

Table S2. Antibiotic target genes and other resistance-associated genes and/or their regulatory regions, which gene variant or mutant or absence correlate with the manifestation of the resistance phenotype.

Gene	Gene product/ function/ KEGG code	Class of antibiotic	Antibiotics	PubMed ID
<i>alr</i>	Alanine racemase (EC 5.1.1.1)	Cycloserine	D-cycloserine	19748470; 24303782
<i>ddl</i>	D-alanine--D-alanine ligase (EC 6.3.2.4)	Cycloserine	D-cycloserine	24303782; 24033232
<i>folP/dfrA</i>	Dihydropteroate synthase (EC 2.5.1.15)	Sulfonamides	sulfamethoxazole, dapsone, sulfacetamide	15673783
<i>fusA</i>	Translation elongation factor G	Fusidic acid	fusidic acid	17980694
<i>gyrA</i>	DNA gyrase subunit A (EC 5.99.1.3)	Quinolones	fluoroquinolones	9293187
<i>gyrB</i>	DNA gyrase subunit B (EC 5.99.1.3)	Quinolones	ciprofloxacin, levofloxacin	21693461; 22279180; 9293187
<i>inhA, fabI</i>	Enoyl-[acyl-carrier-protein] reductase [NADH] (EC 1.3.1.9)	Isoniazid, Ethionamide, Triclosan	isoniazid, ethionamide, triclosan	18193820; 10869170; 8284673
<i>iso-tRNA</i>	Isoleucyl-tRNA synthetase (EC 6.1.1.5)	Mupirocin	mupirocin	7929087
<i>kasA</i>	3-oxoacyl-[acyl-carrier-protein] synthase, KASII (EC 2.3.1.179)	Isoniazid, Triclosan	isoniazid, triclosan	10428945
<i>murA</i>	UDP-N-acetylglucosamine 1-carboxyvinyltransferase (EC 2.5.1.7)	Fosfomycin	fosfomycin	8994972
<i>rho</i>	Transcription termination factor Rho	Bicyclomycins	bicyclomycins	8466900
<i>rpoB</i>	DNA-directed RNA polymerase β subunit (EC 2.7.7.6)	Ansamycins	rifampicin	3050121; 15047531; 16723576
<i>rpoC</i>	DNA-directed RNA polymerase β' subunit (EC 2.7.7.6)	Ansamycins	rifampicin	16723576
<i>rpsJ</i> (S10p)	SSU ribosomal protein S10p (S20e)	Tetracyclines, Glycylcyclines	tigecycline	26124155; 26989065
EF-Tu	Translation elongation factor EF-Tu	Tetracyclines	tetracycline, minocycline, doxycycline	26989065
S12p	SSU ribosomal protein S12p (S23e)	Aminoglycosides	streptomycin	7934937
<i>parE</i>	DNA topoisomerase IV subunit B (EC 5.99.1.3)	Quinolones	fluoroquinolones	26190223

<i>tcaA</i>	Membrane protein TcaA, teicoplanin resistance-associated	Glycopeptides	teicoplanin	11042376;
<i>tcaB</i>	Teicoplanin resistance transporter, TcaB family (TcaB)			11150669;
<i>tcaR</i>	Teicoplanin-resistance-associated HTH-type transcriptional regulator TcaR			11042376; 15060048
<i>mepA</i>	Multi antimicrobial extrusion protein (Na ⁺)/drug antiporter), MATE family of MDR efflux pumps	Tetracyclines, Glycylcyclines	tigecycline	29039719
<i>mepR</i>	Transcriptional regulator, MarR family			
<i>norA</i>	MFS-type transporter quinolone resistance protein NorA	Quinolones	ciprofloxacin, acriflavin, norfloxacin	8431010; 2173911
<i>arlR</i>	Putative response regulator ArlR	β -lactams,	oxacillin,	30924407
<i>arlS</i>	Two component system histidine kinase ArlS (EC 2.7.3.-)	Glycolipopeptides	oritavancin	
<i>mgrA</i>	Transcriptional regulator MgrA (regulator of autolysis)	β -lactams, Glycolipopeptides	oxacillin, oritavancin	19072553
<i>gidB</i>	16S rRNA (guanine(527)-N(7))-methyltransferase (EC 2.1.1.170)	Aminoglycosides	streptomycin	17238915
<i>gdpD</i>	Glycerophosphoryl diester phosphodiesterase (EC 3.1.4.46)	Lipopeptides	daptomycin	21899450
<i>mprF</i>	L-O-lysylphosphatidylglycerol synthase (EC 2.3.2.3)	Lipopeptides	daptomycin	19289517; 16723576
<i>clsA</i>	Cardiolipin synthase, bacterial type ClsA	Lipopeptides	daptomycin	29082727
<i>pgsA</i>	CDP-diacylglycerol--glycerol-3-phosphate 3-phosphatidyltransferase (EC 2.7.8.5)	Lipopeptides	daptomycin	22238576
<i>liaF</i>	Membrane protein LiaF (VraT), specific inhibitor of LiaRS (VraRS) signaling pathway	Lipopeptides	daptomycin	21899450; 26020679
<i>liaR</i>	Cell envelope stress response system LiaFSR, response regulator LiaR (VraR)			
<i>liaS</i>	Cell envelope stress response system LiaFSR, sensor histidine kinase LiaS (VraS)			

Legend: KEGG - Kyoto Encyclopedia of Genes and Genomes