production of the Restriction Enzyme EcoRI from Recombinant Escherichia coli 294

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Abstract: Induction parameters including inducer concentration, period of induction and the cell concentration at which inducer is to be added to the fermentation broth were optimized in order to increase the yield of the {\em Eco}RI restriction endonuclease isolated from recombinant {\em E. coli}. Bacterial cells harboring the plasmid pPG430 containing {\em Eco}RI endonuclease and the methylase genes under the control of {\em lac} promoter were used in the experiments where induction was accomplished by using lactose isopropyl-β-D-thiogalactoside (IPTG). An IPTG concentration of 0.1mM, the late exponential phase of growth (at an optical density of 1.2 at 595 nm) and an induction period of 6 hours were determined to be the optimum conditions for induction.

Key Words: EcoRI, restriction enzyme, induction, enzyme purification.

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