

**Table S1A.** Bacterial strains used; background strain is *E. coli* – VH1000.

Strain label	Description	Doubling time (min)
tufAB	Both <i>tufA</i> and <i>tufB</i> chromosomally labeled with mEos2 at C-terminus	60 ± 3
MM7	<i>tufA</i> labeled with mEos2, expressed from a plasmid – pASK-IBA3+	47 ± 1
MM9	<i>tufA</i> <sup>L148A</sup> mutant labeled with mEos2, expressed from a plasmid – pASK-IBA3+	46 ± 4
MSG196	<i>rpsB</i> (ribosome S2 protein) chromosomally labeled with mEos2	49 ± 2
VH1000	Background parent strain	45 ± 2

**Table S1B.** Oligonucleotides used.

Oligonucleotide	Sequence, 5'- 3'
F-EcoRI-tufA_mEos2	<b>GCAT GAATTC CAGGCCGTAATTGAAGC</b>
R-HinDIII-tufA-mEos2	<b>GCAT AAGCTT TTAGCGACGAGCATTATCC</b>
F-tufA_L148A_mut	<b>GCTGCTGGAA GCA GTTGAAATGGAAG</b>
R-tufA_L148A_mut	<b>TCTTCGTCATCAACCATG</b>

**Table S1C.** Sources of copy number estimates relative to ribosomes.<sup>1</sup>

Measured species (references)	Ratio to ribosome copy number	<i>E. coli</i> strain	Growth conditions
total EF-Tu (12, 23)	7	NC3	MOPS with 0.4% glucose (w/v) at 37°C (~1 db/hr)
total tRNA (17)	7	W1845 (K12 derivative)	MOPS with 0.4% glucose (w/v) at 37°C (~1 db/hr)
EF-G (23)	~1	MG1655	M9 with glucose at 37°C
total tRNA synthetase (23)	~1	MG1655	M9 with glucose at 37°C

<sup>1</sup> Estimates of mean copy number per cell in main text are taken as the mean ribosome copy number of 50,000 (from Ref. 11 below) times the ratio in this table.