以 Aeromonas sp. DYU-Too13 生產 N-乙醯幾丁寡糖及其幾丁質?」妖S性分析

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摘 要

本研究以Aeromonas sp. DYU-Too13為試驗菌株，探討不同培養條件(氮源種類與氯化銨濃度)對幾丁質分解?、pH值、還原醣與N-乙醯幾丁寡醣生成量之影響；並分離純化幾丁質?，最後進行酵素之特性分析。結果顯示，以氯化銨為氮源時，所生成的N-乙醯幾丁寡醣種類較單純，且N-乙醯幾丁四醣含量於72~96小時期間皆高(第72小時有0.32 g/L；第96小時有0.31 g/L)。以0.1 g/L氯化銨為氮源時，所生成的還原醣含量於第72小時達最大值，約7.2 g/L，而所生成的N-乙醯幾丁四醣含量較高(在72 h有0.70 g/L)。以含5% β-幾丁質粉末為碳源(參考江[2008]之研究)與0.1 g/L氯化銨為氮源的基質培養菌株Aeromonas sp. DYU-Too13，經96 h培養，所得的粗酵素液再經純化步驟後，最後產物之比活性為5.06 U/mg protein，純化倍率為3.77，回收率為2.80%。經電泳活性染色分析純化之酵素，發現具分解幾丁質活性之同功?的分子量為58、66及70 kDa。酵素之最適反應pH值為7.0，最適反應溫度為40℃，而Cu2+、Hg2+及Zn2+對於幾丁質分解酵素活性有明顯之抑制作用。

關鍵詞 : Aeromonas sp. DYU-Too13、N-乙醯幾丁四醣、酵素特性分析、幾丁質分解?、酵素純化、 β-幾丁質粉末

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