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Supplemental Material to:

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LysPGS formation in *Listeria monocytogenes* has broad roles in maintaining membrane integrity beyond antimicrobial peptide resistance

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Table S1. Phenotypes associated with loss of LysPGS in *Bacillus subtilis* as identified by phenotypic microarray

Compound	**Description**
Conditions under which LysPG fromation provides resistance:	
Naladixic acid	Synthetic inhibitor of subunit A of DNA gyrase, quinolone
Cefsulodin	Synthetic β-lactam cephalosporin originally derived from the fungi *Acremonium*
Azlocillin	Synthetic β-lactam penicillin originally derived from the fungi *Penicillium*, blocks cell wall synthesis by inhibiting penicillin binding protein A
3,5-Dinitrobenzene	Ionophore
Phenylarsine oxide	Membrane permeable protein tyrosine phosphatase inhibitor, inhibits the internalization of cell surface receptors
Chelerythrine	Alkaloid extracted from the plant *Celidonium majus*, cell permeable protein kinase C inhibitor
Amitriptyline	Inhibits mammalian proteins involved in rhodopsin-like receptor activity and inorganic ion transport metabolism
Protamine sulfate	Highly cationic peptide isolate from salmon, known to bind heparin forming a stable ion that inhibits anti-coagulant effects
Phleomycin	Isolated from *Streptomyces verticillus*, inhibit bacterial DNA synthesis
Coumarin	Secondary metabolite derived from phenylalanine in plants, disrupts bacterial membranes
5,7-Dichloro-8-hydroxyquinoline	Inhibitor of PhoP induction in *Salmonella*, inhibts growth of *Mycobacterium tuberculosis*, associated with cation-Cl cotransporter inhibition
5-Chloro-7-iodo-8-hydroxyquinoline (Clioquinol)	Hydroxyquinoline used to treat amoebic infections, metal ionophore, inhibits proteasome function in cancer cells
Phenyl-methyl-sulfonyl-fluoride (PMSF)	Inhibitor that inactivates subtilisin and the fatty acid synthetase complex
Orphenadrine	Inhibits sodium channel protein type 10 subunit α, which mediates voltage-dependent sodium ion permeability of excitable membranes in rats
Domiphen bromide	Cationic surfactant
Chloroxylenol	Disrupts cell membrane potential
Conditions under which LysPG formation increases susceptibility:	
Furlatadone	Nitrofuran, damages bacterial DNA
Diamide	Forms disulfide bonds, inhibits protein activity
Sodium metaborate	Inhibits transporters, toxic anion
Cefotaxime	Semisynthetic cephalosporin derivative, inhibits cell wall biogenesis by inactivating penicillin binding protein 3 (PBP3)
Carbenicillin	Semisynthetic penicillin derivative, inhibits cell wall biogenesiss by inactivating PBP3
Lidocaine	Inhibits sodium channel protein type 10 subunit α, which mediates voltage-dependent sodium ion permeability of excitable membranes
Disulphiram	Inhibits aldehyde dehydrogenase in humans, used as an alcohol deterrent in humans, disturbs the efficiency of energy conversion

Table S2. Phenotypes associated with loss of LysPGS in L. monocytogenes as identified by phenotypic microarray

Compound	Description
Conditions under which LysPG formation provides resistance:	
Osmolytes	
Urea 5%	
NaCl 5%	
Potassium chloride 3%	
Sodium sulfate 3%	
Antimicrobial agents	
Tobramycin	Aminoglycoside, 5 amino groups inhibitor of 30S ribosomal subunit
Tannic acid	Polyphenol, used to disrupt membrane integrity
Geneticin (G418)	Aminoglycoside, 4 amino groups inhibitor of lysine decarboxylase, and 30S ribosomal subunit
Conditions under which LysPG formation increases susceptibility:	
Antimicrobial agents	
Sodium orthovanadate	Phosphatase inhibitor
Chloroxylenol	Disrupts cell membrane potential
Niaproof	Anionic surfactant

Table S3. Primers used in *B. subtilis* 1A100 Δ*lysPGS* construction

Primer name	5′-Sequence-3′
I-SceI FF EcoRI	GGAATTCGCA GCCATAAACA CGCCAATCGT A
I-SceI FR XhoI	GATGGCCGGG ACCTCGAGCG ACTTGTGATC GATAGGCGCA GTGAGT
I-SceI BF XhoI	GTCGCTCGAG GTCCCGGCCA TCTTCGCAAA TGTCATGCCG ATGTACC
I-SceI BR EcoRI	TACCGAGCTC GAATTCCAGA AAGTTCAAGC AACAGCGAGG
PE5916 integration	GGGATGTGCT GCAAGGCGAT TAAG
I-SceI genomic integration	GCTGGCGAAA GGGGGATGTG CTGCA
Internal lysPGS left	AAACGTTCCT ACACGATGGC
Internal lysPGS right	CTTCAGCTCC TCCAAAAACG