

Optimization of the culture conditions for production of glutamate decarboxylase by Recombinant *E.coli*(BL21)

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In this study, the fermentation technique was applied to improve the yield of glutamate decarboxylase (GAD) produced by recombinant *E.coli* (BL21). γ -Aminobutyric acid (GABA) is a major inhibitory neurotransmitter synthesized in the central nervous system from glutamate by glutamate decarboxylase (GAD). It has applications in the production of many drugs. In order to obtain high yields of glutamate decarboxylase (GAD) to satisfy the growing market for gamma-aminobutyric acid (GABA), production of GAD by Recombinant *E.coli* was examined in batch cultures. The effects of glucose concentration and three different feeding methods on the production GAD were also investigated in this work. Our results showed that the production of GAD by *E.coli* was enhanced when glucose concentration 60g/L (34hr). Recent efforts to engineer *E. coli* for improved cell mass.