不同分子量幾丁聚醣對枯草桿菌之抑菌性探討

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摘 要

本研究利用四種不同分子量之幾丁聚醣(水溶性W031、甲殼素SK10P8、食品級N96、工業級A72；其相對分子量分別為27.5、94.1、245.9、350.7 kDa)對枯草桿菌(Bacillus subtilis DYU1002；其為納豆菌之一種)的抑菌性探討。由實驗結果得知，在添加幾丁聚醣A72 (350.7 kDa)前4小時有抑菌效果，之後就完全沒有抑制效果，添加幾丁聚醣N96 (245.9 kDa)在前8小時有抑制效果，而添加幾丁聚醣W031 (27.5 kDa)與SK-10P8 (94.1 kDa) 在前12小時都還有抑制效果，證明分子量越低的幾丁聚醣，對於枯草桿菌的抑制效果越好。幾丁聚醣添加量為0.02%(w/v)時，無論菌體添加量為1%或5%，其抑菌效果皆有50~60%。當添加量達0.04%(w/v)就幾乎可以達到100%的抑制效果。在本研究中發現，最佳的Bacillus subtilis抑制效果在0.04 g (w/v) 水溶性W031幾丁聚醣(27.5 kDa)的添加。但是，若要用於保健食品中，則建議使用食品級的幾丁聚醣N96(245.9 kDa)，使用量為0.02 g (w/v)，這樣將不會影響到Bacillus subtilis DYU1002的生長。

關鍵詞 : 枯草桿菌、幾丁聚醣、抑菌性、分子量

目錄

圖目錄

表目錄

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