

CLONING AND EXPRESSION OF A GENE ENCODING CHITINASE FROM LECANICILLIUM LECANII 43H IN PICHIA PASTORIS

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TÓM TẮT:

Chitinase (EC.3.2.1.14) is an enzyme catalyzing hydrolysis of 1,4-glycoside bonds in molecular chitin and can be produced by a wide variety of organisms. Chitinase has been used in controlling pathogenic fungi in plants and insects. Recently, the gene encoding the chitinase from several microbial strains have been cloned and expressed in heterologous host cells and recombinant enzymes have been purified and characterized. In this study, the gene encoding the chitinase from *Lecanicillium lecanii* 43H (1269 bp, GenBank JX665045) was cloned and expressed in *Pichia pastoris* X33 by using an expression vector pPICZA. The transformant expressing the highest level of the chitinase (1.107 U/ml supernatant) was selected. The recombinant chitinase was produced with the highest level in culture YP after induction of 1.5% methanol for 120 h. The recombinant chitinase showed a molecular mass of 45 kDa on SDS-PAGE. The chitinase was successfully expressed in *P. pastoris* X33