PE 17 - Cloning of the Gene Encoding A Novel Goose Type Lysozyme-Like Enzyme from Moderately Thermophilic Bacterium Ralstonia sp. A-471

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We isolated a thermophilic strain belonging to the genus *Ralstonia*, which is capable of degrading chitin from a composting system of chitin-containing waste. Chitinase A (Ra-ChiA) was excreted into culture medium and was constantly produced until the colloidal chitin was wholly degraded. The other chitinase, chitinase B (Ra-ChiB), showed a trace amount of protein in the culture medium, and had weaker activity than Ra-ChiA. We isolated and purified Ra-ChiA and Ra-ChiB from *Ralstonia sp.* A-471. The enzymatic properties of these two enzymes were similar to each other, e.g. as thermo-stability and high activity against various partially N-acetylated chitosan. To understand the genetic basis for the production of chitinases in *Ralstonia sp.* A- 471, we attempted to clone and sequence the chitinase genes. During the cloning of the chitinase genes from *Ralstonia sp.* A-471, we got a clone, which shared sequence homology with goose type lysozyme. The transformant did not make the halo in the LB plate containing cell wall of *Micrococcus lysodeikticus*. Cell free extract of the transformant had chitinase activity toward CM-chitin. We are constructing the vector to over-express the gene encoding the novel goose type lysozyme-like enzyme.