

Supplementary Table S1. Antibiotic resistance genes found in genomes of the isolates

Strain	Gene	Mechanism of action	In GI	Resistance
<i>Klebsiella pneumonia</i> 13/97				
13/97: Chr	<i>eptB</i> [218462..220135]	target alteration		peptide
	<i>arnT</i> [300397..302052]	target alteration		peptide
	<i>CRP</i> [411005..411637]	efflux		macrolide, fluoroquinolone, penam
	<i>rsmA</i> [1096931..1097116]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>kpnH</i> [1105114..1106649]	efflux		macrolide, fluoroquinolone, aminoglycoside, carbapenem, cephalosporin, penam, peptide, penem
	<i>kpnG</i> [1106665..1107837]	efflux		macrolide, fluoroquinolone, aminoglycoside, carbapenem, cephalosporin, penam, peptide, penem
	<i>emrR</i> [1107963..1108493]	efflux		fluoroquinolone
	<i>adeF</i> [1175284..1178436]	efflux	GI#1	fluoroquinolone, tetracycline
	<i>oqxA</i> [1178460..1179635]	efflux	GI#1	fluoroquinolone, glycylcycline, tetracycline, diaminopyrimidine, nitrofurantoin
	<i>adeF</i> [1415019..1418132]	efflux		fluoroquinolone, tetracycline
	<i>adeF</i> [1422608..1425721]	efflux		fluoroquinolone, tetracycline
	<i>adeF</i>	efflux	GI#4	fluoroquinolone,

	[1463467..1466580]			tetracycline
	<i>baeR</i> [1769838..1770560]	efflux		aminoglycoside, aminocoumarin
	<i>H-NS</i> [2278652..2279059]	efflux		macrolide, fluoroquinolone, cephalosporin, cephamycin, penam, tetracycline
	<i>marA</i> [2865787..2866161]	efflux; reduced permeability to antibiotic		fluoroquinolone, monobactam, carbapenem, cephalosporin, glycylcycline, cephamycin, penam, tetracycline, rifamycin, phenicol, triclosan, penem
	<i>SHV-11</i> [2886264..2887124]	beta-lactamase		carbapenem, cephalosporin, penam
	<i>kpnF</i> [2927174..2927503]	efflux		macrolide, aminoglycoside, cephalosporin, tetracycline, peptide, rifamycin
	<i>kpnE</i> [2927490..2927852]	efflux		macrolide, aminoglycoside, cephalosporin, tetracycline, peptide, rifamycin
	<i>ompK37</i> [3052873..3053997]	reduced permeability to antibiotic		monobactam, carbapenem, cephalosporin, cephamycin, penam, penem
	<i>ompA</i> [3547574..3548644]	reduced permeability to antibiotic		monobactam, carbapenem, cephalosporin, cephamycin, penam, penem
	<i>msbA</i> [3598015..3599763]	efflux		nitroimidazole
	<i>ampH</i>	beta-lactamase		cephalosporin,

	[4317245..4318405]			penam
	<i>LptD</i> [4619756..4622104]	efflux		carbapenem, peptide, aminocoumarin, rifamycin
	<i>FosA6</i> [4762321..4762740]	inactivation		fosfomycin
	UhpT E350Q [39078..40469]	mutation		fosfomycin
	EF-Tu R234F [426683..427867]	mutation		elfamycin
	Pbp3 D350N, S357N [4572290..4574056]	mutation		cephalosporin, cephamycin, penam
	MarR G103S, Y137H [2865332..2865766]	mutation		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
<i>Pseudomonas aeruginosa</i> 16/222				
16/222: Chr	<i>triA</i> [185842..186945]	efflux		triclosan
	<i>triB</i> [186942..188012]	efflux		triclosan
	<i>triC</i> [188009..191056]	efflux		triclosan
	<i>mexA</i> [478590..479741]	efflux		macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>mexB</i> [479757..482897]	efflux		macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin,

				cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>oprM</i> [482899..484356]	efflux		macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, acridine dye, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem, disinfecting agents and intercalating dyes
	<i>opmD</i> [805899..807362]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>mexI</i> [807359..810448]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>mexH</i> [810461..811573]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>mexG</i> [811581..812027]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>bcr-1</i> [956045..957253]	efflux		bicyclomycin
	<i>APH(3')-IIb</i>	inactivation		aminoglycoside

	[973952..974758]			
	<i>PDC-19a</i> [987004..988197]	inactivation		monobactam, carbapenem, cephalosporin
	<i>yajC</i> [1324844..1325182]	efflux		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
	<i>mexL</i> [1483064..1483702]	efflux		macrolide, tetracycline, triclosan
	<i>mexJ</i> [1483798..1484901]	efflux		macrolide, tetracycline, triclosan
	<i>mexK</i> [1484906..1487983]	efflux		macrolide, tetracycline, triclosan
	<i>arnA</i> [1603989..1605977]	target alteration	GI#6	peptide
	<i>mexP</i> [1644197..1645354]	efflux		macrolide, carbapenem, tetracycline, acridine dye, diaminopyrimidine, phenicol, disinfecting agents and intercalating dyes
	<i>mexQ</i> [1645351..1648512]	efflux		macrolide, carbapenem, tetracycline, acridine dye, diaminopyrimidine, phenicol, disinfecting agents and intercalating dyes
	<i>opmE</i> [1648509..1649984]	efflux		macrolide, carbapenem, tetracycline, acridine dye, diaminopyrimidine, phenicol, disinfecting agents and intercalating dyes
	<i>cpxR</i>	efflux		macrolide,

	[2000915..2001592]			fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>cprS</i> [2133964..2135259]	target alteration; efflux		peptide
	<i>cprR</i> [2135256..2135927]	target alteration; efflux		peptide
	<i>muxA</i> [2942578..2943858]	efflux		macrolide, monobactam, tetracycline, aminocoumarin
	<i>muxB</i> [2943855..2946986]	efflux		macrolide, monobactam, tetracycline, aminocoumarin
	<i>muxC</i> [2946983..2950093]	efflux		macrolide, monobactam, tetracycline, aminocoumarin
	<i>opmB</i> [2950090..2951586]	efflux		macrolide, monobactam, tetracycline, aminocoumarin
	<i>oprN</i> [2983262..2984680]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>mexF</i> [2984677..2987865]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>mexE</i> [2987887..2989131]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	SoxR G74R [3288231..3288701]	mutation		fluoroquinolone, cephalosporin, glycylcycline, penam,

				tetracycline, acridine dye, rifamycin, phenicol, triclosan, disinfecting agents and intercalating dyes
	<i>adeF</i> [3688321..3691458]	efflux		fluoroquinolone, tetracycline
	<i>parR</i> [3982452..3983159]	efflux; reduced permeability to antibiotic		macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, acridine dye, phenicol, penem, disinfecting agents and intercalating dyes
	<i>parS</i> [3983160..3984446]	efflux; reduced permeability to antibiotic		macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, acridine dye, phenicol, penem, disinfecting agents and intercalating dyes
	<i>mexN</i> [4483260..4486370]	efflux		phenicol
	<i>mexM</i> [4486367..4487524]	efflux		phenicol
	<i>pmpM</i> [4579586..4581019]	efflux		fluoroquinolone, aminoglycoside, benzalkonium chloride
	<i>fosA</i> [4846590..4846997]	inactivation		fosfomycin
	<i>rsmA</i> [5075506..5075691]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>catB7</i>	inactivation	GI#22	phenicol

	[5355382..5356020]			
	<i>mexV</i> [5522727..5523857]	efflux		macrolide, fluoroquinolone, tetracycline, acridine dye, phenicol, disinfecting agents and intercalating dyes
	<i>mexW</i> [5523908..5526964]	efflux		macrolide, fluoroquinolone, tetracycline, acridine dye, phenicol, disinfecting agents and intercalating dyes
	<i>oprJ</i> [5992953..5994392]	efflux		macrolide, fluoroquinolone, aminoglycoside, cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
	<i>mexD</i> [5994398..5997529]	efflux		macrolide, fluoroquinolone, aminoglycoside, cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
	<i>mexC</i> [5997557..5998621]	efflux		macrolide, fluoroquinolone, aminoglycoside, cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
	<i>basS</i> [6221749..6223182]	target alteration; efflux		peptide
	<i>opmH</i> [6441985..6443433]	efflux		triclosan
	<i>emrE</i> [6463987..6464319]	efflux		aminoglycoside

	<i>OXA-488</i> [7066768..7067556]	beta-lactamase		carbapenem, cephalosporin, penam
	<i>gyrA</i> T83I [2036983..2039754]	mutation	GI#7	fluoroquinolone
	<i>mexR</i> [477872..478315]	target alteration; efflux		macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	NalC S209R, G71E [1437027..1437668]	mutation		macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>mexT</i> [2989362..2990276]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	MexS V73A [2990497..2991516]	mutation		fluoroquinolone, diaminopyrimidine, phenicol
	<i>mexZ</i> [3686021..3686950]	efflux		macrolide, fluoroquinolone, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, acridine dye, phenicol, disinfecting agents and intercalating dyes
	<i>nfxB</i> [5998881..5999444]	efflux		macrolide, fluoroquinolone,

				cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
<i>Escherichia coli</i> 19/278				
19/278: Chr	<i>gadX</i> [239242..240066]	efflux		macrolide, fluoroquinolone, penam
	<i>gadW</i> [240435..241163]	efflux		macrolide, fluoroquinolone, penam
	<i>mdtF</i> [241526..244639]	efflux		macrolide, fluoroquinolone, penam
	<i>mdtE</i> [244664..245821]	efflux		macrolide, fluoroquinolone, penam
	<i>CRP</i> [419421..420053]	efflux		macrolide, fluoroquinolone, penam
	<i>acrF</i> [487895..490999]	efflux		fluoroquinolone, cephalosporin, cephamycin, penam
	<i>acrE</i> [491011..492168]	efflux		fluoroquinolone, cephalosporin, cephamycin, penam
	<i>acrS</i> [492567..493229]	efflux		fluoroquinolone, cephalosporin, glycylcycline, cephamycin, penam, tetracycline, rifamycin, phenicol, triclosan
	<i>bacA</i> [703118..703939]	target alteration		peptide
	<i>tolC</i> [726317..727798]	efflux		macrolide, fluoroquinolone, aminoglycoside, carbapenem, cephalosporin, glycylcycline, cephamycin, penam,

				tetracycline, peptide, aminocoumarin, rifamycin, phenicol, triclosan, penem
	<i>rsmA</i> [1195009..1195194]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>emrB</i> [1200444..1201982]	efflux		fluoroquinolone
	<i>emrA</i> [1201999..1203171]	efflux		fluoroquinolone
	<i>emrR</i> [1203298..1203828]	efflux		fluoroquinolone
	<i>acrD</i> [1399055..1402168]	efflux		aminoglycoside
	<i>evgS</i> [1490405..1493998]	efflux	GI#6	macrolide, fluoroquinolone, penam, tetracycline
	<i>evgA</i> [1494003..1494617]	efflux	GI#6	macrolide, fluoroquinolone, penam, tetracycline
	<i>emrK</i> [1495033..1496196]	efflux	GI#6	tetracycline
	<i>emrY</i> [1496196..1497734]	efflux	GI#6	tetracycline
	<i>pmrF</i> [1700855..1701823]	target alteration		peptide
	<i>yojI</i> [1760355..1761998]	efflux		peptide
	<i>baeR</i> [1897456..1898178]	efflux		aminoglycoside, aminocoumarin
	<i>baeS</i> [1898175..1899578]	efflux		aminoglycoside, aminocoumarin
	<i>mdtC</i> [1900991..1904068]	efflux		aminocoumarin
	<i>mdtB</i> [1904069..1907191]	efflux		aminocoumarin
	<i>mdtA</i> [1907191..1908438]	efflux		aminocoumarin
	<i>ugd</i> [1962819..1963985]	target alteration	GI#9	peptide

	<i>emrE</i> [2191298..2191630]	efflux		macrolide
	<i>kpnE</i> [2535262..2535627]	efflux		macrolide, aminoglycoside, cephalosporin, tetracycline, peptide, rifamycin
	<i>kpnF</i> [2535614..2535943]	efflux		macrolide, aminoglycoside, cephalosporin, tetracycline, peptide, rifamycin
	<i>marA</i> [2574143..2574526]	efflux; reduced permeability to antibiotic		fluoroquinolone, monobactam, carbapenem, cephalosporin, glycylcycline, cephamycin, penam, tetracycline, rifamycin, phenicol, triclosan, penem
	<i>H-NS</i> [2876067..2876480]	efflux		macrolide, fluoroquinolone, cephalosporin, cephamycin, penam, tetracycline
	<i>mdtH</i> [3102600..3103808]	efflux		fluoroquinolone
	<i>mdtG</i> [3112439..3113665]	efflux		fosfomycin
	<i>msbA</i> [3238549..3240297]	efflux		nitroimidazole
	<i>mdfA</i> [3350187..3351419]	efflux		tetracycline, benzalkonium chloride, rhodamine
	<i>kdpE</i> [3494059..3494736]	efflux		aminoglycoside
	<i>acrA</i> [3708910..3710103]	efflux		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan

	<i>acrB</i> [3710126..3713275]	efflux		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
	<i>ampH</i> [3802035..3803192]	beta-lactamase		cephalosporin, penam
	<i>ampC</i> [4527354..4528520]	beta-lactamase		cephalosporin, penam
	<i>eptA</i> [4628729..4630372]	target alteration		peptide
	<i>mdtN</i> [4659599..4660630]	efflux		nucleoside, acridine dye, disinfecting agents and intercalating dyes
	<i>mdtO</i> [4660630..4662681]	efflux		nucleoside, acridine dye, disinfecting agents and intercalating dyes
	<i>mdtP</i> [4662678..4664144]	efflux		nucleoside, acridine dye, disinfecting agents and intercalating dyes
	<i>cpxA</i> [4922364..4923737]	efflux		aminoglycoside, aminocoumarin
19/278: pl#1	<i>dfxA17</i> [39937..40410]	target replacement		diaminopyrimidine
	<i>tet(B)</i> [41983..43188]	efflux		tetracycline
	<i>sul2</i> [48365..49180]	target replacement		sulfonamide
	<i>APH(3'')-Ib</i> [49241..50044]	inactivation		aminoglycoside
	<i>APH(6)-Id</i> [50044..50880]	inactivation		aminoglycoside
	<i>mphA</i> [58802..59707]	inactivation		macrolide
	<i>TEM-1</i> [61118..61978]	beta-lactamase		monobactam, cephalosporin, penam, penem
19/278: pl#2	<i>CTX-M-55</i> [46844..47719]	inactivation		cephalosporin

19/278: Chr	UhpT E350Q [32210..33601]	mutation		fosfomycin
	EF-Tu R234F [434843..436027]	mutation		elfamycin
	ParC S80I [739940..742198]	mutation		fluoroquinolone
	GyrA D87N, S83L [1729526..1732153]	mutation		fluoroquinolone
	Pbp3 D350N, S357N [4146513..4148279]	mutation		cephalosporin, cephamycin, penam
	MarR Y137H, G103S, S3N [2574547..2574981]	mutation		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
	SoxR G74R [4692022..4692486]	mutation		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
19/278: pl#1	<i>tetR</i> [41278..41901]	target alteration; efflux		tetracycline
<i>Klebsiella pneumoniae</i> 20/245				
20/245: Chr	<i>eptB</i> [223563..225236]	target alteration		peptide
	<i>arnT</i> [285276..286931]	target alteration		peptide
	<i>CRP</i> [399702..400334]	efflux		macrolide, fluoroquinolone, penam
	<i>crcB</i> [835924..836337]	efflux		aminoglycoside
	<i>rsmA</i> [1127560..1127745]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>kpnH</i> [1135473..1137011]	efflux		macrolide, fluoroquinolone, aminoglycoside, carbapenem,

				cephalosporin, penam, peptide, penem
	<i>kpnG</i> [1137027..1138199]	efflux		macrolide, fluoroquinolone, aminoglycoside, carbapenem, cephalosporin, penam, peptide, penem
	<i>emrR</i> [1138325..1138855]	efflux		fluoroquinolone
	<i>adeF</i> [1183126..1186278]	efflux		fluoroquinolone, tetracycline
	<i>oqxA</i> [1186302..1187477]	efflux		fluoroquinolone, glycylcycline, tetracycline, diaminopyrimidine, nitrofurantoin
	<i>adeF</i> [1364355..1367468]	efflux		fluoroquinolone, tetracycline
	<i>baeR</i> [1665755..1666477]	efflux		aminoglycoside, aminocoumarin
	<i>H-NS</i> [2181193..2181600]	efflux		macrolide, fluoroquinolone, cephalosporin, cephamycin, penam, tetracycline
	<i>marA</i> [2735216..2735590]	efflux; reduced permeability to antibiotic		fluoroquinolone, monobactam, carbapenem, cephalosporin, glycylcycline, cephamycin, penam, tetracycline, rifamycin, phenicol, triclosan, penem
	<i>SHV-207</i> [2755694..2756554]	beta-lactamase		carbapenem, cephalosporin, penam
	<i>kpnF</i> [2795737..2796066]	efflux		macrolide, aminoglycoside, cephalosporin,

				tetracycline, peptide, rifamycin
	<i>kpnE</i> [2796053..2796415]	efflux		macrolide, aminoglycoside, cephalosporin, tetracycline, peptide, rifamycin
	<i>ompK37</i> [2984505..2985629]	reduced permeability to antibiotic		monobactam, carbapenem, cephalosporin, cephamycin, penam, penem
	<i>ompA</i> [3422707..3423777]	reduced permeability to antibiotic		monobactam, carbapenem, cephalosporin, cephamycin, penam, penem
	<i>msbA</i> [3473150..3474898]	efflux		nitroimidazole
	<i>ampH</i> [4160179..4161339]	beta-lactamase		cephalosporin, penam
	<i>lptD</i> [4471754..4474069]	efflux		carbapenem, peptide, aminocoumarin, rifamycin
	<i>fosA6</i> [4636455..4636874]	inactivation		fosfomycin
	UhpT E350Q [39019..40410]	mutation		fosfomycin
	EF-Tu R234F [415381..416565]	mutation		elfamycin
	Pbp3 D350N, S357N [4424261..4426027]	mutation		cephalosporin, cephamycin, penam
	MarR G103S, Y137H [2734761..2735195]	mutation		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
<i>Escherichia coli</i> 3/145				
3/145: Chr	<i>gadX</i> [242678..243502]	efflux		macrolide, fluoroquinolone,

				penam
	<i>mdtF</i> [244962..248075]	efflux		macrolide, fluoroquinolone, penam
	<i>mdtE</i> [248100..249257]	efflux		macrolide, fluoroquinolone, penam
	<i>CRP</i> [449651..450283]	efflux		macrolide, fluoroquinolone, penam
	<i>acrF</i> [503002..506106]	efflux		fluoroquinolone, cephalosporin, cephamycin, penam
	<i>acrE</i> [506118..507275]	efflux		fluoroquinolone, cephalosporin, cephamycin, penam
	<i>acrS</i> [507674..508336]	efflux		fluoroquinolone, cephalosporin, glycylcycline, cephamycin, penam, tetracycline, rifamycin, phenicol, triclosan
	<i>bacA</i> [707873..708694]	target alteration		peptide
	<i>tolC</i> [729415..730896]	efflux		macrolide, fluoroquinolone, aminoglycoside, carbapenem, cephalosporin, glycylcycline, cephamycin, penam, tetracycline, peptide, aminocoumarin, rifamycin, phenicol, triclosan, penem
	<i>rsmA</i> [1224393..1224578]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>emrB</i> [1229519..1231057]	efflux		fluoroquinolone
	<i>emrA</i> [1231074..1232246]	efflux		fluoroquinolone

	<i>emrR</i> [1232373..1232903]	efflux		fluoroquinolone
	<i>acrD</i> [1469111..1472224]	efflux		aminoglycoside
	<i>ampC1</i> [1503748..1505049]	beta-lactamase		cephalosporin, penam
	<i>evgA</i> [1562196..1562810]	efflux	GI#8	macrolide, fluoroquinolone, penam, tetracycline
	<i>emrK</i> [1563226..1564389]	efflux	GI#8	tetracycline
	<i>emrY</i> [1564389..1565927]	efflux	GI#8	tetracycline
	<i>pmrF</i> [1667680..1668648]	target alteration		peptide
	<i>yojI</i> [1730064..1731707]	efflux		peptide
	<i>baeR</i> [1875475..1876197]	efflux		aminoglycoside, aminocoumarin
	<i>baeS</i> [1876194..1877597]	efflux		aminoglycoside, aminocoumarin
	<i>mdtC</i> [1879010..1882087]	efflux		aminocoumarin
	<i>mdtB</i> [1882088..1885210]	efflux		aminocoumarin
	<i>mdtA</i> [1885210..1886577]	efflux		aminocoumarin
	<i>ugd</i> [1938232..1939398]	target alteration	GI#9	peptide
	<i>kpnE</i> [2424325..2424690]	efflux		macrolide, aminoglycoside, cephalosporin, tetracycline, peptide, rifamycin
	<i>kpnF</i> [2424677..2425006]	efflux		macrolide, aminoglycoside, cephalosporin, tetracycline, peptide, rifamycin
	<i>marA</i> [2502114..2502497]	efflux; reduced permeability to antibiotic		fluoroquinolone, monobactam,

				carbapenem, cephalosporin, glycylcycline, cephamycin, penam, tetracycline, rifamycin, phenicol, triclosan, penem
	<i>H-NS</i> [2785831..2786244]	efflux		macrolide, fluoroquinolone, cephalosporin, cephamycin, penam, tetracycline
	<i>mdtH</i> [3043754..3044962]	efflux		fluoroquinolone
	<i>mdtG</i> [3053593..3054819]	efflux		fosfomycin
	<i>msbA</i> [3179041..3180789]	efflux		nitroimidazole
	<i>mdfA</i> [3267358..3268590]	efflux		tetracycline, benzalkonium chloride, rhodamine
	<i>kdpE</i> [3474915..3475592]	efflux		aminoglycoside
	<i>acrA</i> [3761075..3762268]	efflux		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
	<i>acrB</i> [3762291..3765440]	efflux		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
	<i>ampH</i> [3853936..3855093]	beta-lactamase		cephalosporin, penam
	<i>mdtM</i> [4404016..4405248]	efflux		fluoroquinolone, lincosamide, nucleoside, acridine dye, phenicol, disinfecting agents and intercalating

				dyes
	<i>ampC</i> [4633798..4634964]	beta-lactamase		cephalosporin, penam
	<i>eptA</i> [4676873..4678516]	target alteration		peptide
	<i>mdtN</i> [4701060..4702091]	efflux	GI#22	nucleoside, acridine dye, disinfecting agents and intercalating dyes
	<i>mdtO</i> [4702091..4704142]	efflux	GI#22	nucleoside, acridine dye, disinfecting agents and intercalating dyes
	<i>mdtP</i> [4704139..4705605]	efflux	GI#22	nucleoside, acridine dye, disinfecting agents and intercalating dyes
3/145: pl#1	<i>aadA5</i> [57111..57899]	inactivation		aminoglycoside
	<i>qacEdelta1</i> [58105..58452]	efflux		acridine dye, disinfecting agents and intercalating dyes
	<i>sulI</i> [58446..59285]	target replacement		sulfonamide
	<i>TEM-1</i> [61934..62794]	beta-lactamase		monobactam, cephalosporin, penam, penem
	<i>catI</i> [65066..65725]	inactivation		phenicol
	<i>mphA</i> [70478..71383]	inactivation		macrolide
	<i>tet(B)</i> [73614..74819]	efflux		tetracycline
3/145: Chr	EF-Tu R234F [465074..466258]	mutation		elfamycin
	GlpT E448K [1682816..1684174]	mutation		fosfomycin
	Pbp3 D350N, S357N [4213379..4215145]	mutation		cephalosporin, cephamycin, penam
	CyaA S352T [5022063..5024609]	mutation		fosfomycin

	MarR Y137H, G103S [2502517..2502951]	mutation		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
	SoxR G74R [4727348..4727812]	target alteration; efflux		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
3/145: pl#1	<i>tetR</i> [72909..73532]	target alteration; efflux		tetracycline
<i>Staphylococcus epidermidis</i> 597/2				
597/2.chr	<i>mecA</i> [64264..66270]	target replacement	GI#1	penam
	<i>norA</i> [1736479..1737642]	efflux		fluoroquinolone, acridine dye, disinfecting agents and intercalating dyes
597/2: pl#2	<i>mphC</i> [4651..5550]	inactivation		macrolide
	<i>msrA</i> [5649..7115]	target protection		macrolide, lincosamide, streptogramin, tetracycline, oxazolidinone, phenicol, pleuromutilin
597/2: pl#3	<i>blaZ</i> [9180..10025]	beta-lactamase		penam
<i>Staphylococcus aureus</i> 597/2/2				
597/2/2: Chr	<i>mepR</i> [336896..337315]	efflux		glycylcycline, tetracycline
	<i>mgrA</i> [697821..698264]	efflux		fluoroquinolone, cephalosporin, penam, tetracycline, peptide, acridine dye, disinfecting agents and intercalating

				dyes
	<i>norA</i> [705915..707081]	efflux		fluoroquinolone
	<i>arlR</i> [1384420..1385079]	efflux		fluoroquinolone, acridine dye, disinfecting agents and intercalating dyes
	<i>lmrS</i> [2172134..2173576]	efflux		macrolide, aminoglycoside, oxazolidinone, diaminopyrimidine, phenicol
	GlpT A100V [339403..340761]	mutation		fosfomycin
	MurA E291D, T396N [2094696..2095961]	mutation		fosfomycin
<i>Staphylococcus aureus</i> 598				
598: Chr	<i>mepR</i> [316853..317272]	efflux		glycylcycline, tetracycline
	<i>mgrA</i> [723742..724185]	efflux		fluoroquinolone, cephalosporin, penam, tetracycline, peptide, acridine dye, disinfecting agents and intercalating dyes
	<i>norA</i> [731838..733004]	efflux		fluoroquinolone
	<i>arlR</i> [1439202..1439861]	efflux		fluoroquinolone, acridine dye, disinfecting agents and intercalating dyes
	<i>blaZ</i> [1812377..1813222]	beta-lactamase		penam
	<i>fosB</i> [2473348..2473767]	inactivation		fosfomycin
	GlpT A100V, V213I [319364..320722]	mutation		fosfomycin
	MurA D278E,	mutation		fosfomycin

	E291D [2242253..2243518]			
<i>Pseudomonas aeruginosa</i> 7/157				
7/157: Chr	<i>triA</i> [185842..186945]	efflux		triclosan
	<i>triB</i> [186942..188012]	efflux		triclosan
	<i>triC</i> [188009..191056]	efflux		triclosan
	<i>mexA</i> [478587..479738]	efflux		macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>mexB</i> [479754..482894]	efflux		macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>oprM</i> [482896..484353]	efflux		macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, acridine dye, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem,

				disinfecting agents and intercalating dyes
	<i>opmD</i> [805895..807358]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>mexI</i> [807355..810444]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>mexH</i> [810457..811569]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>mexG</i> [811577..812023]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>bcr-1</i> [929025..930233]	efflux		bicyclomycin
	<i>APH(3')-IIb</i> [946932..947738]	inactivation		aminoglycoside
	<i>PDC-19a</i> [959984..961177]	inactivation		monobactam, carbapenem, cephalosporin
	<i>yajC</i> [1297822..1298160]	efflux		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
	<i>mexL</i> [1456041..1456679]	efflux		macrolide, tetracycline, triclosan
	<i>mexJ</i> [1456775..1457878]	efflux		macrolide, tetracycline, triclosan
	<i>mexK</i> [1457883..1460960]	efflux		macrolide, tetracycline, triclosan
	<i>arnA</i>	target alteration		peptide

	[1599360..1601348]			
	<i>mexP</i> [1639568..1640725]	efflux		macrolide, carbapenem, tetracycline, acridine dye, diaminopyrimidine, phenicol, disinfecting agents and intercalating dyes
	<i>mexQ</i> [1640722..1643883]	efflux		macrolide, carbapenem, tetracycline, acridine dye, diaminopyrimidine, phenicol, disinfecting agents and intercalating dyes
	<i>opmE</i> [1643880..1645355]	efflux		macrolide, carbapenem, tetracycline, acridine dye, diaminopyrimidine, phenicol, disinfecting agents and intercalating dyes
	<i>cpxR</i> [1996279..1996956]	efflux		macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>cprS</i> [2130567..2131862]	target alteration; efflux		peptide
	<i>cprR</i> [2131859..2132530]	target alteration; efflux		peptide
	<i>muxA</i> [2912582..2913862]	efflux		macrolide, monobactam, tetracycline,

				aminocoumarin
	<i>muxB</i> [2913859..2916990]	efflux		macrolide, monobactam, tetracycline, aminocoumarin
	<i>muxC</i> [2916987..2920097]	efflux		macrolide, monobactam, tetracycline, aminocoumarin
	<i>opmB</i> [2920094..2921590]	efflux		macrolide, monobactam, tetracycline, aminocoumarin
	<i>oprN</i> [2953264..2954682]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>adeF</i> [2954679..2957630]	efflux		fluoroquinolone, tetracycline
	<i>mexE</i> [2957888..2959132]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>soxR</i> [3256411..3256881]	target alteration; efflux		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, acridine dye, rifamycin, phenicol, triclosan, disinfecting agents and intercalating dyes
	<i>adeF</i> [3670367..3673504]	efflux		fluoroquinolone, tetracycline
	<i>parR</i> [3964487..3965194]	efflux; reduced permeability to antibiotic		macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, acridine dye, phenicol, penem, disinfecting agents and

				intercalating dyes
	<i>parS</i> [3965195..3966481]	efflux; reduced permeability to antibiotic		macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, acridine dye, phenicol, penem, disinfecting agents and intercalating dyes
	<i>mexN</i> [4456361..4459471]	efflux		phenicol
	<i>mexM</i> [4459468..4460625]	efflux		phenicol
	<i>pmpM</i> [4552685..4554118]	efflux		fluoroquinolone, aminoglycoside, benzalkonium chloride
	<i>fosA</i> [4819688..4820095]	inactivation		fosfomycin
	<i>rsmA</i> [5131306..5131491]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>catB7</i> [5407303..5407941]	inactivation	GI#24	phenicol
	<i>mexV</i> [5574647..5575777]	efflux		macrolide, fluoroquinolone, tetracycline, acridine dye, phenicol, disinfecting agents and intercalating dyes
	<i>mexW</i> [5575828..5578884]	efflux		macrolide, fluoroquinolone, tetracycline, acridine dye, phenicol, disinfecting agents and intercalating dyes
	<i>crpP</i>	inactivation	GI#26	fluoroquinolone,

	[5774831..5775025]			ciprofloxacin
	<i>oprJ</i> [6041367..6042806]	efflux		macrolide, fluoroquinolone, aminoglycoside, cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
	<i>mexD</i> [6042812..6045943]	efflux		macrolide, fluoroquinolone, aminoglycoside, cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
	<i>mexC</i> [6045971..6047035]	efflux		macrolide, fluoroquinolone, aminoglycoside, cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
	<i>basS</i> [6270164..6271597]	target alteration; efflux		peptide
	<i>opmH</i> [6490400..6491848]	efflux		triclosan
	<i>emrE</i> [6512401..6512733]	efflux		aminoglycoside
	<i>OXA-488</i> [7116059..7116847]	beta-lactamase		carbapenem, cephalosporin, penam
	GyrA T83I [2032347..2035118]	mutation		fluoroquinolone
	<i>mexR</i> [477869..478312]	target alteration; efflux		macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide,

				aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	NalC S209R, G71E [1410005..1410646]	mutation		macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>mexT</i> [2959363..2960277]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	MexS V73A [2960498..2961517]	mutation		fluoroquinolone, diaminopyrimidine, phenicol
	<i>mexZ</i> [3668067..3668996]	efflux		macrolide, fluoroquinolone, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, acridine dye, phenicol, disinfecting agents and intercalating dyes
	<i>nfxB</i> [6047295..6047858]	efflux		macrolide, fluoroquinolone, cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
<i>Pseudomonas aeruginosa</i> 91/195				
91/195: Chr	<i>triA</i> [175604..176707]	efflux		triclosan
	<i>triB</i>	efflux		triclosan

	[176704..177774]		
	<i>triC</i> [177771..180818]	efflux	triclosan
	<i>mexA</i> [496702..497853]	efflux	macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>mexB</i> [497869..501009]	efflux	macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>oprM</i> [501011..502468]	efflux	macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, acridine dye, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem, disinfecting agents and intercalating dyes
	<i>opmD</i> [856904..858367]	efflux	fluoroquinolone, tetracycline, acridine dye, disinfecting agents and

				intercalating dyes
	<i>mexI</i> [858364..861453]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>mexH</i> [861466..862578]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>mexG</i> [862586..863032]	efflux		fluoroquinolone, tetracycline, acridine dye, disinfecting agents and intercalating dyes
	<i>bcr-1</i> [942933..944141]	efflux		bicyclomycin
	<i>APH(3')-IIb</i> [960851..961657]	inactivation		aminoglycoside
	<i>PDC-1</i> [974013..975206]	inactivation		monobactam, carbapenem, cephalosporin
	<i>yajC</i> [1354543..1354881]	efflux		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, rifamycin, phenicol, triclosan
	<i>mexL</i> [1512834..1513472]	efflux		macrolide, tetracycline, triclosan
	<i>mexJ</i> [1513568..1514671]	efflux		macrolide, tetracycline, triclosan
	<i>mexK</i> [1514676..1517753]	efflux		macrolide, tetracycline, triclosan
	<i>arnA</i> [1649924..1651912]	target alteration		peptide
	<i>mexP</i> [1690136..1691293]	efflux		macrolide, carbapenem, tetracycline, acridine dye, diaminopyrimidine, phenicol, disinfecting

				agents and intercalating dyes
	<i>mexQ</i> [1691290..1694451]	efflux		macrolide, carbapenem, tetracycline, acridine dye, diaminopyrimidine, phenicol, disinfecting agents and intercalating dyes
	<i>opmE</i> [1694448..1695923]	efflux		macrolide, carbapenem, tetracycline, acridine dye, diaminopyrimidine, phenicol, disinfecting agents and intercalating dyes
	<i>cpxR</i> [2045209..2045886]	efflux		macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>cprS</i> [2187670..2188965]	target alteration; efflux		peptide
	<i>cprR</i> [2188962..2189633]	target alteration; efflux		peptide
	<i>adeF</i> [2763881..2767057]	efflux	GI#8	fluoroquinolone, tetracycline
	<i>muxA</i> [2970528..2971808]	efflux		macrolide, monobactam, tetracycline, aminocoumarin
	<i>muxB</i> [2971805..2974936]	efflux		macrolide, monobactam, tetracycline, aminocoumarin

	<i>muxC</i> [2974933..2978043]	efflux		macrolide, monobactam, tetracycline, aminocoumarin
	<i>opmB</i> [2978040..2979539]	efflux		macrolide, monobactam, tetracycline, aminocoumarin
	<i>oprN</i> [3011209..3012627]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>mexF</i> [3012624..3015812]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>mexE</i> [3015834..3017078]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>soxR</i> [3338679..3339149]	target alteration; efflux		fluoroquinolone, cephalosporin, glycylcycline, penam, tetracycline, acridine dye, rifamycin, phenicol, triclosan, disinfecting agents and intercalating dyes
	<i>mexY</i> [3743423..3746560]	efflux		macrolide, fluoroquinolone, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, acridine dye, phenicol, disinfecting agents and intercalating dyes
	<i>parR</i> [3996300..3997007]	efflux; reduced permeability to antibiotic	GI#12	macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam,

				tetracycline, acridine dye, phenicol, penem, disinfecting agents and intercalating dyes
	<i>parS</i> [3997008..3998294]	efflux; reduced permeability to antibiotic	GI#12	macrolide, fluoroquinolone, monobactam, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, acridine dye, phenicol, penem, disinfecting agents and intercalating dyes
	<i>mexN</i> [4425285..4428395]	efflux		phenicol
	<i>mexM</i> [4428392..4429549]	efflux		phenicol
	<i>pmpM</i> [4559107..4560540]	efflux	GI#15	fluoroquinolone, aminoglycoside, benzalkonium chloride
	<i>fosA</i> [4811006..4811413]	inactivation		fosfomycin
	<i>rsmA</i> [5081427..5081612]	efflux		fluoroquinolone, diaminopyrimidine, phenicol
	<i>crpP</i> [5246731..5246928]	inactivation	CI#19	fluoroquinolone, ciprofloxacin
	<i>oprJ</i> [5386269..5387708]	efflux		macrolide, fluoroquinolone, aminoglycoside, cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
	<i>mexD</i> [5387714..5390845]	efflux		macrolide, fluoroquinolone, aminoglycoside,

				cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
	<i>mexC</i> [5390873..5391937]	efflux		macrolide, fluoroquinolone, aminoglycoside, cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
	<i>catB7</i> [5786427..5787065]	inactivation		phenicol
	<i>mexV</i> [5954386..5955516]	efflux		macrolide, fluoroquinolone, tetracycline, acridine dye, phenicol, disinfecting agents and intercalating dyes
	<i>mexW</i> [5955567..5958623]	efflux		macrolide, fluoroquinolone, tetracycline, acridine dye, phenicol, disinfecting agents and intercalating dyes
	<i>basS</i> [6193592..6195025]	target alteration; efflux		peptide
	<i>OpmH</i> [6411491..6412939]	efflux		triclosan
	<i>emrE</i> [6433494..6433826]	efflux		aminoglycoside
	<i>OXA-850</i> [7036044..7036832]	beta-lactamase		carbapenem, cephalosporin, penam
	QseB L71R [6192903..6193568]	mutation		peptide
	<i>mexR</i> [495984..496427]	target alteration; efflux		macrolide, fluoroquinolone, monobactam,

			carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>nalC</i> [1466771..1467412]	efflux	macrolide, fluoroquinolone, monobactam, carbapenem, cephalosporin, cephamycin, penam, tetracycline, peptide, aminocoumarin, diaminopyrimidine, sulfonamide, phenicol, penem
	<i>mexT</i> [3017309..3018223]	efflux	fluoroquinolone, diaminopyrimidine, phenicol
	<i>mexS</i> [3018444..3019463]	efflux	fluoroquinolone, diaminopyrimidine, phenicol
	<i>mexZ</i> [3741421..3742053]	efflux	macrolide, fluoroquinolone, aminoglycoside, carbapenem, cephalosporin, cephamycin, penam, tetracycline, acridine dye, phenicol, disinfecting agents and intercalating dyes
	<i>nfxB</i> [5392197..5392760]	efflux	macrolide, fluoroquinolone, cephalosporin, penam, tetracycline, aminocoumarin, diaminopyrimidine, phenicol
<i>Streptococcus pneumoniae</i> PHRX1-2021			

PHRX1- 2021: Chr	<i>pmrA</i> [1198848..1200047]	efflux		fluoroquinolone
	<i>patB</i> [1903612..1905378]	efflux		fluoroquinolone
	<i>patA</i> [1906169..1907863]	efflux		fluoroquinolone
	<i>rlmA(II)</i> [1934578..1935426]	target alteration		macrolide, lincosamide