

# 质粒R144drd3对于大肠杆菌DNA复制发动突变型dnaP18的非整合抑制

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摘要 通过接合转移,把F1、F11、P、W、X、I型的14种质粒分别引入大肠杆菌复制发动突变型dna P 18,发现只有I型质粒R144对于dnaP 18具有抑制作用,消阻遏质粒R144drd3的抑制能力高于质粒R144约一万倍而达到完全的抑制。以下事实说明R144drd3并不通过整合到dnaP 18细菌的染色体上而带来对于dnaP18的抑制:(1) dnaP18 (R144drd 3)细菌的染色体标记的转移频率在10<sup>-7</sup>以下,而其质粒标记Km R的转移频率约10<sup>-1</sup>; (2)这些菌株的DNA抽提物的电泳图谱和电子显微镜照相都说明质粒DNA的存在。用带有质粒R144drd 3的E. coli作为供体,用E. coli dnaP 18菌株作为受体,通过噬菌体P1转导得到的两种Km R转导子中一种能在42℃形成菌落,而另一种则不能;将转座子Tn10 转座到R144drd3上以后,同样使受体成为能在42℃形成菌落或不能形成菌落两类。这些结果表明,质粒R144drd3上存在着与dnaP 18抑制有关的特定区域或基因。

关键词

分类号

## Non-integrative Suppression of the Replication Initiation Mutant dnaP18 of *Esche richia coli* by the Plasmid R144 drd3

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### Abstract

Upon introducing individually fourteen different plasmids belonging to the incompatibility group F1,F11,P,F11,P,W,X and I into the replication mutant dnaP18 strain,it was discovered that suppression was achieved only by I plasmid R144 and that suppression was ten thousand fold effective for the derepressed plasmid R144 drd 3 and a complete suppression was achieved in this case.The following facts speak against the notion of integrative suppression:(1) The frequency of conjugal transfer of chromosome markers was <10<sup>-7</sup> while that of the plasmid marker Km R was 10<sup>-1</sup> for the dnaP18 (R144drd3) strain; (2) The presence of plasmid DNA was observed in the electrophoregram and electronmicrograph of the DNA extracted from the same strain.

With the R144drd3 bearing strain as donor and the dnaP18 strain as recipient, two types of P1 transductants were obtained.one gave rise to colonies at 42℃ while the other type did not;the insertion of transposon there Tn10 into R144drd3 also gave rise to these types.It was inferred that there might be a domain or gene concerned with dnaP18 suppression in the plasmid R144drd3.

### Key words

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