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Sequences of three minor $tRNAs^{Arg}$ from *E. coli*

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Primary structures of three arginine-specific tRNAs from E. coli MRE 600, isolated from bulk tRNA by affinity chromatography (1), were determined. The sequence of $tRNA^{Arg}_{CCG}$, which potentially reads the codon CGG, corresponds to the sequence of a known $tRNA^{Arg}$ gene (2); no sequence information was until now available for $tRNA^{Arg}_{CCU}$, which most probably reads the codon AGG. Interestingly we found the nucleotide sequence of $tRNA^{Arg}_{NCU}$ (recognizing most probably the codons AGA and, presumbly with lower efficiency, AGG) in accordance with the nucleotide sequence of a $tRNA^{Arg}$ gene within the dnaY region of the E. coli genome (3). This strongly indicates, that $tRNA^{Arg}_{NCU}$ is the transcription product of this gene. The three tRNAs read codons with extremly rare abundance and may be involved in the regulation of gene expression on translational level (4).

$tRNA^{Arg}_{CCG}$: pGCGCCCGUAGCUCAGCDGGADAGAGCGCUGCCs^{2}CUCCGm^{1}GAGGCAGAGm^{7}GUC
UCAGGTΨCGAAUCCUGUCGGGCGCGCCA

$tRNA^{Arg}_{CCU}$: pGUCCUCUUAGUUAAAUGmGADAUAACGAGCCCs^{2}CUCCUt^{6}AAGGGCUAAUUGCA
GGTΨCGAUUCCUGCAGGGGACACCA

$tRNA^{Arg}_{NCU}$: pGCGCCCUUAGCUCAGUDGGADAGAGCAACGACs^{2}CUNCUt^{6}AAGΨCGUGGGCCGC
AGGTΨCGAAUCCUGCAGGGCGCGCCA

Abbreviations: m^1G=1-methylguanosine; Gm=2′-O-methylguanosine (partially undermodified in $tRNA^{Arg}_{CCU}$); s^2C=2-thiocytidine; t^6A=N-[(9-β,D-ribofuranosylpurine-6-yl)carbamoyl]-threonine; m^7G=7-methylguanosine; Ψ=pseudouridine; N is a 5′-substituted 2-thiouridine dervative.

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