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Production of levan and other fructosyl derivatives by levansucrase from *Microbacterium laevaniformans*ATCC 15953

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Levansucrase from *Microbacterium laevaniforman* ATCC 15953 was purified from cell-free extracts by ammonium sulfate precipitation, DEAE-Sepharose Fast Flow and Sephacryl S-100 HR column chromatographies. The molecular mass of the purified enzyme was estimated to be 66 kDa on the SDS-PAGE and the enzyme was purified by 45-fold and the final yield was 3%. Zymogram staining of the enzyme revealed the white band which indicates the levan formation. The optimal pH and temperature for the levan formation were around 6.0 and 30°C, respectively. 1-kestose was also observed as a minor product by TLC. The enzyme also catalyzes the transfructosylation reaction of fructose moiety from sucrose to various sugar acceptors producing several fructosyl derivatives. The fructosyl derivatives produced by levansucrase transfrutosyl reaction were detected by TLC and HPLC. The identification of each derivative is under way.