

Isolation and characterization of RNase E (*rne*) encoding gene from *Corenebacterium glutamicum*

Among different microorganisms with special biotechnological importance *Corenebacterium glutamicum* is frequently encountered in commercial production of amino acids. Compared to the organisms like *E.coli*, only few genes are known in *Corenebacterium glutamicum* and the nucleotide sequence of the most genes have not been clarified yet.

Unknown genes of an organism can be identified via complementation of corresponding mutants. In this study, RNase E encoding *rne* gene of *Corenebacterium glutamicum* was isolated using corresponding *E. coli* mutants. RNase E is an essential endoribonuclease involved in the maturation of 5S rRNA and the decay of many RNAs.

Isolation of *Corenebacterium glutamicum rne* gene was attempted in two ways. In the first method, *Corenebacterium glutamicum* and *Brevibacterium lactofermentum* genomic DNA was amplified using PCR and cloned into pUC18 vector. In the second method shotgun cloning was carried out. The temperature sensitivity of the *rne E.Coli* mutant strain, GW20 was checked at restriction temperature 42°C.

The temperature sensitive growth of GW20 mutants could be suppressed by the introduction of *rne* gene of *Coreneform* bacteria. The clones of *E.coli* GW20 mutants that recovered from temperature sensitivity were successfully isolated.