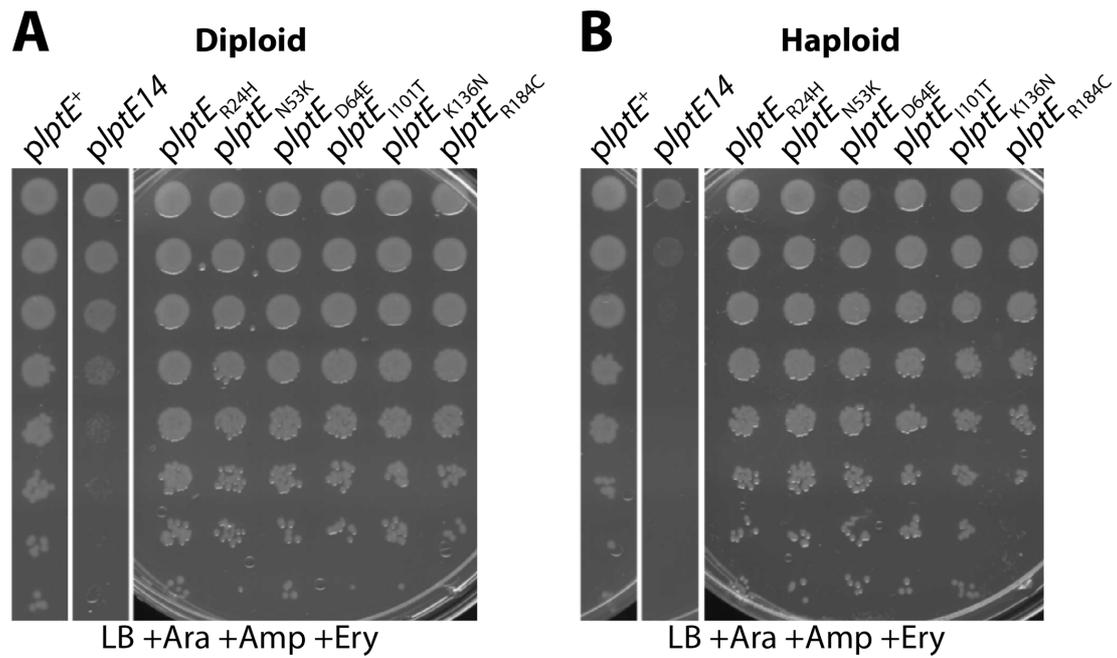


1

2 **FIG S1. In haploid, the *lptE14* mutant grows as well as *lptE*⁺. Stationary-phase**
3 **cultures of $\Delta lptE2::kan$ strains carrying either $plptE^+$ (JY33) (solid line) or $plptE14$**
4 **(JY35) (dashed line) were sub-cultured into fresh LB media supplemented with 0.2%**
5 **arabinose and grown at 37°C, with culture density (A_{600}) measured hourly.**

6



7 LB +Ara +Amp +Ery

8 **FIG S2. Individual substitution mutations of *lptE14* do not increase OM**

9 **permeability.** Stationary-phase cultures of plasmid-carrying diploid strains

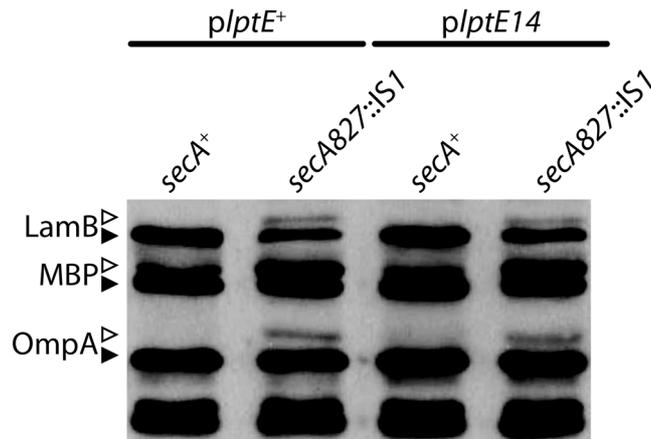
10 expressing native *lptE*⁺ (**A**) or haploid Δ *lptE2::kan* strains (**B**) were serially diluted

11 and replica plated onto non-selective LB with ampicillin and 0.2% arabinose plates or

12 plates additionally supplemented with 50 μ g/ml erythromycin. Plates were incubated

13 at 37°C.

14



15

16

17 **FIG S3. *secA827::IS1* causes an accumulation of OMP pre-protein.** Protein
 18 samples were taken from logarithmic-phase cultures of *lptE* haploid strains carrying
 19 *p/lptE*⁺ with *secA*⁺ (JY105) or with *secA827::IS1* (JY106) insertion, and strains
 20 carrying *p/lptE14* with *secA*⁺ (JY107) or with *secA827::IS1* (JY108), and
 21 immunoblotted with anti-LamB, anti-MBP, and anti-OmpA. Mature protein forms are
 22 indicated by black triangles. Additionally, LamB, MBP and OmpA can be detected as
 23 signal sequence-bearing preprotein in *secA827::IS1* strains are indicated by white
 24 triangles.