Aspergillus fumigatus Fresenius所生產幾丁聚醣?之研究

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摘 要

本研究乃利用幾丁聚醣為主要碳源，於pH 4、37℃下可篩選出一株具有幾丁聚醣?活性之菌株，經鑑定結果為Aspergillus fumigatus Fresenius。 探討Aspergillus fumigatus Fresenius所生產之幾丁聚醣?，其最適培養條件為：於250 mL三角錐瓶填充100 mL 之液態培養基中含有1 g 蝦蟹殼粉、0.1 g ammonium sulfate、0.1 g ferrous sulfate、0.1 g K2HPO4、0.05 g MgSO4 · 7H2O於pH3~5、37℃、130rpm，培養5天之後，可於發酵液中獲得最大之幾丁聚醣?活性（0.4 unit/mL）。將Aspergillus fumigatus Fresenius於最適培養條件下進行大量培養，所得之發酵液經硫酸銨沈澱，並以醋酸緩衝溶液進行透析，利用DEAE Sepharose CL-6B和 Sephacryl S-200進行酵素之純化，之後，經12 % SDS- PAGE電泳檢測，測其分子量約為45 kDa。幾丁聚醣?之最適反應溫度、最適反應pH和pH穩定性分別為70℃、pH4、pH4~6，Mg2+和0.5 M Urea能夠增加酵素活性，而SDS、Mn2+和Hg2+會抑制酵素活性。

關鍵詞 : 幾丁聚醣、蝦蟹殼粉、幾丁聚醣?、酵素純化

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