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Characterization of a Novel Alginate Lyase from *Flavobacterium multivolum* K-11

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An alginate lyase was purified from an extracellular enzyme (comm *Flavobacterium multivolum* K-11 by successive column chroma cation exchange, chromatofocusing, and gel filtration. The purified single band on SDS-PAGE and analytical isoelectric focusing. The enzyme was 32,000 by SDS-PAGE and 33,000 by HPLC gel filtr and the pI of the enzyme was 8.2 on isoelectric focusing. The enzym activity at pH 7.5 and 40°C, and was stable between pH 6.0 and 9

up to 20°C. The enzyme activity was remarkably inhibited by chelating agents such as SDS, MIA, TNBS, and *N*-bromosuccinimide, while EDTA and PMSF had no effect on the enzyme activity. The enzyme decomposed both the G-block (glucuronic content; 89%) and the M-block (mannuronic content; 92%) at nearly equal rates, producing several kinds of unsaturated oligomers. Because such activity of alginate lyase has not been reported, we believe that this is a novel alginate lyase.

Keywords: [alginate lyase](#), [alginate](#), [Flavobacterium multivolum](#)

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