

An exo-chitinase from *Aeromonas* sp. GJ-18

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Abstract

Bacteria having high chitinase activity were screened from various coastal soils of Korea. Among them, *Aeromonas* sp. GJ-18 showed highest specific activity of chitinase when cells were grown in the basal medium containing 1% swollen chitin at 30°C on the fifth day of culture. The chitinase was purified from the culture supernatant by ammonium sulfate precipitation, DEAE Sephadex A-50, and Resource Q column chromatographies. The purified enzyme exhibited one band on 12.5% SDS-PAGE. The molecular weight of enzyme was estimated to be approximate 75 kDa. The reactants of *N*-Acetylchitooligosaccharides [(GlcNAc)₂₋₆] with the chitinase were analyzed by thin-layer chromatography and HPLC after a prolonged reaction. *N*-Acetyl-D-glucosamine (GlcNAc) and *N*-Acetylglucosamine tri-saccharide (GlcNAc)₃ were the major product. Then, we concluded this enzyme to be a chitinase with exo-cleavage type.

References

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