Supplementary Table S5. List of primers used in this study

Name of primer	Primer sequence (5´-3´)	Target	Ta (°C)	Amplicon size (bp)	Reference*
CMY /F	ATG ATG AAA AAA TCG TTA TGC TGC	bla_{CMY}	58	1138	[107]
CMY /R	GCT TTT CAA GAA TGC GCC AGG				
CTX-M /F	ATG TGC AGY ACC AGT AAR GTK ATG GC	bla_{CTX-M}	55	592	[107]
CTX-M /R	TGG GTR AAR TAR GTS ACC AGA AYS AGC GG				
OXA-1 /F	ATG AAA AAC ACA ATA CAT ATC AAC TTC GC	bla_{OXA-1}	55	820	[107]
OXA-1 /R	GTG TGT TTA GAA TGG TGA TCG CAT T				
OXA-2 /F	ACG ATA GTT GTG GCA GAC GAA C	bla_{OXA-2}	55	601	[107]
OXA-2 /R	ATY CTG TTT GGC GTA TCR ATA TTC				
SHV /F	TTA TCT CCC TGT TAG CCA CC	bla_{SHV}	55	796	[107]
SHV /R	GAT TTG CTG ATT TCG CTC GG				
TEM /F	GCG GAA CCC CTA TTT G	bla_{TEM}	55	964	[107]
TEM /R	ACC ATT GCT TAA TCA GTG AG				
MOXMF	GCT GCT CAA GGA GCA CAG GAT	bla_{MOX-1}, bla_{MOX-2}, bla_{CMY-1}, bla_{CMY-8} to bla_{CMY-11}	64	520	[110]
MOXMR	CAC ATT GAC ATA GGT GTG GTG C				
CITMF	TGG CCA GAA CTG ACA GGC AAA	bla_{LAT-1} to bla_{LAT-4}, bla_{CMY-2} to bla_{CMY-7}, bla_{BIL-1}	64	462	[110]
CITMR	TTT CTC CTG AAC GTG GCT GGC				
DHAMF	AAC TTT CAC AGG TGT GCT GGG T	bla_{DHA-1}, bla_{DHA-2}	64	405	[110]
DHAMR	CCG TAC GCA TAC TGG CTT TGC				
ACCMF	AAC AGC CTC AGC AGC CGG TTA	bla_{ACC}	64	346	[110]
ACCMR	TTC GCC GCA ATC ATC CCT AGC				
EBCMF	TCG GTA AAG CCG ATG TTG CGG	bla_{MIR-1}, bla_{ACT-1}	64	302	[110]
EBCMR	CTT CCA CTG CGG CTG CCA GTT				
FOXMF	AAC ATG GGG TAT CAG GGA GAT G	bla_{FOX-1} to bla_{FOX-5b}	64	190	[110]
FOXMR	CAA AGC GCG TAA CCG GAT TGG				

MultiCaseACC_for	CAC CTC CAG CGA CTT GTT AC	bla_{ACC-1}, bla_{ACC-2}	60	346	[109]
MultiCaseACC_rev	GTT AGC CAG CAT CAC GAT CC				
MultiCaseFOX_for	CTA CAG TGC GGG TGG TTT	bla_{FOX-1} to bla_{FOX-5}	60	162	[109]
MultiCaseFOX_rev	CTA TTT GCG GCC AGG TGA				
MultiCaseMOX_for	GCA ACA ACG ACA ATC CAT CCT	bla_{MOX-1}, bla_{MOX-2}, bla_{CMY-1}, bla_{CMY-8}	60	895	[109]
MultiCaseMOX_rev	GGG ATA GGC GTA ACT CTC CCA A	to bla_{CMY-11}, bla_{CMY-19}			
MultiCaseDHA_for	TGA TGG CAC AGC AGG ATA TTC	bla_{DHA-1}, bla_{DHA-2}	60	997	[109]
MultiCaseDHA_rev	GCT TTG ACT CTT TCG GTA TTC G				
MultiCaseCIT_for	CGA AGA GGC AAT GAC CAG AC	bla_{LAT-1} to bla_{LAT-3}, bla_{BIL-1}, bla_{CMY-2}	60	538	[109]
MultiCaseCIT_rev	ACG GAC AGG GTT AGG ATA GY	to bla_{CMY-7}, bla_{CMY-12} to bla_{CMY-18},			
		bla_{CMY-21} to bla_{CMY-23}			
MultiCaseEBC_for	CGG TAA AGC CGA TGT TGC G	bla_{ACT-1}, bla_{MIR-1}	60	683	[109]
MultiCaseEBC_rev	AGC CTA ACC CCT GAT ACA				
sul1 /F	CTT CGA TGA GAG CCG GCG GC	sul1	68	417	[104]
sul1 /R	GCA AGG CGG AAA CCC GCG CC				
sul2 /F	AGG GGG CAG ATG TGA TCG AC	sul2	58	249	[104]
sul2 /R	GCA GAT GAT TTC GCC AAT TG				
sul3 /F	GAG CAA GAT TTT TGG AAT CG	sul3	55	789	[104]
sul3 /R	CAT CTG CAG CTA ACC TAG GGC TTT GGA				
dfrA1 /F	ACG GAT CCT GGC TGT TGG TTG GAC GC	dfrA1	55	254	[104]
dfrA1 /R	CGG AAT TCA CCT TCC GGC TCG ATG TC				
dfrA12 /F	ACT CGG AAT CAG TAC GCA	dfrA12	51	462	[104]
drfA12 /R	GTG TAC GGA ATT ACA GCT				
dfrA14 /F	TTA ACC AGG ATG AGA ACC CT	dfrA14	56	510	[105]
dfrA14 /R	CGA TTG CAT AGC TTT GTT AA				
dfrA17 /F	GAT TTC TGC AGT GTC AGA	dfrA17	50	384	[104]
dfrA17 /R	CTC AGG CAT TAT AGG GAA				
dfrA19 /F	AGT CGC TGT GGA TTC TAA GT	dfrA19	56	455	[103]
dfrA19 /R	CAA TGT GAA AAT TGT TCT GG				
tetA /F	GCT ACA TCC TGC TTG CCT TC	tet(A)	55	210	[104]
tetA /R	CAT AGA TCG CCG TGA AGA GG				
tetB /F	TTG GTT AGG GGC AAG TTT TG	tet(B)	55	659	[104]
tetB /R	GTA ATG GGC CAA TAA CAC CG				
tetC /F	CTT GAG AGC CTT CAA CCC AG	tet(C)	55	418	[104]
tetC /R	ATG GTC GTC ATC TAC CTG CC				

tetD /F	AAA CCA TTA CGG CAT TCT GC	*tet*(D)	55	787	[104]
tetD /R	GAC CGG ATA CAC CAT CCA TC				
tetE /F	AAA CCA CAT CCT CCA TAC GC	*tet*(E)	55	278	[104]
tetE /R	AAA TAG GCC ACA ACC GTC AG				
tetG /F	CAG CTT TCG GAT TCT TAC GG	*tet*(G)	55	468	[104]
tetG /R	GAT TGG TGA GGC TCG TTA GC				
catA /F	CCT GCC ACT CAT CGC AGT	*catA*	55	623	[104]
catA /R	CCA CCG TTG ATA TAT CCC				
cmlA /F	TGT CAT TTA CGG CAT ACT CG	*cmlA*	55	455	[104]
cmlA /R	ATC AGG CAT CCC ATT CCC AT				
cfr /F	TGA AGT ATA AAG CAG GTT GGG AGT CA	*cfr*	48	746	[108]
cfr /R	ACC ATA TAA TTG ACC ACA AGC AGC				
floR /F	GCG ATA TTC ATT ACT TTG GC	*floR*	50	425	[104]
floR /R	TAG GAT GAA GGT GAG GAA TG				
aadA1 /F	CGA CTC AAC TAT CAG AGG TA	*aadA1*	51	384	[104]
aadA1 /R	CTT TTG TCA GCA AGA TAG CC				
aadA2 /F	CGG TGA CCA TCG AAA TTT CG	*aadA2*	55	249	[104]
aadA2 /R	CTA TAG CGC GGA GCG TCT CGC				
aadA4 /F	ATC TTG CGA TTT TGC TGA CC	*aadA4*	53	198	[102]
aadA4 /R	TGT ACC AAA TGC GAG CAA GA				
aadA5 /F	CAC TGG ACA CAA TCC ACC TG	*aadA5*	55	217	[104]
aadA5 /R	CCA AGG CAC TAC TTC GCT TC				
aadB /F	GGG CGC GTC ATG GAG GAG TT	*aadB*	67	328	[96]
aadB /R	TAT CGC GAC CTG AAA GCG GC				
strA /F	CCT ATC GGT TGA TCA ATG TC	*strA*	58	250	[104]
strA /R	GAA GAG TTT TAG GGT CCA CC				
strB /F	ATC GTC AAG GGA TTG AAA CC	*strB*	55	509	[97]
strB /R	GGA TCG TAG AAC ATA TTG GC				
qepA /F	GCA GGT CCA GCA GCG GGT AG	*qepA*	60	199	[100]
qepA /R	CTT CCT GCC CGA GTA TCG TG				
qnrA /F	ATT TCT CAC GCC AGG ATT TG	*qnrA*	53	516	[98]
qnrA /R	GAT CGG CAA AGG TTA GGT CA				
qnrB /F	GAT CGT GAA AGC CAG AAA GG	*qnrB*	53	469	[98]
qnrB /R	ACG ATG CCT GGT AGT TGT CC				
qnrC /F	GGG TTG TAC ATT TAT TGA ATC	*qnrC*	50	447	[106]
qnrC /R	TCC ACT TTA CGA GGT TCT				

qnrD /F	CGA GAT CAA TTT ACG GGG AAT A	*qnrD*	50	582	[101]
qnrD /R	AAC AAG CTG AAG CGC CTG				
qnrS /F	ACG ACA TTC GTC AAC TGC AA	*qnrS*	53	417	[98]
qnrS /R	TAA ATT GGC ACC CTG TAG GC				
aac(6´)-Ib /F	TTG CGA TGC TCT ATG AGT GGC TA	*aac(6´)-Ib*	55	482	[99]
aac(6´)-Ib /R	CTC GAA TGC CTG GCG TGT TT				

*Reference numbers correspond to the reference numbers in the main manuscript

References

107. Dierikx, C.M.; van Duijkeren, E.; Schoormans, A.H.W.; van Essen-Zandbergen, A.; Veldman, K.; Kant, A.; Huijsdens, X.W.; van der Zwaluw, K.; Wagenaar, J.A.; Mevius, D.J. Occurrence and characteristics of extended-spectrum-β-lactamase- and AmpC-producing clinical isolates derived from companion animals and horses. *J. Antimicrob. Chemother.* **2012**, *67*, 1368–1374, doi:10.1093/jac/dks049.

110. Pérez-Pérez, F.J.; Hanson, N.D. Detection of plasmid-mediated AmpC beta-lactamase genes in clinical isolates by using multiplex PCR. *J. Clin. Microbiol.* **2002**, *40*, 2153–2162, doi:10.1128/jcm.40.6.2153-2162.2002.

109. Dallenne, C.; Da Costa, A.; Decré, D.; Favier, C.; Arlet, G. Development of a set of multiplex PCR assays for the detection of genes encoding important beta-lactamases in *Enterobacteriaceae*. *J. Antimicrob. Chemother.* **2010**, *65*, 490–495, doi:10.1093/jac/dkp498.

104. Dolejska, M.; Frolkova, P.; Florek, M.; Jamborova, I.; Purgertova, M.; Kutilova, I.; Cizek, A.; Guenther, S.; Literak, I. CTX-M-15-producing *Escherichia coli* clone B2-O25b-ST131 and *Klebsiella* spp. isolates in municipal wastewater treatment plant effluents. *J. Antimicrob. Chemother.* **2011**, *66*, 2784–2790, doi:10.1093/jac/dkr363.

105. Miranda, A.; Ávila, B.; Díaz, P.; Rivas, L.; Bravo, K.; Astudillo, J.; Bueno, C.; Ulloa, M.T.; Hermosilla, G.; Del Canto, F.; et al. Emergence of Plasmid-Borne *dfrA14* Trimethoprim Resistance Gene in *Shigella sonnei*. *Front. Cell. Infect. Microbiol.* **2016**, *6*, 77, doi:10.3389/fcimb.2016.00077.

103. Šeputienė, V.; Povilonis, J.; Ružauskas, M.; Pavilonis, A.; Sužiedėlienė, E. Prevalence of trimethoprim resistance genes in *Escherichia coli* isolates of human and animal origin in Lithuania. *J. Med. Microbiol.* **2010**, *59*, 315–322, doi:10.1099/jmm.0.015008-0.

108. Kehrenberg, C.; Schwarz, S. Distribution of florfenicol resistance genes *fexA* and *cfr* among chloramphenicol-resistant *Staphylococcus* isolates. *Antimicrob. Agents Chemother.* **2006**, *50*, 1156–1163, doi:10.1128/AAC.50.4.1156-1163.2006.

102. Szczepanowski, R.; Linke, B.; Krahn, I.; Gartemann, K.-H.; Gützkow, T.; Eichler, W.; Pühler, A.; Schlüter, A. Detection of 140 clinically relevant antibiotic-resistance genes in the plasmid metagenome of wastewater treatment plant bacteria showing reduced susceptibility to selected antibiotics. *Microbiology (Reading)* **2009**, *155*, 2306–2319, doi:10.1099/mic.0.028233-0.

96. Sandvang, D.; Aarestrup, F.M. Characterization of aminoglycoside resistance genes and class 1 integrons in porcine and bovine gentamicin-resistant *Escherichia coli*. *Microb. Drug Resist.* **2000**, *6*, 19–27, doi:10.1089/mdr.2000.6.19.

97. Boerlin, P.; Travis, R.; Gyles, C.L.; Reid-Smith, R.; Janecko, N.; Lim, H.; Nicholson, V.; McEwen, S.A.; Friendship, R.; Archambault, M. Antimicrobial resistance and virulence genes of *Escherichia coli* isolates from swine in Ontario. *Appl. Environ. Microbiol.* **2005**, *71*, 6753–6761, doi:10.1128/AEM.71.11.6753-6761.2005.

100. Yamane, K.; Wachino, J.; Suzuki, S.; Arakawa, Y. Plasmid-mediated *qepA* gene among *Escherichia coli* clinical isolates from Japan. *Antimicrob. Agents Chemother.* **2008**, *52*, 1564–1566, doi:10.1128/AAC.01137-07.

98. Gay, K.; Robicsek, A.; Strahilevitz, J.; Park, C.H.; Jacoby, G.; Barrett, T.J.; Medalla, F.; Chiller, T.M.; Hooper, D.C. Plasmid-mediated quinolone resistance in non-Typhi serotypes of *Salmonella enterica*. *Clin. Infect. Dis.* **2006**, *43*, 297–304, doi:10.1086/505397.

106. Wang, M.; Guo, Q.; Xu, X.; Wang, X.; Ye, X.; Wu, S.; Hooper, D.C.; Wang, M. New plasmid-mediated quinolone resistance gene, *qnrC*, found in a clinical isolate of *Proteus mirabilis*. *Antimicrob. Agents Chemother.* **2009**, *53*, 1892–1897, doi:10.1128/AAC.01400-08.

101. Cavaco, L.M.; Hasman, H.; Xia, S.; Aarestrup, F.M. *qnrD*, a novel gene conferring transferable quinolone resistance in *Salmonella enterica* serovar Kentucky and Bovismorbificans strains of human origin. *Antimicrob. Agents Chemother.* **2009**, *53*, 603–608, doi:10.1128/AAC.00997-08.

99. Park, C.H.; Robicsek, A.; Jacoby, G.A.; Sahm, D.; Hooper, D.C. Prevalence in the United States of *aac(6')-Ib-cr* encoding a ciprofloxacin-modifying enzyme. *Antimicrob. Agents Chemother.* **2006**, *50*, 3953–3955, doi:10.1128/AAC.00915-06.