果膠分解?★鴛t甲氧基果膠降解之酵素活性探討

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摘 要

本研究利用果膠分解?(Pectinase; pectolytic enzymes; PLEs)進行對含甲氧基果膠降解之酵素活性探討。實驗結果顯示，對含高、低甲氧基果膠之降解而言，PLEs之最適反應溫度皆為60℃，最佳反應時間為前30分鐘，最適反應pH值則相對分別為5.0和4.0，PLEs酵素活性將隨著反應溫度及pH值增加而下降。對PLEs而言，其酵素最佳熱穩定溫度在30℃~40℃之間，並在室溫下試驗，其酵素最適穩定性之緩衝溶液pH值範圍在3.0~5.0之間，而且可維持大約原有的80~90%活性示，PLEs在4℃下儲存一週後，其酵素活性雖略為下降，但無明顯的改變，可維持大約原有的80%活性；在30℃儲存前三天時，其酵素活性可。在不同溫度(4℃與30℃)下進行PLEs儲存安定性試驗，結果顯維持大約原有的95%活性，但在第四天的酵素活性即明顯下降至原有的40%以下。對PLEs之酵素動力學而言，若以高甲氧基果膠為受質時，其酵素動力學常數Km及Vm值分別為0.16mg/mL及2.31mg/mL · min，若以低甲氧基果膠為受質時，其Km及Vm值分別為1.53mg/mL及7.71mg/mL · min。

關鍵詞 : 果膠分解?、果膠、酵素活性、還原糖 ; 動力學

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