Supplemental Material

Soltes *et al.*, Distinctive roles for periplasmic proteases in the maintenance of essential outer membrane protein assembly

Supplemental Material References:

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Table S1: Strains and Plasmids

***E. coli* K-12 strains**	**Genotype and relevant features**	**Reference**
NR754	MC4100 *ara+/r*	(7)
NR698	MC4100 *lptD4213*	(1)
HC340	*ΔlptD* pLptD	(8)
HC1036	*ΔlptD* pLptD Y721D	(8)
GS583	NR754 *degP::kan*	This study
GS584	NR754 *degQ::kan*	This study
GS585	NR754 *ompT::kan*	This study
GS586	NR754 *ptrA::kan*	This study
GS587	NR754 *tsp::kan*	This study

GS588	NR754 *ycaL::kan*	This study
GS589	NR754 *ydgD::kan*	This study
GS590	NR754 *yggG::kan*	This study
GS603	NR754 *yfgC::kan*	This study
GS605	NR754 *yhiJ::kan*	This study
GS600	NR698 *degP::kan*	This study
GS601	NR698 *degQ::kan*	This study
GS602	NR698 *ompT::kan*	This study
GS604	NR698 *yfgC::kan*	This study
GS606	NR698 *yhiJ::kan*	This study
GS607	NR698 *ycaL::kan*	This study
GS608	NR698 *yggG::kan*	This study
GS609	NR698 *ydgD::kan*	This study
GS610	NR698 *ptrA::kan*	This study
GS615	HC340 *degP::kan*	This study
GS616	HC1036 *degP::kan*	This study
GS617	HC340 *degQ::kan*	This study
GS618	HC1036 *degQ::kan*	This study
GS619	HC340 *ompT::kan*	This study
GS620	HC1036 *ompT::kan*	This study
GS621	HC340 *ptrA::kan*	This study
GS622	HC1036 *ptrA::kan*	This study
GS623	HC340 *tsp::kan*	This study
GS624	HC1036 *tsp::kan*	This study
GS625	HC340 *ycaL::kan*	This study
GS626	HC1036 *ycaL::kan*	This study
GS627	HC340 *ydgD::kan*	This study
GS628	HC1036 *ydgD::kan*	This study
GS629	HC340 *yggG::kan*	This study
GS630	HC1036 *yggG::kan*	This study
GS631	HC340 *yfgC::kan*	This study
GS632	HC1036 *yfgC::kan*	This study
GS633	HC340 *yhiJ::kan*	This study
GS634	HC1036 *yhiJ::kan*	This study
HC1289	*ΔlptD bamA F494L yaeH::cam* pLptD	(8)
HC1290	*ΔlptD bamA F494L yaeH::cam* pLptD Y721D	(8)
GC169	*ΔlptE* pLptE	(2)
GC192	*ΔlptE* pLptE6	(2)
GS669	GC169 *degP::kan*	This study
GS670	GC192 *degP::kan*	This study
GS671	GC169 *tsp::kan*	This study
GS672	GC192 *tsp::kan*	This study
GS673	GC169 *ycaL::kan*	This study

GS674	GC192 *ycaL::kan*	This study
GS675	GC169 *ydgD::kan*	This study
GS676	GC192 *ydgD::kan*	This study
GS677	GC169 *yfgC::kan*	This study
GS678	GC192 *yfgC::kan*	This study
JAS16	NR754 *ΔsurA*	(3)
JAS420	NR754 *ΔskpΔfkpA*	(4)
GS885	JAS16 *yfgC::kan*	This study
GS352	JAS16 *degP::kan*	This study
GS1036	JAS420 *yfgC::kan*	This study
GS1043	JAS420 *degP::kan*	This study
GS968	NR754 *bamB::kan*	This study
GS969	NR754 *ΔycaL bamB::kan*	This study
GS970	NR754 *bamE::kan*	This study
GS971	NR754 *ΔycaL bamE::kan*	This study
GS1003	NR754 *ΔlptD ΔycaL* pLptD	This study
GS1004	NR754 *ΔlptD ΔycaL* pLptD Y721D	This study
GS1013	NR754 *ΔlptD ΔycaL* pLptD pBamD	This study
GS1014	NR754 *ΔlptD ΔycaL* pLptD pBamD O/E	This study
GS1015	NR754 *ΔlptD ΔycaL* pLptD Y721D pBamD	This study
GS1016	NR754 *ΔlptD ΔycaL* pLptD Y721D pBamD O/E	This study
GS1056	NR754 *ΔlptD ΔdegP* pLptD	This study
GS1057	NR754 *ΔlptD ΔdegP* pLptD Y721D	This study
GS1058	NR754 *ΔlptD ΔyfgC* pLptD	This study
GS1059	NR754 *ΔlptD ΔyfgC* pLptD Y721D	This study

Plasmids	**Description**	
pLptD	pET2342::LptD WT Amp^r	(5)
pLptE	*lptE* cloned into the inducible pBAD18 plasmid, Amp^r	(2)
pZS21	Low-copy vector; Kan^r	(6)
pBamD	*bamD* cloned into pZS21	(3)
pBamD O/E	Unknown mutation in pZS21 backbone that increases copy number	(3)

Table S2: Outer membrane permeability phenotypes of constructed *ycaL* mutants

	Background	
	Δ*bamB*	Δ*bamE*
Genotype	OM Phenotype	OM Phenotype
MC4100	**+**	**++**
ycaL::kan	**+**	**++**

OM Phenotype: ++++ denotes growth similar to WT in the presence of antibiotics, whereas **-** denotes no growth.