

红霉素链霉菌的溶源转换研究

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摘要 2-62菌株是一溶源性菌株, 合成红霉素能力稳定, 气生菌丝生长良好。经42℃培养后筛选得到的4株无活性菌株(Em-)便不再释放噬菌体, 成为去溶源菌株, 并对P4噬菌体敏感。当此菌株再次溶源化后, 又恢复了合成红霉素的能力, 表明P4噬菌体与红霉素产生密切相关。经诱变获得的1-9及10-25Em-菌株, 气生菌丝生长受抑制, 呈光秃型, 经连续传长20次仍保持菌落类型纯一。当1-9及10-25菌株成为1-9(P4)时, 选择恢复气生菌丝生长的菌落用琼脂块法测定, 均获得产生红霉素的性能, 并都释放噬菌体。说明P4噬菌体具有溶源转换的性能, 它与红霉素的生物合成及气生菌丝的形成等性状相关。

关键词

分类号

Studies on the Lysogenic Conversion of *Streptomyces erythreus*

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Abstract

Str. erythreus 2-62 is a phage P4 lysogenic strain. It is an erythromycin producer and rich in aerial mycelium. After being cultured at 42℃ four strains that were unable to synthesize erythromycin were isolated out of 1142 colonies. At the same time they were found to be unable to release phage and sensitive to phage P4. Upon lysogenizing with phage P4 they regained the ability of synthesizing erythromycin.

Two bald non-production strains 1-9 and 10-25 were stable after 20 transfers. On lysogenizing with phage P4 single spore colonies with aerial mycelium were isolated which were shown to be erythromycin producers by agar block assay. They also released phage which was neutralizable with P4-antiserum. They were lysogenic strains accordingly.

Lysogenic conversion was therefore demonstrated in the case of phage P4 which was somehow concerned with the biosynthesis of erythromycin and aerial mycelium production.

Key words

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扩展功能

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