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Mutagenesis of Leuconostoc Mesenteroides and selection of Dextransucrase hyperproducing strains

"Kamal F, Samadi N, Mazaheri Assadi M, Moazami N, Fazeli MR "

Abstract:

Dextransucrase of Leuconostoc mesenteroides PTCC 1059 is an enzyme of industrial and medical interest that catalyzes the synthesis of a soluble dextran from sucrose. The mutant strains of Leuconostoc mesenteroides PTCC 1059 hyperproducing for dextransucrase were isolated after UV irradiation and treatment with ethyl methane sulfonate. The enzyme activity of one mutant strain, the 1059M5E4, was about 2.5-fold higher than that of the wild type, while its cell growth was relatively lower. The 1059M5E4 dextransucrase produced the same type of dextran as well as the wild type but showed higher thermal stability. These properties may be interesting for using this strain in enzymatic production of dextran.

Keywords:

Dextransucrase , Dextran , Leuconostoc mesenteroides

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