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Characterization of Two Endoglucanases in *Erwinia chrysanthemi* and Isolation of the coding genes*

M.-H. BOYER, B. CAMI, J. CATTANÉO and J.-P. CHAMBOST *

Laboratoire Chimie Bactérienne, CNRS, 13402 Marseille Cedex 9, France

Abstract

An endo-β-1,4 glucanase was purified to homogeneity from *Erwinia chrysanthemi* culture supernatant. The enzyme was characterized by its chemical and physical properties. It was named endoglucanase Z. The related gene was isolated.

Using DNA recombination techniques, gene coding for a second endoglucanase was isolated and subcloned into pUC 18. The gene is expressed from an insert of about 1.9 kb and its direction of transcription was established. The gene product was purified to homogeneity from cell-free extract of transformed *E. coli*. The purified protein has an endoglucanase activity but is significantly different from endoglucanase Z. The new enzyme was designated as endoglucanase Y.

Using DNA hybridization techniques, it was shown that the two *cel* Z and *cel* Y genes are carried on different fragments of DNA.

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