

Locations of the *metG* and *mrp* Genes on the Physical Map of *Escherichia coli*

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The physical map of a 12-kb region of plasmid pX1 (5) encompassing the gene for methionyl-tRNA synthetase has been established (Table 1). The pattern of restriction sites deduced could be unambiguously identified on the whole

from close multiplets of restriction sites, unresolved on the physical map.

The genetic map location of *metG*, between *his* (44 min) and *gyrA* (48.5 min), is poorly defined (2), within a region which has given controversial mapping results (1). The region matching the restriction pattern is situated at position 2201 to 2213 kb on the physical map (7), between *sbcB* (43.6 min, 2092 kb [7]) and *nrpAB* (48.5 min, 2355 kb [7]), which places *metG* near 45.8 min (2202.6 to 2204.8 kb, as deduced from the DNA sequence of this region [5]). *metG* is therefore transcribed clockwise, in agreement with previous results which showed that some strains carrying chromosomal deletions generated by the excision of phage P2 (P2 eductants; *attP2* is located at 44 min) showed an altered *metG* expression pattern (3). *mrp*, a gene expressing a putative ATPase of M_r 37,000 (6), is located immediately upstream of *metG* and is transcribed counterclockwise.

metG was shown to be expressed by the pLC20-25 plasmid from the Clarke-Carbon collection (4, 8). It should also be encoded by the lambda phage 2B4 and at least partly by 8A1 and 3E4 (7).

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TABLE 1. Positions of restriction sites near *metG*^a

<i>E. coli</i> physical map		pX1 map	
kb	Enzyme	kb	Enzyme
2200.6	<i>Pst</i> I	0.0	<i>Pst</i> I
2200.9	<i>Eco</i> RV	0.4	<i>Eco</i> RV
2201.6	<i>Pvu</i> II	1.0	<i>Pvu</i> II
		1.1	<i>Pvu</i> II
2201.7	<i>Kpn</i> I	1.2	<i>Kpn</i> I
2201.9	<i>Kpn</i> I	1.5	<i>Kpn</i> I
2202.0	<i>Eco</i> RV	1.6	<i>Eco</i> RV
2202.6	<i>Pvu</i> II	2.1	<i>Pvu</i> II
2203.1	<i>Pvu</i> II	2.5	<i>Pvu</i> II
2203.4	<i>Eco</i> RV	2.9	<i>Eco</i> RV
2203.5	<i>Hind</i> III	3.0	<i>Hind</i> III
2203.8	<i>Eco</i> RV	3.3	<i>Eco</i> RV
		3.4	<i>Eco</i> RV
2204.1	<i>Pst</i> I	3.6	<i>Pst</i> I
2204.5	<i>Bam</i> HI	4.1	<i>Bam</i> HI
2208.2	<i>Eco</i> RV	7.8	<i>Eco</i> RV
2208.8	<i>Eco</i> RV	8.3	<i>Eco</i> RV
2209.4	<i>Eco</i> RI	7.5	<i>Eco</i> RI
2209.8	<i>Bgl</i> II	9.6	<i>Bgl</i> II
2211.8	<i>Pvu</i> II	11.1	<i>Pvu</i> II
		12.5	<i>Eco</i> RI
2213.0	<i>Pst</i> I	12.7	<i>Pst</i> I

^a The physical map coordinates are derived from reference 7. The restriction sites of pX1 (5) were mapped by classical techniques. The DNA sequence spanning the region from 0.5 to 4.2 kb (ca. 2201.1 to 2204.8 kb on the physical map) has been published (5, 6).

physical map of *Escherichia coli* (7) by a computer search. There were only a few discrepancies, originating mostly

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