pseudomonas aeruginosa m-1001所生產抗菌成分之研究

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摘 要

由台灣中部土壤所篩選出之菌株Pseudomonas aeruginosa M-1001，其發酵液具有抑制真菌生長之效果。以該菌進行真菌抑制劑生產條件探討，得到其最適培養條件以含有1 % 蝦蟹殼粉、0.1% K2HPO4、0.05 % MgSO4 · 7H2O，填充75 mL於250 mL三角錐瓶，於pH 7、37 ℃下，振盪培養24小時後，針對抑制植物病原真菌Fusarium solani而言，可得最大之抑制活性，但不具有良好的100 ℃熱穩定性。 取最適培養條件之培養上清液，經硫酸銨沉澱濃縮，再以DEAE Sepharose CL-6B等步驟分離，純化出分子量(SDS-PAGE)為38 kDa具有抑制真菌活性之蛋白質，並發現此蛋白質亦具有蛋白?活性。 純化後酵素之最適反應pH為7，最適反應溫度為37 ℃、pH值安定性為5~8、100 ℃熱安定性能維持3分鐘，以及其等電點為5.7。其發酵液與分離純化後蛋白質對於F. solani作用機制經顯微鏡觀察後發現會抑制其孢子之生長，且抑制其發芽管延長。 菌株M-1001 利用水產廢棄物為碳源所生產之真菌抑制劑，期日後能量產，應用於我國之農業上。

關鍵詞 : 綠膿桿菌 ; 真菌抑制劑 ; 蛋白質分解酵素 ; 蝦蟹殼粉

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