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Constitutive overexpression of cyclodextrin glucanotransferase in *Bacillus subtilis*

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To overproduce the cyclodextrin glucanotransferase (CGTase) of *Bacillus stearothermophilus* in *B. subtilis,* the pJH-CGT1 and pJH-CGT2 plasmids were constructed. The CGTase gene in pJH-CGT1 plasmid could be transcribed by using two promoters, its own promoter (P_C) and the strong constitutive promoter (P_{JH}) located upstream region of P_C. In the case of pJH-CGT2, the CGTase gene was contained but its own promoter (P_C) was not. The transformed cell with the plasmid produced active CGTase enzyme in the culture medium and within the cell. The CGTase activity of 2.5 unit/ml was produced by *B. subtilis* DB431 containing pJH-CGT2. The highest expression levels of CGTase was obtained from the *B. subtilis* DB431 containing pJH-CGT1. Total expression level and secretion efficiency were about 3.5 unit/mL and 60%, respectively. It was also found that the plasmid was stably maintained above 70% level. The optimum pH and temperature of the recombinant CGTase was found to be 6.0 and 60℃, respectively. Based on SDS-PAGE, The molecular weight of recombinant CGTase was estimated to be 75 kDa.