幾丁質分解?生產菌之篩選及?之純化與特性分析

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摘 要

摘 要 本研究於台北虎山溪之土壤中，篩選出一株具有幾丁質分解?(chitinase)活性之菌株，初步命名為T1，經鏡檢後得知T1菌株為一革蘭氏陽性桿菌。菌株於CB (chitin broth)中，振盪培養120小時後，幾丁質?活性可達316 U/L，而其水解產物主要以N-乙醯葡萄糖胺(N-acetylglucosamine)為主。分析粗酵素特性，發現此酵素於酸性環境中會喪失活性，對熱易敏感，其最適反應溫度及pH值分別為40℃與7.0。以不同碳源種類培養菌株，得知菌株所分泌之幾丁質?是由粉狀幾丁質誘導產生的。將粗酵素液經硫酸銨沉澱、透析及DEAE-Sepharose CL-6B離子換層析純化步驟後，可獲得一具幾丁質?活性波峰之蛋白質區間，P2。P2再以Sephadex G-100膠體過濾層析進一步區分後，收集幾丁質?活性區間，經活性電泳染色法測定具有三種幾丁質酵素存在，分子量分別為40 kDa、50 kDa及55 kDa左右。由純化總表顯示，經由上述步驟純化，此酵素之活性回收率為7.9%，純化倍數為4.9倍，比活性為1.9。測定純化酵素之最適反應溫度及pH值分別為50℃與7.0。 關鍵字：幾丁質?、N-乙醯葡萄糖胺、酵素純化、陰離子交換層析、膠體過濾層析

關鍵詞 : 幾丁質? ; N-乙醯葡萄糖胺 ; 酵素純化 ; 陰離子交換層析 ; 膠體過濾層析

目錄

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