利用固定化Novozym 435脂肪?生產海藻糖脂肪酸脂類

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摘 要

醣類脂肪酸酯是一種新的非離子界面活性劑，係由醣類與不同鏈長的脂肪酸或甘油經過酯化反應後所得之酯類化合物。由於他們具有兩性(親水性與疏水性)、生物可降解性、無毒及可被生產為再生的資源。因此可用於食品、化粧品、醫療等領域。產業界大都是以化學法來進行醣類脂肪酸之合成。目前亦開始發展以酵素生合成方式來生產安全性高之酯類，碳水化合物脂肪酸酯類的合成，是在微水環境下藉由酵素走水解之逆反應，催化醣類與脂肪酸或甘油結合所產出。目前之文獻資料顯示，利用脂肪?合成醣酯類所使用的糖類大都以蔗糖、果糖及麥芽糖等為主。而以海藻糖進行醣酯類合成的相關文獻鮮少。 本研究之主要目的在於建立海藻糖脂肪酸酯類之合成條件。試驗中以100mM海藻糖及300mM硫辛酸，以2-甲基-2-丙醇(tert-butanol) 為溶劑，以0.5g固定化脂肪?(Novozym 435)於50°C催化酯類反應合成海藻糖脂肪酸酯類。目前已建立海藻糖脂肪酸之合成條件。反應終產物經高效液相層析質譜儀分析後，證實含有單酯衍生物。未來將進一步確認此醣酯類之化學結構。

關鍵詞 : 生物催化、碳水化合物、直接酯化、酯類、脂肪?、硫辛酸、海藻糖

目錄

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