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Molecular Cloning of a Levanase Gene from *Microbacterium laevaniformans* ATCC 15953

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A gene, *levM*, encoding an extracellular levanase of *Microbacterium laevaniformans* ATCC 15953 was cloned and sequenced. The deduced amino acid sequence of a putative levanase shows 63% and 61% similarity with those of *Bacillus stearothermophilus* and *B. subtilis* levanases, respectively. The weak homology was also found with levan fructotransferases and levansucrases. The recombinant *E. coli* for the production of levanase was prepared by transforming *E. coli* MC 1061 with the expression vector pLEVKB. The expression vector was constructed by inserting a *levM* gene into pBluescript SK(+). Most of the levanase activity was observed in the cell free extract. The major product from levan by enzyme reaction was identified as levanbiose by TLC assay. Small amounts of larger fructooligosaccharides and free fructose were also formed.