CLONING AND SEQUENCING OF THE CYCLODEXTRIN GLUCANOTRANSFERASE (CGTase) FROM *BACILLUS CLAUSII* STRAIN E16.

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Cyclodextrin glycosyltransferase (CGTase; EC 2.4.1.19) is an enzyme that is able to convert starch into cyclodextrins through ciclization reaction. This enzyme is classified in the alpha-amylase family showing four highly conserved amino acid sequences that contain the substrate bind and the active sites. The alkaliphilic *Bacillus clausii* strain E16 was isolated as a good CGTase producer. This CGTase was purified and biochemically characterized. Information about biochemical structure of this CGTase is important aiming to analyze its viability for industrial application. So, the *cgt* gene was cloned using the TOPO TA cloning kit, the gene was amplified by PCR and transformed in *E. coli* TOP 10. Seven clones with *cgt* gene were obtained. These clones were sequenced and showed high similarity with other CGTase sequences, corresponding to an identity of 99% with CGTase from *Bacillus* sp 1-1 and *Bacillus* sp KC201. The *cgt* gene from *Bacillus clausii* strain E16 showed express a protein with 675 amino acids and molecular weight of 75,4 kDa was estimated, which was similar to the purified enzyme. The five domain and the four conserved regions were found.

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