

碳源对苏云金芽胞杆菌融合基因cry1D-lacZ表达的影响 effects of Carbon Sources on the Expression of cry1D -lacZ in Bacillus thuringiensis

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摘要 本研究检测了在不同遗传背景的苏云金芽胞杆菌菌株中不同碳源对杀虫晶体蛋白cry1D-lacZ融合基因表达的影响。研究表明, cry1D-lacZ在同一菌株中的表达因碳源不同而异, 在碳源相同的条件下不同菌株的表达也不相同, 而衍生菌株HD-133-5的代谢途径非常特殊。琥珀酸钠作碳源时导致芽胞形成提前, cry1D-lacZ融合基因表达也随之提前。而以乙酸钠作碳源时, 在不同亚种的菌株中都能高水平、持续稳定地表达。

Abstract:In order to investigate the influence of the carbon source on the expression of cry1D-lacZ in Bacillus thuringiensis with different genetic backgrounds,cry1D-lacZ was introduced into different strains and cultured in liquid medium containing different carbon sources.Analysis of activity of β-galactosidase showed that cry1D-lacZ expressed differenfly in the same host because of different carbon sources and differenly in different hosts utlizing same carbon sources,suggesting that metabolism pathway of carbon sourcein HD-133-5 was special.Sodium succinate as carbon source could lead to earlier. sporulation and earlier expression of cry1D-lacZ.When sodium acetate acted as carbonsource,cry1D-lacZ could keep high,stable expression in different hosts.These results arehelpful for future fermentation of Bacillus thuringiensis.

关键词 [苏云金芽胞杆菌](#) [基因表达](#) [碳源](#) **Key words** [Bacillus thuringiensis](#) [gene expression](#) [carbon sources](#)

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