

Table 1. Translation of *lacZ* mRNA in strains HB123 carrying a wild-type *lac* operon and SL106 carrying a *spc-lac* operon fusion

Origin of mRNA Growth medium	<i>lac</i> operon		<i>spc-lac</i> fusion	
	Glycerol	LB	Glycerol	LB
Growth rate ^a	0.93	2.91	0.96	2.91
mRNA/total RNA ^b	150	8.5	124	100
β -gal/ A_{600}^c	385	16	220	94
RNA/ A_{600}^d	5.8	10.7	5.8	10.7
β -gal rate/mRNA ^e	48	60	33	30

^a Growth rate (μ) in doublings/hour; see Materials and Methods for details about measurements and accuracy of all values in this Table.

^b Relative value of hybridization signal per 25 ng of total RNA obtained with a probe complementary to the 5' end of *lacZ* mRNA. The value obtained with strain SL106 in LB medium was arbitrarily set at 100.

^c β -Galactosidase specific activity, measured as increase in A_{420} per hour of assay time per A_{600} units of culture mass present in the enzyme assay.

^d Total of 10^{16} RNA nucleotides per A_{600} unit of culture mass (Bipatnath *et al.*, 1998).

^e Rate of β -galactosidase synthesis per amount of *lac* mRNA (r/m). Relative values for the translation of *lacZ* mRNA were obtained from the values in this table as follows: $r/m = 10^{12}(\ln 2 \mu/60)(\beta\text{-gal}/A)/[(m/R)(R/A)]$ where $(\beta\text{-gal}/A)$ is $\beta\text{-gal}/A_{600}$, (m/R) is *lacZ* mRNA/total RNA, (R/A) is total RNA/ A_{600} , the growth rate-dependent factor $(\ln 2 \mu/60)$ converts the amount of β -galactosidase into the rate of β -galactosidase synthesis, and the factor 10^{12} increases the relative values obtained with this formula to two-digit numbers.