

# Induction of mutation and Development of a high L-tryptophan yielding *Bacillus subtilis*

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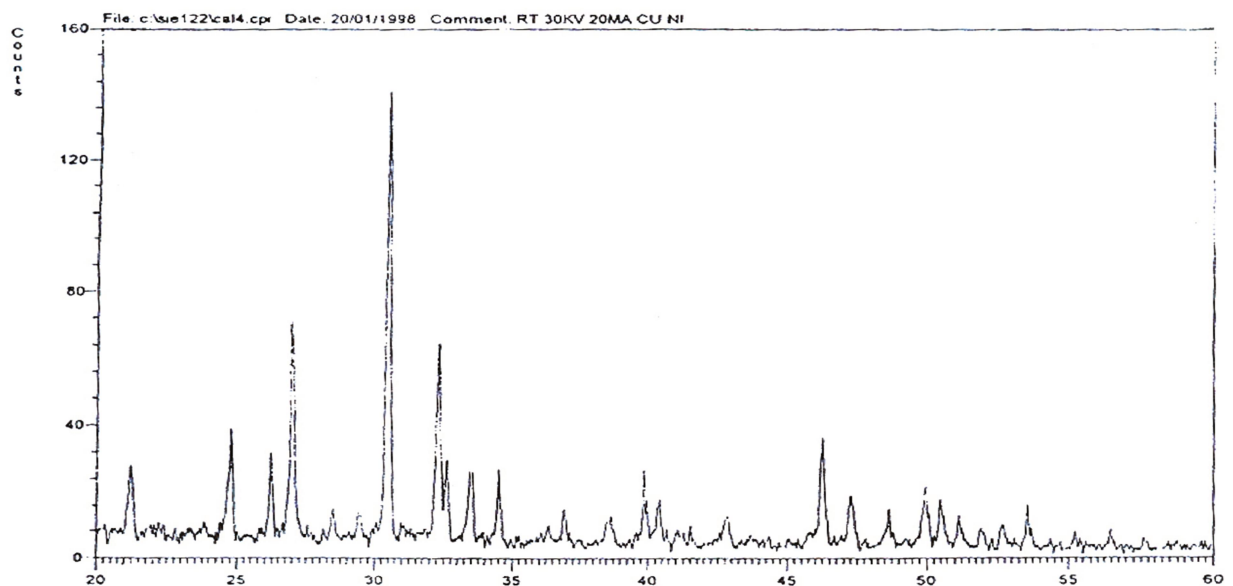
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## Abstract

A regulatory mutant *Bacillus subtilis* GSX1159 was employed for the development of high-tryptophan yielding strain via random mutation using Ethylemine and UV irradiations. It followed selection and protoplast fusion between high L-threonine yielding strain and multiple L-threonine analog-resistant strain to develop such a high yielding strain which can prevent feedback inhibition. A high L-threonine yielding strain *Bacillus subtilis* GSX1794 was developed by induced mutation. It was then subjected to protoplast fusion with multiple L-threonine analog-resistant strain *Bacillus subtilis* GSX2170. It led to the development of a multiple analog-resistant high L-threonine yielding strain *Bacillus subtilis* GSX2480, which could accumulate up to 8.3 mg/ml L-threonine (64.3% greater accumulation than *Bacillus subtilis* GSX1159) in the fermentation broth on subsequent fermentation trials.

[Key words: *Bacillus subtilis*, Ethylenemine, UV irradiations, L-threonine, analog]