

pKM101 is an IS46-promoted deletion of R46

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The plasmid pKM101 was derived from R46 by two spontaneous deletion events; loss of the tetracycline and sulphonamide resistance determinants, followed by loss of the streptomycin resistance determinant (1). Mapping studies have shown that pKM101 has lost a single continuous segment of the R46 genome (2,3). R46 includes two copies of an insertion sequence IS46 (4) which is closely related to IS15, IS140 and IS26. pKM101 includes only one IS46 element, located close to the junction generated by the deletion event, and it has been suggested that pKM101 arose by an IS46-promoted deletion event (4).

The sequence of the junction segment of pKM101 includes the first 189 bases of the coding region of the streptomycin/spectinomycin resistance determinant (*aadA*) followed immediately by 350 bases of the IS46 element. The *aadA* sequence is identical to the *aadA* gene of Tn7 (5). The IS46 sequence is identical to IS26 (6), and differs by 1 base substitution from IS15Δ11 (7). Thus pKM101 has arisen by an IS46 promoted deletion event with an end-point within the streptomycin/spectinomycin resistance gene.

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M R E A V I A E V S T Q L S E V V G V I E R H L E P T L L A V H L Y G S A V D G
ATGAGGGAGCCGGTATCCCGAAGTATCGACTCACTACAGAGGTAGTTGGCCATCGAGCCGCATCTCGAACCAGCCTTCTGGCCCTACATTGTGTACCGCTCCCGCATGTGGATGC
50
G L K P H S D I D L L V T V T V R L D E T T R
GGCCTGAGCCACACAGTGTATTTGATTTCTGTGTACCGTACCCGTAGCCCTTGATGAAACAACCGGGGCACTGTTTCAAAATAGTCGGTGGTATAACTTATCATCCCTTTTCTGT
150
ATGGAGCTGCACATGAACCCATTCAAAGCCCGGCATTTTCAAGCCGACATCATTTCTGTGGCCCTACCGCTGGTACTOCAAAATAGCCGATCACTTACCGTGAAGCTGCAGGATGCTGGCT
250
G A C C C G A G T G A A T G C A T C A C T C C A G A T T T A C C C T G G C C T T A T C C C C T G A A A T G G A A A A A C C C C T G C C C T G T A C T G C C T T C C G A T C T T G C C C G T G C A C
400
ATGGATGAAACTACGTTGAAGTCAATGGCCCTGGCCGTATCTGTACCGGCCCTCGA
500

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