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Taxonomic Characteristics of *Bacillus* sp. KYJ 963 Isolated from Anchovy-*jeot* and Enzymatic Properties of Its Extracellular Amylase

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Abstract

A bacterial strain producing an extracellular amylase was isolated from anchovy-*jeot* and designated as KYJ 963. A nearly complete nucleotide sequence of a 16S ribosomal RNA gene from the isolate was determined following the isolation and cloning of amplified genes. On the basis of the results concerning 16S ribosomal DNA sequence analysis, cellular fatty acid composition analysis, and sensitivity test to antibiotics, the isolate KYJ 963 was identified as the closest microbe to *Bacillus megaterium* and *Bacillus simplex*. *Bacillus* sp. KYJ 963 produced an extracellular amylase with a molecular mass of approximately 59,000. The analyses of the digestion products of substrates by thin layer chromatography and the N-terminal amino acid sequence from the purified extracellular amylase revealed that the enzyme was a novel beta-amylase. The N-terminal amino acid sequence of the beta-amylase up to residue 15 was A-V-N-G-Q-S-F-N-S-N-Y-K-T-Y-K-. The amylolytic activity of the purified enzyme on soluble starch was optimal at pH 7.5 and 50°C. The activity at 15% NaCl exhibited about 50% of that at 0% NaCl.