

Table 1. Effects of mutations affecting membrane composition on protein and lipid mobility.

<i>E. coli</i> strain	Effect on membrane composition	BODIPY FL-C ₁₂ diffusion coefficient (μm ² s ⁻¹) ± SD	Helix1021-GFP diffusion coefficient (μm ² s ⁻¹) ± SD
Wild-type (DH5α)		1.2 ± 0.30	0.43 ± 1.3
Δ <i>tat</i>	Loss of twin-arginine translocon (Tat) subunits (Wexler <i>et al.</i> , 2000)	1.3 ± 0.58	0.32 ± 0.08
Δ <i>tat</i> overexpressing <i>tatABC</i>	Dense packing of the membrane with Tat subunits (Bolhuis <i>et al.</i> , 2001)	1.3 ± 0.25	
Δ <i>lpp</i>	Loss of lipoprotein Lpp	1.96 ± 0.71	0.38 ± 0.15
Δ <i>lpp</i> Δ <i>pgsA</i>	Loss of lipoprotein Lpp and reduced levels of phosphatidylglycerol and cardiolipin (Dowhan, 1997)	0.66 ± 0.22	0.43 ± 0.22
Δ <i>cis</i>	Loss of the major pathway for cardiolipin synthesis (Dowhan, 1997)	1.04 ± 0.41	0.50 ± 0.19
Δ <i>pssA</i>	Loss of phosphatidylserine and phosphatidylethanolamine (Dowhan, 1997)	2.6 ± 0.84	0.32 ± 0.07
Δ <i>psd</i>	Loss of phosphatidylethanolamine (Dowhan, 1997)	1.6 ± 0.53	0.52 ± 0.10

All cells were grown and measured at 37°C. Mean diffusion coefficients (± SD, *n* = 10) are shown.

Bolhuis, A., Mathers, J.E., Thomas, J.D., Barrett, C., and Robinson, C. (2001) TatB and TatC form a functional and structural unit of the twin-arginine translocase from *Escherichia coli*. *J Biol Chem* **276**: 20213–20219.

Dowhan, W. (1997) Molecular basis for membrane phospholipid diversity: why are there so many lipids? *Annu Rev Biochem* **66**: 199–232.

Wexler, M., Sargent, F., Jack, R.L., Stanley, N.R., Bogsch, E.G., Robinson, C., *et al.* (2000) TatD is a cytoplasmic protein with DNase activity. *J Biol Chem* **275**: 16717–16722.