

FIGURE S3

A

Rep family/ rep class*	Target no.	Gene/ORF	Plasmid	E. faecium		E. faecalis		
				ST17	ST78	ST6	ST40	
Rolling-circle replicating plasmids								
Rep_trans								
	14	19 rep	pEFNP1	7	7	1	5	
		21 ORF	pKQ10	5	8	0	2	
		371 rep	pRI1	3	2	0	0	
	7	360 rep (CDS11)	pRE25	0	0	7	4	
		374 repM	pRUM	2	0	1	0	
431 repD		Plasmid	0	0	4	3		
Theta replicating plasmids								
Rep_3								
	4	361 repB	pMBB1	0	0	0	0	
		5	362 rep	pN315	0	0	0	2
			363 rep	pN315	0	0	0	0
	6	7 rep	pS86	0	0	2	0	
		11	30 repA	pB82	1	4	0	2
			13 repA	pEF1071	0	0	0	0
	28 rep		pEFR	1	4	0	0	
	18	31 repA	p200B	4	4	0	0	
		9 repA	pEF418	2	1	0	0	
		20 rep	pCIZ2	1	6	0	0	
	Inc18							
1		17 repE	pAMβ1	1	1	0	0	
		PCR repR	pIP501	3	1	3	4	
2		3 rep (CDS1)	pRE25	7	7	9	5	
		4 repS	pTEF3	0	0	3	0	
RepA_N	27 rep	pHTβ	1	0	0	4		
	8	6 rep	pAM373	0	0	0	0	
		10 repA	pEJ97-1	0	0	0	1	
	9	365 prgW	pCF10	0	0	0	0	
		PCR prgW	pCF10	0	0	10	5	
		14 repA-1	pTEF1	3	1	1	6	
		16 repA	pTEF2	0	0	9	4	
	17	5 repA	pRUM	9	9	0	0	
	19	375 repA	pUB101	0	0	0	0	
	20	PCR rep	pLG1	6	8	0	0	
	Plasmid addiction systems	457 axe (antitoxin)		8	7	0	0	
458 txe (toxin)			9	8	0	0		
460 ζ (toxin)			1	7	0	10		
461 ε (antitoxin)			3	8	7	10		
462 ζ (toxin)			2	3	1	10		
463 ω (repressor)			8	8	8	10		
PCR ω-ε-ζ			6	8	7	10		
464 mazF (toxin)			0	0	10	10		
465 mazE (SpoVT/AbrB-like protein)			0	0	10	10		
466 relE (toxin)			1	2	0	4		
467 relB (bifunctional antitoxin)			1	0	1	0		
468 par (toxin RNA I)			0	0	4	6		
469 par (antidote RNA II)		0	0	3	6			

B

Transpos- able element or IS family	Target no. Gene/ORF	Associated transposon	<i>E.</i> <i>faecium</i>		<i>E.</i> <i>faecalis</i>	
			ST17	ST78	ST6	ST40
Tn916/1545	199 Integrase (ORF2)	Tn916	2	0	10	10
	213 Excisionase (xis-Tn)	Tn916	2	0	10	10
	75 Orf16 <i>tra</i> gene	Tn916	5	2	10	10
Tn1549/5382	452 Integrase	Tn1549	3	2	2	1
	454 Excisionase	Tn1549	3	2	2	0
	82 Conjugative transfer protein	Tn1549	4	2	1	0
	39 Relaxase	Tn1549	3	2	1	5
Tn1546	146 Transposase	Tn1546	2	3	3	1
	216 Resolvase	Tn1546	2	3	3	1
Tn917	145 Transposase	Tn917	0	0	2	0
	229 Resolvase	Tn917	0	0	1	0
IS256	96 Transposase IS256 family	Tn1546	6	7	10	9
	15 Transposase IS256		8	9	10	9
	154 Transposase IS256		8	9	10	8
	102 Transposase IS1542		4	0	0	0
	98 Transposase IS16		10	10	1	2
	134 Transposase <i>ISEf1</i>		10	10	3	4
	157 Transposase IS1310		0	0	0	0
IS110	104 Transposase <i>ISEnfa110</i>	Tn5382	0	0	0	0
	165 Transposase IS110 family		0	1	10	1
	167 Transposase IS110 family		10	10	0	0
IS3	109 Transposase <i>ISEnfa3</i>		10	10	0	0
	110 Transposase IS1485		10	10	10	10
	162 Transposase IS3-like		0	0	0	0
	143 Transposase IS981		7	10	7	5
IS6	111 Transposase IS6 family		0	0	0	1
	112 Transposase IS1216		10	10	10	6
	156 Transposase <i>ISEnta1</i>		9	9	10	6
ISL3	118 Transposase ISL3 family	Tn1546	0	0	0	1
	120 Transposase ISL3-like		0	0	0	0
	117 Transposase IS1251		6	3	1	0
	119 Transposase <i>ISEfa11</i>		10	10	0	0
	123 Transposase IS1476		8	8	0	1
	176 Transposase IS1167		10	10	10	6
IS982	129 Transposon <i>ISEfm1</i>		10	10	4	0
IS1182	138 Transposase IS1182		5	2	6	0
IS200/IS605	170 Transposase IS200 family	Tn5382	0	0	6	10
	142 Transposase <i>ISEnfa200</i>		0	0	0	0
	140 Transposase <i>ISEfa4</i>		7	9	0	0
	166 Transposase IS605		6	10	0	0
IS1380	126 Transposase <i>ISEcp1</i> -like	Tn1546	0	0	0	2
	137 Transposase IS1678		0	8	2	0
IS30	130 Transposase IS1252		0	1	1	2
	133 Transposase IS6770		8	10	6	10
	136 Transposase IS1062		1	0	2	1
ISEnta1	156 Transposase <i>ISEnta1</i>		9	9	10	5
	168 Transposase IS4		5	1	0	0
IS21	160 Transposase IS21 family	Tn558	0	0	0	0
	417 Transposase IS21-558		0	0	0	0

C

Antibiotic	Target no.	Gene/ORF	<i>E. faecium</i>		<i>E. faecalis</i>	
			ST17	ST78	ST6	ST40
Glycopeptides	237	<i>vanA</i> Tn1546	3	3	3	1
	PCR	<i>vanA</i>	4	2	3	1
	238	<i>vanB</i> ₂	3	2	1	0
	PCR	<i>vanB</i>	3	2	1	0
	280	<i>vanE</i>	0	0	0	0
	PCR	<i>vanE</i>	1	2	0	0
	281	<i>vanG</i>	0	0	0	1
	284	<i>vanG</i> ₂	0	0	0	0
	PCR	<i>vanG</i>	0	0	0	0
	313	<i>vanL</i>	0	0	0	2
Aminoglycosides	251	<i>aph(2'')-Ib</i>	0	1	0	1
	253	<i>aph(2'')-Ic</i>	0	0	0	0
	252	<i>aph(2'')-Id</i>	0	0	0	0
	PCR	<i>aac(6)-Ie-aph(2'')-Ia</i>	5	6	7	2
	381	<i>aph(3)-IIIa</i>	5	8	7	4
	254 ¹	<i>aac(6)-Ii</i>	10	10	0	0
	383	<i>ant(6)-Ia</i>	6	7	7	5
	256	<i>aadA</i>	0	0	0	0
	258	<i>aad9</i>	0	0	0	0
	430	<i>str</i>	0	0	1	5
	382	<i>aadD</i>	0	0	0	0
	263	<i>aadA2</i>	0	0	0	0
	384	<i>spc</i>	0	0	0	1
	247	<i>sat4</i>	5	6	7	4
β-lactams	473	<i>pbp5</i>	7	10	0	1
	420	<i>blaZ</i> Tn4002	0	0	0	0
Tetra-cyclines	243	<i>tetM</i>	7	3	10	10
	242	<i>tetL</i>	3	3	1	3
	262	<i>tetK</i>	1	0	1	3
	385	<i>tetO</i>	0	0	0	0
	386	<i>tetS</i>	1	0	1	8
Macrolides, lincosamides, streptogamins (MLS)	260	<i>ermA</i> Tn554	0	0	0	0
	298	<i>erm2</i>	8	9	10	3
	398	<i>ErmF</i> Tn4351 (IS4351)	0	0	0	0
	399	<i>ermG</i> CTnGERM1	0	0	0	0
	401	<i>ermQ</i>	0	0	0	0
	396	<i>ermT</i>	1	0	0	2
	402	<i>ermTR</i>	0	0	0	0
	309	<i>Mef</i>	0	0	1	6
	233	<i>msrC</i>	0	0	10	10
	403	<i>mel</i> Tn2009	0	0	0	0
	312	<i>mphBM</i>	0	0	0	0
	299	<i>msrSA</i>	0	0	0	0
	240	<i>vgB</i>	0	0	0	2
	301	<i>vgbB</i>	0	0	0	0
	302	<i>Vat</i>	0	0	0	0
	303	<i>vatB</i>	0	0	0	1
	304	<i>vatC</i>	0	0	0	1
	305	<i>satA</i>	0	0	0	1
	306	<i>satG</i>	1	1	1	3
	307	<i>Vga</i>	0	0	0	0
	308	<i>vgaB</i>	0	0	0	0
	310	<i>linA</i>	0	0	0	0
	234	<i>linB</i>	0	4	1	2
Oxa-zolidinone	394	<i>cfr</i>	0	0	0	1

¹ This target is species specific for *E. faecium*

Chloram-phenicol	387	<i>orf10</i> pRE25	0	0	6	3
	389	<i>cat</i> pKH19	1	0	0	0
	390	<i>cat</i> pSCS7	3	0	2	3
	391	<i>catD</i> Tn4453a	0	0	0	0
	392	<i>catQ</i>	0	0	0	1
	393	<i>fexA</i>	0	0	0	0
Trimetho-prim	232	<i>dhfrXII</i>	0	0	0	0
	421	<i>dfrA</i>	0	0	0	0
Biocides	406	<i>tcrB</i>	0	1	1	2
	407	<i>merA</i>	0	0	0	0
	408	<i>merB</i>	0	0	0	0
	409	<i>cadA</i> pI258	1	0	1	6
	410	<i>qacA</i>	0	0	0	2
	412	<i>smr</i>	0	0	1	6
	413	<i>qacG</i>	0	0	0	0
	414	<i>qacH</i>	0	0	1	0
	415	<i>qacJ</i>	0	0	0	0

D

Phage sequences	Target no	Gene/ORF	<i>E. faecium</i>		<i>E. faecalis</i>	
			ST17	ST78	ST6	ST40
<i>E. faecium</i> E980	315	phage protein HK97gp10 family EfmE980_contig00019	1	0	0	7
	316	Putative phage terminase large subunit EfmE980_contig00019	0	0	0	7
	317	Prophage pi3 protein33 EfmE980_contig00019	8	4	0	2
<i>E. faecium</i> E980	318	Phage protein putative EfmE980_contig00096	0	1	0	0
	319	Phage terminase large subunit EfmE980_contig00096	1	0	0	0
	320	Phage protein HK97gp10 family EfmE980_contig00096	2	0	0	0
<i>E. faecium</i> E1039	321	Integrase EfmE1039_contig00025	1	1	0	0
	322	Phage anti-repressor protein EfmE1039_contig00025	0	0	1	0
	323	Excisionase putative EfmE1039_contig00025	0	0	0	0
<i>E. faecium</i> E1039	324	Phage protein EfmE1039_contig00043	0	0	0	0
	325	Phage terminase EfmE1039 large subunit pbsx family	0	0	0	0
	326	Phage minor structural protein GP20 EfmstrainE1039	0	0	0	0
<i>E. faecium</i> E1039	327	Phage terminase small subunit EfmstrainE1039	2	0	0	0
	328	Phage terminase large subunit EfmE1039_contig00056 pbsx family	1	0	0	0
	342	Prophage Lp2 protein 33 EfmE1039_contig00056strain	2	0	0	0
<i>E. faecium</i> E1679	329	Phageprotein HK97gp10 family EfmstrainE1039	1	0	0	0
	333	Phage prohead protease HK97family EfmE1679_contig00158	0	0	0	0
	334	Putative phage terminase large subunit EfmE1679_contig00158	0	0	0	0
<i>E. faecium</i> U0317	336	Phage anti-repressor protein EfmU0317_contig00056	9	9	0	0
	337	Phage endonuclease EfmU0317_contig00056	3	7	0	2
	338	Phage prohead protease EfmU0317_contig00056strain HK97family	3	7	0	0
<i>E. faecium</i> U0317	339	Phagesite-specific recombinase EfmU0317_ctg00121	0	8	0	0
	340	Phage terminase small subunit EfmU0317_contig00121strain	2	6	0	3
	341	Prophage pi2 protein 43 EfmU0317_contig00121strain	3	8	0	0
<i>E. faecalis</i> V583	343	Phage site-specific recombinase phage integrase family	0	0	2	0
	344	Site-specific recombinase phage integrase family	0	0	9	8
	345	Site-specific recombinase phage	0	0	0	2
	346	Site-specific recombinase phage integrase family	0	0	9	1
	347	Site-specific recombinase phage integrase family	0	0	0	0
	348	Site-specific recombinase phage integrase family	0	0	9	9
	350	Site-specific recombinase phage integrase family	0	0	10	10
	351	Phage integrase	1	0	4	8
	352	Site-specific recombinase phage integrase family	3	2	10	8
	353	Site-specific recombinase phage integrase family	0	0	6	0
	354	Site-specific recombinase phage integrase family	0	0	9	0

F

	Target no Gene/ORF	<i>E. faecium</i>		<i>E. faecalis</i>	
		ST17	ST78	ST6	ST40
CRISPR/ Cas	474 Cas_Csn1 CRISPR Associated Protein	0	0	0	9
	475 Cas1 CRISPR Associated Protein	0	0	0	9
	476 Cas2 CRISPR Associated Protein	0	0	0	9
	477 Cas_csn2 CRISPR Associated Protein	0	0	0	9
	478 Conserved CRISPR sequence Repeat pHTbeta	0	0	0	0
	479 Conserved CRISPR sequence Repeat	0	0	10	10