

Production of GABA(gamma aminobutyric acid)in lab scale bobble column reactor

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Gamma aminobutyric acid(GABA), a four carbon non-protein amino acid, GABA is produced primarily by the enzyme glutamate decarboxylase, which catalyses the irreversible decarboxylation of glutamate to GABA. GABA has various physiological functions in animals and humans. GABA is known to be involved in the hypotensive, diuretic, and tranquilizing effects. GABA intake could also help treat various neurological disorders such as seizures, Parkinson's disease, stiff-man syndrome, and schizophrenia, sleeplessness, depression, and autonomic disorders, chronic alcohol-related symptoms, and have an inhibitory action on cancer cell.

Recently, mass production of GABA using lactic acid bacteria has been studied using *Lactobacillus brevis*, *Lactococcus lactis*, *Lactobacillus paracasei*. Using lactic acid bacteria has problem to low productivity, quality, and long production time.

In this study, 1 M glutamate was converted to 1 M GABA during 5 hr, using bobble column reactor.