

Antimicrobial	Group	Gene/Codon no.	Primer name	Internal number	Sequence	Temperature (°C)	Reference		
Beta-lactams	TEM	All	TEM from P1	Primer 757	5'-GCGGAACCCCTATTGG-3'	55	Olesen, I., H. Hasman, and F. M. Aarestrup. 2004. Prevalence of beta-lactamases among ampicillin-resistant <i>Escherichia coli</i> and <i>Salmonella</i> isolated from food animals in Denmark. <i>Microb Drug Resist.</i> 10:334-340. Moodley, A. and Guardabassi, L. Transmission of IncN Plasmids Carrying blaCTX-M-1 between Commensal <i>Escherichia coli</i> in Pigs and Farm Workers. <i>Antimicrobial Agents and Chemotherapy.</i> 2009. 53:1709-1711.		
			TEM-C-R-ny	Primer 686	5'-ACC AAT GCT TAA TCA GTG AG-3'				
	CTX	M-All		ctx M U1	Primer 1354	5'-ATGTGCAGYACCGATAARGTKATGGC-3'	60	Hasman, H., D. Mevius, K. Veldman, I. Olesen and F. M. Aarestrup. 2006. Beta-lactamases among Extended spectrum Beta-lactamase resistant (ESBL) <i>Salmonella</i> from poultry, poultry products and human patients in The Netherlands. <i>J. Antimicrob. Chemother.</i> 56:115-121.	
				CTX-M-U-2new	Primer 1580	5'-TGGGTRAARTARGTSACCAGAAYSAGCGG-3'			
		CTX-M1 group		ctx-M-15 front P1	Primer 1537	5'-CCATGGTTAAAAATCACTGCG-3'	60	Moodley, A. and Guardabassi, L. Transmission of IncN Plasmids Carrying blaCTX-M-1 between Commensal <i>Escherichia coli</i> in Pigs and Farm Workers. <i>Antimicrobial Agents and Chemotherapy.</i> 2009. 53:1709-1711.	
				CTX-M-U-2new	Primer 1580	5'-TGGGTRAARTARGTSACCAGAAYSAGCGG-3'			
		CTX-M2 group		ctx-M2-group-forward	Primer 1000	5'-ATGATGACTCAGAGCATTCG-3'	60	Park YJ, Lee S, Kim YR, Oh EJ, Woo GJ, Lee K. Occurrence of extended-spectrum (beta)-lactamases and plasmid-mediated AmpC (beta)-lactamases among Korean isolates of <i>Proteus mirabilis</i> . <i>J Antimicrob Chemother.</i> 2006. 57:156-8.	
				ctx-M2-group-reverse	Primer 1001	5'-GAAACCGTGGTTACGATT-3'			
		CTX-M9 group		ctx-M-9 P1	Primer 1096	5'-GTGACAAAGAGAGTGCAACGG-3'	60	Briñas L, Lantero M, de Diego I, Alvarez M, Zarazaga M, Torres C. Mechanisms of resistance to expanded-spectrum cephalosporins in <i>Escherichia coli</i> isolates recovered in a Spanish hospital. <i>J Antimicrob Chemother.</i> 2005. 56:1107-10.	
				ctx-M-9 P2	Primer 1097	5'-ATGATTCTGCCGCTGAAGCC-3'			
		ACC	ACC-1		ACC-1 ESBL P1	Primer 1359	5'-AGCCTCAGCAGCCGGTTAC-3'	50	Hasman, H., D. Mevius, K. Veldman, I. Olesen and F. M. Aarestrup. 2006. Beta-lactamases among Extended spectrum Beta-lactamase resistant (ESBL) <i>Salmonella</i> from poultry, poultry products and human patients in The Netherlands. <i>J. Antimicrob. Chemother.</i> 56:115-121.
					ACC-1 ESBL P2	Primer 1360	5'-GAAGCCGTTAGTTGATCCGG-3'		
	DHA	DHA-1		DHA-1A	Primer 1364	5'-CTGATGAAAAATCGTATC-3'	46	Yan, J.-J., et al. Emergence of <i>Klebsiella pneumoniae</i> Isolates Producing Inducible DHA-1 $\beta$ -Lactamase in a University Hospital in Taiwan, 2002. <i>Journal of Clinical Microbiology</i> 40:3121-3126	
				DHA-1B	Primer 1365	5'-ATTCCAGTGCACTCAAATA-3'			
	FOX	FOX group		FOX group P1	Primer 1583	5'-CGAGCAGACSTGTTGAG-3'	50	Unpublished	
				FOX group P2	Primer 1584	5'-TTGGCCAGCATGACGATG-3'			
	VEB	VEB-1		VEB-1 CME-1 P1	Primer 1426	5'-TTGGACTCTGCAACAAATACGG-3'	55	5'-GGACTCTGCAACAAATACGG-3' 5'-...CATTTCCCGATGC-3' Laurent Poiriel, Et al., Biochemical Sequence Analyses of GES-1, a Novel Class A Extended-Spectrum $\beta$ -Lactamase, and the Class 1 Integron Int52 from <i>Klebsiella pneumoniae</i> . <i>Antimicrob Agents Chemother.</i> 2000 March; 44(3): 622-632.	
				VEB-1 CME-1 P2	Primer 1427	5'-CGACTTCCATTTCCTGATGC-3'			
	SHV	All		SHV OS5	Primer 1545	5'-TATCTCCCTGTTAGCCACC-3'	60	Ariet G, Rousseau M, Philippson A. Substitution of alanine for aspartate at position 179 in the SHV-6 extended-spectrum beta-lactamase. <i>FEMS Microbiol Lett.</i> 1997. 152:163-7.	
				SHV OS6	Primer 1546	5'-GATTTCGTGATTTCCGTCGG-3'			
	CMY	CMY-1 group		gruppe CMY-2	Primer 1617	5'-ATGCAACAACACAATCC-3'	55	Pai H, Lyu S, Lee JH, Kim J, Kwon Y, Kim JW, Choe KW. Survey of extended-spectrum beta-lactamases in clinical isolates of <i>Escherichia coli</i> and <i>Klebsiella pneumoniae</i> : prevalence of TEM-52 in Korea. <i>Clin Microbiol.</i> 1999 37:1758-63.	
				FOX group P2	Primer 1584	5'-TTGGCCAGCATGACGATG-3'			
		CMY-2 group		Qeprev cmly-2 start	Primer 1079	5'-ATGATGAAAAATCGTTATGCTGC-3'	60	Tersia Kruger, Dora Szabo,2,3 Karen H. Keddy, Tersia Kruger, Dora Szabo,2,3 Karen H. Keddy, Kathleen Deeley, Jane W. Marsh, Andrea M. Hujer, Robert A. Bonomo, and David L. Paterson: Infections with Nontyphoidal <i>Salmonella</i> Species Producing TEM-63 or a Novel TEM Enzyme, TEM-131, in South Africa 2004. <i>American Society for Microbiology</i>	
				cmly-group2-R	Primer 1007	5'-GCTTTTCAAGAAATGCCAGG-3'			
	IMP	all		IMP-F	Primer 2635	5'-GGAATAGAGTGGCTTAAYTCTC-3'	55	L. Poiriel, T. R. Walsh, V. Cuvillier, P. Nordmann. Multiplex PCR for detection of acquired carbapenemase genes <i>Diagnostic Microbiology &amp; Infectious Disease</i> Volume 70, Issue 1, Pages 119-123, May 2011	
	SMP	all		IMP-R	Primer 2636	5'-GGTTTAAAYAAAACAACACC-3'			
				SPM-F	Primer 2637	5'-AAAATCTGGGTACGCAAAACG-3'			
	VIM	all		SPM-R	Primer 2638	5'-ACATTATCCGCTGGAACAGG-3'			
VIM-F				Primer 2639	5'-GATGGTGGTTGGTCCGATA-3'				
OXA	OXA-48		VIM-R	Primer 2640	5'-CGAATGCCAGCACCAG-3'				
			OXA-48-F	Primer 2641	5'-GCGTGGTTAAGGATGAACAC-3'				
BIC	all		OXA-48-R	Primer 2642	5'-CATCAAGTTCAACCAACCG-3'				
			BIC-F	Primer 2643	5'-TATGCAGCTCCTTAAGGGC-3'				
KPC	all		BIC-R	Primer 2644	5'-TCATTGGCGGTGCCGTACAC-3'				
			KPC-Fm	Primer 2645	5'-CGTCTAGTCTGCTGTCTTG-3'				
NDM	all		KPC-Rm	Primer 2646	5'-CTTGTCATCTGTGTAGGCG-3'				
			NDM-F	Primer 2647	5'-GGTTTGGCGATCTGTTTTC-3'				
NDM	all		NDM-R	Primer 2648	5'-CGGAATGGCTCATCAGATC-3'				

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Chloramphenicol	cmlA	CmlA 1F, U12338 3860=>3879	Primer 114	5'-TAC TCG GAT CCA TGC TGG CC-3'	65	Rene S. Hendriksen, Arnon Bangtrakulnonth, Chaiwat Pulsrikarn, Srirat Pornreongwong, Henrik Hasman, Si Wook Song, and Frank M. Aarestrup FOODBORNE PATHOGENS AND DISEASE Volume 5, Number 5, 2008 * Mary Ann Liebert, Inc. DOI: 10.1089-fpd.2007.0075 Antimicrobial Resistance and Molecular Epidemiology of Salmonella Rissen from Animals, Food Products and Patients in Thailand and Denmark		
			Primer 115	5'-TCC TCG AAG AGC GCC ATT GG-3'				
	catA1	CAT1_X64410a 193-213	Primer 94	5'-CGC CTG ATG AAT GCT CAT CCG-3'	60			
			Primer 95	5'-CCT GCC ACT CAT CGC AGT AC-3'				
Florphenicol	florR	Flor-1	Primer 348	5'-ATGGCAGGCGATATTCATTA-3'	55	Maral Rahmani, Seyed Mostafa Peighambari, Christin Aaby Svendsen, Lina M Cavaco, Yvonne Agero and Rene S Hendriksen Molecular clonality and antimicrobial resistance in Salmonella enterica serovars Enteritidis and Infantis from broilers in three Northern regions of Iran BMC Veterinary Research 2013, 9:66 doi:10.1186/1746-6148-9-66		
			Primer 349	5'-AAACGGGTGTACGATCAT-3'				
Gentamicin	aac(3)-IV	AME 14ACC(3) IV B	Primer 152	5'-AGTTGACCCAGGGCTGTCCG-3'	63	Bräu B, Pilz U, Piepersberg W. (1984). Genes for gentamicin-(3)-N-acetyltransferases III and IV: I. Nucleotide sequence of the AAC(3)-IV gene and possible involvement of an IS140 element in its expression. Molecular and general genetics 193:179-87		
			Primer 153	5'-GTG TGC TGC TGG TCC ACA GC-3'				
	ant(2'')-I	AME 3, ANT (2'')-I-1	Primer 81	5'-GGG CGC GTC ATG GAG GAG TT-3'	67			
			Primer 82	5'-TAT CGC GAC CTG AAA GCG GC-3'				
	aac(3)-II	AME7, AAC(3)-II X51534 381->400	Primer 87	5'-TGA AAC GCT GAC GGA GCC TC-3'	54			
			Primer 88	5'-GTC GAA CAG GTA GCA CTG AG-3'				
Neomycin	aph(3'')-III	AME 19 APH (3'') LF	Primer 171	5'-AACGTCCTGGTCGAGGCCGCG-3'	52	Oka, A., Sugisaki, H. and Takamami, M. 1981. Nucleotide sequence of the kanamycin resistance transposon Tn905. J. Mol. Biol. 147:217-226.		
			Primer 172	5'-GGCAAGATCCTGGTATCGGTCTGCG-3'				
	aph(3'')-II	AME 21 Aph 3' -II-F	Primer 186	5'-GCT ATT CGG CTA TGA CTG GGC-3'	63			
			Primer 187	5'-CCA CCA TGA TAT TCG GCA AGC-3'				
	aph(3'')-I	P2, APH(3'')-III	Primer 203	5'-GCCGATGTGGATTGGGAAAA-3'	68			
			Primer 1428	5'-GCTGTATCCCAAGTAAAGTCA-3'				
Quinolones	gyrA Salmonella	gyrA_P2 bio	Primer 184	5'-TACCGTCATAGTTATCCACGA-3'	60	Wuiff C, Madsen M, Baggesen DL, Aarestrup FM. Quinolone resistance among Salmonella enterica from cattle, broilers, and swine in Denmark. Microb Drug Resist. 2000 Spring;6(1):11-7.		
			Primer 185	5'-GTACTTTACGCCATGAACGT-3'				
	parC Salmonella	ParC STPARC1	Primer 305	5'-CTATGCGATGTCAGAGCTGG-3'	59			
			Primer 306	5'-TAACAGCAGCTCGGCGTATT-3'				
	gyrA E. Coli	E.coliGyrAF (166 355)	Primer 1662	5'-ACGTAATAGGCAATGACTGG-3'	55			
			Primer 1663	5'-AGAAGTCGCCGTCGATAGAAC-3'				
	parC E. Coli	E.coliParCF 2	Primer 1684	5'-TGTATGCGATGTCGAACTG-3'	57			
			Primer 1667	5'-CTCAATAGCAGCTCGGAATA-3'				
	qnrA	qnrA	QnrA fw	Primer 1685	5'-GGATGCCAGTTTCGAGGA-3'		59	Cavaco LM, Fridmodt-Møller N, Hasman H, Guardabassi L, Nielsen L, Aarestrup FM. Prevalence of quinolone resistance mechanisms and associations to minimum inhibitory concentrations in quinolone-resistant Escherichia coli isolated from humans and swine in Denmark. Microb Drug Resist. 2008 Jun;14(2):163-9.
				Primer 1686	5'-TGCCAGGCACAGATCTTG-3'			
		qnrB	qnrB (1-6)F	Primer 1831	5'-GGMATHGAAATTCGCCACTG-3'		57	
				Primer 1832	5'-TTTGCYGYCCGACGTCGAA-3'			
		qnrC	qnrC fw	Primer 2196	5' GGGTTGATCATTTATTGAATC 3'		55	
				Primer 2197	5' TCCACTTTACGAGGTCT 3'			
		qnrD	qnr C fw	Primer 2013	5' CGAGATCAATTTACGGGGAAATA 3'		50	
				Primer 2014	5' AACAAAGTGAAGCCGCTG 3'			
		qnrS	qnrS (1-2)F	Primer 1829	5'-TCGACGTGCTAACTTGC-3'		57	
				Primer 1830	5'-GATCTAAACCGTCGAGTTCGG-3'			
	aac(6) lb-cr	aac(6) lb Fw 1	Primer 1757	5'-TTGCGATGCTCTATGAGTGGCTA-3'	55		Park, C. H., A. Robicsek, G. A. Jacoby, D. Sahn, and D. C. Hooper. 2006. Prevalence in the United States of aac(6)-Ib-cr encoding a ciprofloxacin-modifying enzyme. Antimicrob Agents Chemother. 50:3953-3955.	
			Primer 1758	5'-CTCGAATGCCTGGCGTGT-3'				
	qepA	QEPfor	Primer 1991	5'-TGGTCTACGCCATGGACCTCA-3'	53		Périchon B, Courvalin P, Galmard M. Transferable resistance to aminoglycosides by methylation of G1405 in 16S rRNA and to hydrophilic fluorquinolones by QepA-mediated efflux in Escherichia coli. Antimicrob Agents Chemother 2007; 51: 2464-9	
			Primer 1992	5' -TGAATTCGGACACCCGCTCCG-3'				

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Streptomycin	strA		Strep-res, strA.plasm-ref1010,787-769,primer-2	Primer 67	5'-CCA ATC GCA GAT AGA AGG C-3'	55	Scholz, P., V. Haring, B. Wittmann-Liebold, K. Ashmann, M. Bagdasarian, and E. Scherzinger. 1989. Complete nucleotide sequence and gene organization of the broad-host-range plasmid RSF1010. <i>Gene</i> 75:271-288.	
			Strep-res, strA.plasm-ref1010,240-259,primer-1	Primer 68	5'-CTT GGT GAT AAC GGC AAT TC-3'			
	strB		Strep-res, strB, plasm-ref1010, 623-604, primer-2	Primer 65	5'-GGA TCG TAG AAC ATA TTG GC-3'	56	Scholz, P., V. Haring, B. Wittmann-Liebold, K. Ashmann, M. Bagdasarian, and E. Scherzinger. 1989. Complete nucleotide sequence and gene organization of the broad-host-range plasmid RSF1010. <i>Gene</i> 75:271-288.	
			Strep-res, strB, plasm-ref1010, 115-134, primer-1	Primer 66	5'-ATC GTC AAG GGA TTG AAA CC-3'			
	aadA2		aadA forward	Primer 521	5'-ATT TGC TGG TTA CGG TGA CC-3'	56	Maral Rahmani, Seyed Mostafa Peighambari, Christina Aaby Svendsen, Lina M Cavaco, Yvonne Agersø and Rene S Hendriksen Molecular clonality and antimicrobial resistance in <i>Salmonella enterica</i> serovar Enteritidis and Infants from broilers in three Northern regions of Iran <i>BMC Veterinary Research</i> 2013, 9:66 doi:10.1186/1746-6148-9-66	
			aadA backward	Primer 522	5'-CTT CAA GTA TGA CGG GCT GA-3'			
	aadE		aadE p4	Primer 428	5'-TCA AAA CCC CTA TTA AAG CC-3'	60	Osohs L., Lei Y., Jensen L.B. (2008) Resistance of potential probiotic lactic acid bacteria and bifidobacteria of African and European origin to antimicrobials: determination and transferability of the resistance genes to other bacteria. <i>Int J Food Microbiol</i> 121: 217-224	
			aadE p3	Primer 429	5'-ATCCTTCGGCGGATTTTG-3'			
	Sulfamethoxazole	sul1		Sul 1 forward	Primer 519	5'-TGA GAT CAG ACG TAT TGC GC-3'	58	Maral Rahmani, Seyed Mostafa Peighambari, Christina Aaby Svendsen, Lina M Cavaco, Yvonne Agersø and Rene S Hendriksen Molecular clonality and antimicrobial resistance in <i>Salmonella enterica</i> serovar Enteritidis and Infants from broilers in three Northern regions of Iran <i>BMC Veterinary Research</i> 2013, 9:66 doi:10.1186/1746-6148-9-66
				Sul 1 backward	Primer 520	5'-TTG AAG GTT CGA CAG CAC GT-3'		
sul2			Sul 2-f	Primer 591	5'-GCG CTC AAG GCA GAT GGC ATT-3'	70	Antimicrobial susceptibility and occurrence of resistance genes among <i>Salmonella enterica</i> serovar Weltevreden from different countries Frank M. Aarestrup, Monton Lertworapreecha, Mary C. Evans, Aroon Bangtrakulnonth, Thongchai Chalermchaikit, Rene Sjøgren Hendriksen and Henrik Caspar Wegener. <i>Journal of Antimicrobial Chemotherapy</i> Volume52, Issue4 Pp. 715-718	
			Sul 2-b	Primer 592	5'-GCG TTT GAT ACC GGC ACC CGT-3'			
sul3			sul3(F)	Primer 1356	5'-GAGCAAGATTTTGGAAATCG-3'	53	Perreten, V. & Boerlin, P. (2003). A new sulphonamide resistance gene (sul3) in <i>Escherichia coli</i> is widespread in the pig population of Switzerland. <i>Antimicrobial Agents and Chemotherapy</i> 47, 1169-72.	
			sul3(B)	Primer 1357	5'-CATCTGCAGCTAACTAGGGCTTTGGA-3'			
Tetracycline	tetA		TetA primer1	Primer 173	5'-GTAATCTGAGCACTGTCG-3'	57	Waters, S. H. P., P. Rogowsky, and J. Grinstead. 1983. The tetracycline resistance determinants of RP1 and Tn1721: nucleotide sequence analysis. <i>Nucleic Acids Res.</i> 11:6089-6105.	
			TetA primer2	Primer 175	5'-CTGCTGGCAACATTGCTT-3'			
	tetB		TetB-Tn10=, 39->58	Primer 90	5'-CTC AGT ATT CCA AGC CTT TG-3'	52	Sengeløv, G., Y. Agersø, B. Halling-Sørensen, and Baloda. 2003. Bacterial antibiotic resistance levels in Danish farmland as a result of treatment with pig manure slurry. <i>Environ. Int.</i> 28:587-595	
			TetB-Tn10=, 454->434	Primer 91	5'-ACT CCC CTG AGC TTG AGG GG-3'			
	tetC		TetC,595->576	Primer 92	5'-GGT TGA AGG CTC TCA AGG GC-3'	62	Sengeløv, G., Y. Agersø, B. Halling-Sørensen, and Baloda. 2003. Bacterial antibiotic resistance levels in Danish farmland as a result of treatment with pig manure slurry. <i>Environ. Int.</i> 28:587-595	
			TetC,90->110	Primer 93	5'-CCT CTT GCG GGA TAT CGT CC-3'			
	tetD		Tet D2 (894-874)	Primer 575	5'-CAT CCA TTC GGA AGT GAT AGC-3'	57	Miranda, C. D., C. Kehrenberg, C. Ulep, S. Schwarz, and M. C. Roberts. 2003. Diversity of tetracycline resistance genes in bacteria from Chilean salmon farms. <i>Antimicrob. Agents Chemother.</i> 47:883-888	
			Tet D1 (459-478)	Primer 576	5'-GGA TAT CTC ACC GCA TCT GC-3'			
	tetE		<tet(E)2-1 sekvens	Primer 1318	5'-TGATGATGGCACTGGTCA-3'	57	Agersø, Y & Sandvang, D. Class 1 Integrons and Tetracycline Resistance Genes in Alkaligenes, Arthrobacter, and Pseudomonas spp. Isolated from Piggsties and Manured Soil. <i>Applied and Environmental Microbiology</i> , December 2005, p. 7941-7947, Vol. 71, No. 12	
			<tet(E)2-2 sekvens	Primer 1319	5'-GCTGGCTGTGGCAATTA-3'			
	tetG		TetA(G)-1	Primer 229	5'-GCAGCGAAAGCGTATTGCG-3'	62	Agersø, Y & Sandvang, D. Class 1 Integrons and Tetracycline Resistance Genes in Alkaligenes, Arthrobacter, and Pseudomonas spp. Isolated from Piggsties and Manured Soil. <i>Applied and Environmental Microbiology</i> , December 2005, p. 7941-7947, Vol. 71, No. 12	
			TetA(G)- 2	Primer 230	5'-TCCGAAAGCTGTCCAAGCAT-3'			
	Tet (H)		tet(H)-1	Primer 1082	5'-ATACTGTGATCACCGTATAGATG-3'	50	Yvonne Agersø and Andreas Petersen. The tetracycline resistance determinant Tet 39 and the sulphonamide resistance gene <i>sulII</i> are common among resistant <i>Acinetobacter</i> spp. isolated from integrated fish farms in Thailand resistance gene <i>sulII</i> are common among resistant <i>Acinetobacter</i> spp. <i>Journal of Antimicrobial Chemotherapy</i> (2007) 59, 23-27	
			tet(H)-2	Primer 1083	5'-TCCCAATAAGCGACGC-3'			
	tet(K)		TetK-1	Primer 218	5'-TTAGGTGAAGGGTTAGTCC-3'	55	Agersø, Y et al. The Identification of a tetracycline resistance gene <i>tet</i> (M), on a Tn916-like transposon, in the <i>Bacillus cereus</i> group. <i>FEMS Microbiology Letters</i> 214 (2002) 251-256	
			TetK-2	Primer 219	5'-GCAAACCTCATCCAGAAGCA-3'			
	tet(L)		TetL-2-2_pos920	Primer 259	5'-ATTACACTCCGATTTGGG-3'	54	5'-CATTGGTCTATTGGATCG-3' Agersø, Y et al. The Identification of a tetracycline resistance gene <i>tet</i> (M), on a Tn916-like transposon, in the <i>Bacillus cereus</i> group. <i>FEMS Microbiology Letters</i> 214 (2002) 251-256	
			TetL-2-2_pos432	Primer 260	5'-CATTGGTCTATTGGTACG-3'			
	tet(M)		TetM-1_pos.966-985	Primer 266	5'-GTTAAATAGTGTCTTGGAG-3'	45	Agersø, Y et al. The Identification of a tetracycline resistance gene <i>tet</i> (M), on a Tn916-like transposon, in the <i>Bacillus cereus</i> group. <i>FEMS Microbiology Letters</i> 214 (2002) 251-256	
			TetM-2_pos.1622-1603	Primer 267	5'-CTAAGATATGGCTCTAAGAA-3'			
	tet(O)		TetO-1	Primer 232	5'-GATGGATACAGGCACAGAC-3'	55	Agersø, Y et al. The Identification of a tetracycline resistance gene <i>tet</i> (M), on a Tn916-like transposon, in the <i>Bacillus cereus</i> group. <i>FEMS Microbiology Letters</i> 214 (2002) 251-256	
			TETO-2	Primer 773	5'-CAA TAT CAC CAG AGC AGG CT-3'			
	tet(S)		TetS-1	Primer 216	5'-TGGAAAGCCAGAGAGTATT-3'	55	Agersø, Y et al. The Identification of a tetracycline resistance gene <i>tet</i> (M), on a Tn916-like transposon, in the <i>Bacillus cereus</i> group. <i>FEMS Microbiology Letters</i> 214 (2002) 251-256	
			TetS-2	Primer 217	5'-ACATAGACAAGCCGTTGACC-3'			
	Tet (T)		tetT-2 (1624-1606)	Primer 497	5'-CGA GAA ATG GGT CTT CTT-3'	50	Agersø, Y et al. The Identification of a tetracycline resistance gene <i>tet</i> (M), on a Tn916-like transposon, in the <i>Bacillus cereus</i> group. <i>FEMS Microbiology Letters</i> 214 (2002) 251-256	
			tetT-1 (641-658)	Primer 499	5'-CTA TAC GGG CGT CTA CAG-3'			
	Tet (W)		tetW-2 (1180-1161)	Primer 496	5'-TGG TCC CCT AAT ACA TCG TT-3'	55	de Vries LE, Valle's Y, Agersø Y, Vaishampayan PA, Garcia-Montaner A, et al. (2011) The Gut as Reservoir of Antibiotic Resistance: Microbial Diversity of Tetracycline Resistance in Mother and Infant. <i>PLoS ONE</i> 6(6): e21644. doi:10.1371/journal.pone.0021644	
tetW-1			Primer 500	5'-GCC ATC TIG GIG ATC TCC-3'				
Tet (Z)		<tet(Z)-1	Primer 1387	5'-cccactgcactgactac-3'	63	Yvonne Agersø and Dorte Sandvang, Class 1 Integrons and Tetracycline Resistance Genes in Alkaligenes, Arthrobacter, and Pseudomonas spp. Isolated from Piggsties and Manured Soil. <i>Appl. Environ. Microbiol.</i> 2005, 71(12):7941.		
		<tet(Z)-2	Primer 1388	5'-gaggcgaaggcgatga-3'				
							Unpublished	

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Tetracycline	Tet (31)		Tet31-1	Primer 975	5'-GCTCTATCTAGGGAGAATGA-3'	48	Yvonne Agerød and Dorthe Sandvang, Class 1 Integrons and Tetracycline Resistance Genes in Alkaligenes, Arthrobacter, and Pseudomonas spp. Isolated from Pigsties and Manured Soil, Appl. Environ. Microbiol. 2005, 71(12):7941. DOI: 10.1128/AEM.71.12.7941-7947.2005.	
			Tet31-2	Primer 976	5'-GCTAACCATGATACCTTGTA-3'			
	tet(32)		tet32(2)array_rev	Primer 2267	5'-CTCTTCATAGCCACGCC-3'			Andrea J. Patterson et al. Mosaic Tetracycline Resistance Genes Are Widespread in Human and Animal Fecal Samples, ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, Mar. 2007, p. 1115-1118 Vol. 51, No. 3 0066-4804/07/508.00 0 doi:10.1128/AAC.00725-06
			tet32(2)array_for	Primer 2268	5'-AACCGAAGCATACCCGCTC-3'			Karen P. Scott et al. Transfer of Conjugative Elements from Rumens and Human Firmicutes, APPLIED AND ENVIRONMENTAL MICROBIOLOGY, June 2008, p. 3915-3917 Vol. 74, No. 12 0099-2240/08/508.00 0 doi:10.1128/AEM.02807-07
	tet(33)		<tet(33)-1	Primer 1385	5'-atggcgttcgcgtgaa-3'	59		Yvonne Agerød and Dorthe Sandvang, Class 1 Integrons and Tetracycline Resistance Genes in Alkaligenes, Arthrobacter, and Pseudomonas spp. Isolated from Pigsties and Manured Soil, Appl. Environ. Microbiol. 2005, 71(12):7941.
			<tet(33)-2	Primer 1386	5'-gganaatgctcgcagcaaa-3'			
	Tet (34)		Tet34-1	Primer 977	5'-ATACGGGGATGCAAACTTCA-3'	58		Yvonne Agerød and Dorthe Sandvang, Class 1 Integrons and Tetracycline Resistance Genes in Alkaligenes, Arthrobacter, and Pseudomonas spp. Isolated from Pigsties and Manured Soil, Appl. Environ. Microbiol. 2005, 71(12):7941.
			Tet34-2	Primer 978	5'-ACGAGTGAGCTCTGATGTCCTT-3'			
	tet(39)		tet(39)-1	Primer 1397	5'-CTCCTCTCTATTTGGCTCA-3'	51		Agerød, Y et al. Identification of Tet 39, a novel class of tetracycline resistance determinant in Acinetobacter spp. of environmental and clinical origin, J. Antimicrob. Chemother. (April 2005) 55 (4): 566-569. doi: 10.1093/jac/dk051
			tet(39)-2	Primer 1398	5'-CACTAATACCTTGGACATCA-3'			
Glycopeptides	VanA		VanA	Primer 7	5'-AAC AAC TTA CGC GGC ACT-3'	55	5'-AACAACTAACCGCGCACT-3' 5'-AATGTGCGAAAAACCTTGC-3' FRANK MÖLLER AARESTRUP, Glycopeptide Susceptibility among Danish Enterococcus faecium and Enterococcus faecalis Isolates of Animal and Human Origin and PCR Identification of Genes within the VanA Cluster, ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, Aug. 1996, p. 1938-1940 Vol. 40, No. 8 0066-4804/96/504.0010	
			VanA2	Primer 8	5'-AAA GTG CGA AAA ACC TTG C-3'			
	VanB		VanB-1	Primer 106	5'-GAT ATT CAA AGC TCC GCA GC-3'	55		Unknown
			VanB-2	Primer 107	5'-GGT ATC TTC CGC ATC CAT CA-3'			
	Van X		VanX1	Primer 16	5'-TGC GAT TTT GCG CTT CAT TG-3'	55		5'-AACAACTAACCGCGCACT-3' 5'-AATGTGCGAAAAACCTTGC-3' FRANK MÖLLER AARESTRUP, Glycopeptide Susceptibility among Danish Enterococcus faecium and Enterococcus faecalis Isolates of Animal and Human Origin and PCR Identification of Genes within the VanA Cluster, ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, Aug. 1996, p. 1938-1940 Vol. 40, No. 8 0066-4804/96/504.0010
			VanX2	Primer 17	5'-ACT TGG GAT AAT TTC ACC GG-3'			
Macrolides	ErmA		Tn54-1(ermA)	Primer 41	5'-AAG CGG TAA AAC CCC TCT GAG-3'	55	AAG CGG TAA ACC CC. TCT GAG Lars Bogoe Jensen, Niels Frimodt-Moeller, Frank M. Aarestrup, Presence of erm gene classes in Gram-positive bacteria of animal and human origin in Denmark, FEMS Microbiology Letters 170 (1999) 151-158	
			Tn54-2(ermA)	Primer 42	5'-TCA AAG CCT GTC CGA ATT GG-3'			
	ErmB		ermU-2(RECOGNIZES ermB)	Primer 26	5'-GGA ACA TCT GTG GTA TGG CG-3'	52		Lars Bogoe Jensen, Niels Frimodt-Moeller, Frank M. Aarestrup, Presence of erm gene classes in Gram-positive bacteria of animal and human origin in Denmark, FEMS Microbiology Letters 170 (1999) 151-158
			ermU-1(RECOGNIZES ermB)	Primer 27	5'-CAT TTA ACG ACG AAA CTG GC-3'			
	ErmC		ermC-2	Primer 28	5'-CAA ACC CGT AIT CCA CGA TT-3'	48		Lars Bogoe Jensen, Niels Frimodt-Moeller, Frank M. Aarestrup, Presence of erm gene classes in Gram-positive bacteria of animal and human origin in Denmark, FEMS Microbiology Letters 170 (1999) 151-158
			ermC-1	Primer 29	5'-ATC TTT GAA ATC GGC TCA GG-3'			
	ErmE		ErmE-F	Primer 366	5'-GAACATCGAAGTCGCAACG-3'	Unknown		
			ErmE-B	Primer 367	5'-GTTCTCTGATCCAGCCGCT-3'			
	ErmF		ermF-1	Primer 119	5'-TGT TCA AGT TGT CGGTG TG-3'	52		Yaqi You et al, Detection of a Common and Persistent tet(L)-Carrying Plasmid in Chicken-Waste-Impacted Farm Soil, Appl. Environ. Microbiol. 2012, 78(9):3203
			ermF-2	Primer 120	5'-CAG GAC CTA CCT CAT AGA CA-3'			
Streptogramins	vat		VAT-1	Primer 48	5'-TGG AGT GTG ACA AGA TAG GC-3'	55	Anette Marie Hammerum, Lars Bogoe Jensen and Frank Moeller Aarestrup, Detection of the satA gene and transferability of virginiamycin resistance in Enterococcus faecium from food-animals, FEMS Microbiology Letters 168 (1998) 145-151	
			VAT-2	Primer 50	5'-GTG ACA ACA GCT TCT GCA GC-3'			
	vatB		VATB-1	Primer 142	5'-GGCCGTGATCCAAATAGCAT-3'	60		Anette Marie Hammerum, Lars Bogoe Jensen and Frank Moeller Aarestrup, Detection of the satA gene and transferability of virginiamycin resistance in Enterococcus faecium from food-animals, FEMS Microbiology Letters 168 (1998) 145-151
			VATB-2	Primer 143	5'-GTGCTGACCAATCCACCAT-3'			
	vatD		Sat A-1 virg.primer pos 200-219	Primer 51	5'-GCT CAA TAG GAC CAG GTG TA-3'	55		Anette Marie Hammerum, Lars Bogoe Jensen and Frank Moeller Aarestrup, Detection of the satA gene and transferability of virginiamycin resistance in Enterococcus faecium from food-animals, FEMS Microbiology Letters 168 (1998) 145-151
			Sat A-2-B pos 471-452	Primer 57	5'-TCC AGC TAA CAT GTA TGG CG-3'			
	vatE		SatG1	Primer 280	5'-ACTATACCTGACGCAATGCG-3'	52		Kenneth M. Bischoff, Kelly A. Skinner-Nemec, Timothy D. Leathers, Antimicrobial susceptibility of Lactobacillus species isolated from commercial ethanol plants, J Ind Microbiol Biotechnol (2007) 34:739-744
			SatG2B	Primer 282	5'-GGTCAAATCTTGGTCCG-3'			
	vgaA		VGA-1	Primer 47	5'-AGT GGT GGT GAA GTA ACA CG-3'	52		Anette Marie Hammerum, Lars Bogoe Jensen and Frank Moeller Aarestrup, Detection of the satA gene and transferability of virginiamycin resistance in Enterococcus faecium from food-animals, FEMS Microbiology Letters 168 (1998) 145-151
			VGA-2	Primer 49	5'-CTT GTC TCC TCC GCG AAT AC-3'			
	vgaB		VGAB-2	Primer 154	5'-GCGACCATGAAATGCTCTC-3'	52		Anette Marie Hammerum, Lars Bogoe Jensen and Frank Moeller Aarestrup, Detection of the satA gene and transferability of virginiamycin resistance in Enterococcus faecium from food-animals, FEMS Microbiology Letters 168 (1998) 145-151
			VGAB-1	Primer 155	5'-TGACAATATGAGTGGTGGTG-3'			
	vgbA		VGB-1	Primer 137	5'-TACAGAGTACCACCTACCGA-3'	55		Anette Marie Hammerum, Lars Bogoe Jensen and Frank Moeller Aarestrup, Detection of the satA gene and transferability of virginiamycin resistance in Enterococcus faecium from food-animals, FEMS Microbiology Letters 168 (1998) 145-151
			VGB-2	Primer 138	5'-TCAATTCCTGCTCCAGCAGT-3'			
	vgbB		VGB-Q	Primer 227	5'-CAGCAGTCTAGATCAGATGG-3'	55		Alignet, J., N. Liassine, and N. El Solh. 1998. Characterization of a staphylococcal plasmid related to pUB110 and carrying two novel genes, vatC and vgbB, encoding resistance to streptogramins A and B and similar antibiotics. Antimicrob. Agents Chemother. 42:1794-1798
			VgBB-R	Primer 228	5'-CATACGGATCCAATCTTTC-3'			
MRSA	SPA		Primer 2819	5'-TAAGACGATCTCTCGGTGAGC-3'	59	Rapid detection, differentiation and typing of methicillin-resistant Staphylococcus aureus harbouring either mecA or the new mecA homologue mecA(LGA251) Clin Microbiol Infect. 2012 Apr;18(4):395-400. doi: 10.1111/j.1469-0691.2011.03715.x http://www.ncbi.nlm.nih.gov/pubmed/22429460		
			Primer 2820	5'-CAGCAGTAGTCCGGTTTGCTT-3'				
	mecA		Primer 2821	5'-TCCAGATTACAACCTTACCAGG-3'	59			
			Primer 2822	5'-CCACTTCATATCTGTAAACG-3'				
	mecC(LGA251)		Primer 2825	5'-GAAAAAAGGCTTAGAACCGCTC-3'	59			
			Primer 2826	5'-GAAGATCTTTTCCGTTTTCAGC-3'				
PVL		Primer 2823	5'-GCTGGACAAAACCTTCTGGGAATAT-3'	59				
		Primer 2824	5'-GATAGGACACCAATAAATCTGGATTG-3'					

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