

Supplemental S1 Table. Details of primers, thermal cycling conditions and positive control strains used in the present study

Primer use	Gene region/target	Primer name	Primer sequence 5' - 3'	Expected amplicon size (bp)	Thermal cycling conditions	Reference	Positive control strain [Reference]
<i>spa</i> typing	<i>spa</i>	spa-1113f spa-1514r	AGACGATCCTTCGGTGAGC AGACGATCCTTCGGTGAGC	200-600	80°C for 5 min; 35 cycles of 94°C for 45 s, 60°C for 45 s and 72°C for 90 s, and a final extension at 72° C for 10 min	www.seqnet.org.	None used
SCC <i>mec</i> IV subtyping multiplex PCR	IVa	J IVa F J IVa R	ATAAGAGATCGAACAGAAGC TGAAGAAATCATGCCTATCG	278	94°C for 4 min; 35 cycles of 94°C for 30 s, 48°C for 30 s and 72°C for 2 min and a final extension at 72°C for 4 min	[1]	MRSA CA05 [2]
	IVb/IVF	J IVb F J IVb R	TTGCTCATTTTCAGTCTTACC TTACTTCAGCTGCATTAAGC	336			MRSA 8/63P [2]
	IVc/IVE	J IVc F J IVc R	CCATTGCAAATTTCTCTTCC ATAGATTCTACTGCAAGTCC	483			MRSA JCSC4788 [3]
	IVd	J IVd F J IVd R	TCTCGACTGTTTGCAATAGG CAATCATCTAGTTGGATACG	575			MRSA JCSC4469 [3]
	IVg	J IVg F J IVg R	TGATAGTCAAAGTATGGTGG GAATAATGCAAAGTGGAACG	792			MRSA M04/0177 [4]
	IVh	J IVh F J IVh R	TTCCTCGTTTTTTCTGAACG CAAACACTGATATTGTGTCG	663			MRSA E1749 [4]
	<i>ccrB2</i> ^a	ccrB2 F ccrB2 R	CGAACGTAATAACATTGTCTG TTGGCWATTTTACGATAGCC	203			MRSA CA05 [2]
SCC <i>mec</i> V subtyping multiplex PCR	<i>ccrC2</i>	ccrC2-F2 ccrC2-R2	ATAAGTTAAAAGCACGACTCA TTCAATCCTATTTTTCTTTGTG	257	95°C for 2 min; 35 cycles of 95°C for 1 min, 55°C for 30 s and 72°C for 30 s and a final extension at 72°C for 2 min	[5]	MRSA M06/0318 [4]
	<i>ccrC8</i>	ccrC8-F ccrC8-R	GCATGGGTACTCAATCCA GGTTGTAATGGCTTTGAGG	562			MRSA M06/0318 [4]

PCR amplification of additional resistance genes	<i>spc</i>	spc_fw spc_rv	ACCAAATCAAGCGATTCAAA GTCAGTGTGGCCACATTCG	561	94°C for 2 min; 30 cycles of 94°C for 1 min, 52°C for 1 min and 72°C for 1 min and a final extension at 72°C for 5 min	[6]	MRSA M13/0699 [this study]
	<i>tet(L)</i>	tetL-F tetL-R	TCGTTAGCGTGCTGTCATTC GTATCCCACCAATGTAGCCG	267	94°C for 2 min; 30 cycles of 94°C for 1 min, 55°C for 30 sec and 72°C for 1 min and a final extension at 72°C for 5 min	[7]	<i>Escherichia coli</i> pB2187dfrK [8]
	<i>dfrK</i>	dfrK_fw dfrK_rv	CAAGAGATAAGGGGTTTCAGC ACAGATACTTCGTTCCACTC	229	94°C for 2 min; 30 cycles of 94°C for 1 min, 55°C for 30 sec and 72°C for 1 min and a final extension at 72°C for 5 min	[9]	<i>Escherichia coli</i> pB2187dfrK [8]
	<i>dfrG</i>	dfrG-1 dfrG-2	TGCTGCGATGGATAAGAA TGGGCAAATACCTCATTCC	405	94°C for 2 min; 30 cycles of 94°C for 1 min, 55°C for 30 sec and 72°C for 1 min and a final extension at 72°C for 5 min	[9]	MSSA CM.S2 [10]
	<i>erm(T)</i>	ermT_fw ermT_rv	ATTGGTTCAGGGAAAGGTCA GCTTGATAAAATTGGTTTTTGGA	536	94°C for 2 min; 30 cycles of 94°C for 1 min, 45°C for 1 min and 72°C for 1 min and a final extension at 72°C for 5 min	[6]	MSSA RN4220pKKS2 5 [11]

^a *ccrAB2* was used as an internal positive control for SCC*mec* IV subtyping PCRs.

REFERENCES

1. Milheirico C, Oliveira DC, de Lencastre H. Multiplex PCR strategy for subtyping the staphylococcal cassette chromosome *mec* type IV in methicillin-resistant *Staphylococcus aureus*: 'SCC*mec* IV multiplex'. J. Antimicrob. Chemother. 2007;60(1):42-48.

2. Ma XX, Ito T, Tiensasitorn C, Jamklang M, Chongtrakool P, Boyle-Vavra S, et al. Novel type of staphylococcal cassette chromosome *mec* identified in community-acquired methicillin-resistant *Staphylococcus aureus* strains. *Antimicrob. Agents Chemother.* 2002;46(4):1147-1152.
3. Ma XX, Ito T, Chongtrakool P, Hiramatsu K. Predominance of clones carrying Panton-Valentine leukocidin genes among methicillin-resistant *Staphylococcus aureus* strains isolated in Japanese hospitals from 1979 to 1985. *J. Clin. Microbiol.* 2006;44(12):4515-4527.
4. Kinnevey PM, Shore AC, Brennan GI, Sullivan DJ, Ehricht R, Monecke S, et al. Extensive genetic diversity identified among sporadic methicillin-resistant *Staphylococcus aureus* isolates recovered in Irish hospitals between 2000 and 2012. *Antimicrob. Agents Chemother.* 2014;58(4):1907-1917.
5. Higuchi W, Takano T, Teng LJ, Yamamoto T. Structure and specific detection of staphylococcal cassette chromosome *mec* type VII. *Biochem. Biophys. Res. Commun.* 2008;377(3):752-756.
6. Fessler A, Scott C, Kadlec K, Ehricht R, Monecke S, Schwarz S. Characterization of methicillin-resistant *Staphylococcus aureus* ST398 from cases of bovine mastitis. *J. Antimicrob. Chemother.* 2010;65(4):619-625.
7. Ng LK, Martin I, Alfa M, Mulvey M. Multiplex PCR for the detection of tetracycline resistant genes. *Mol. Cell. Probes.* 2001;15(4):209-215.
8. Kadlec K, Schwarz S. Identification of a novel trimethoprim resistance gene, *dfrK*, in a methicillin-resistant *Staphylococcus aureus* ST398 strain and its physical linkage to the tetracycline resistance gene *tet(L)*. *Antimicrob. Agents Chemother.* 2009;53(2):776-778.
9. Argudin MA, Tenhagen BA, Fetsch A, Sachsenroder J, Kasbohrer A, Schroeter A, et al. Virulence and resistance determinants of German *Staphylococcus aureus* ST398 isolates from nonhuman sources. *Appl. Environ. Microbiol.* 2011;77(9):3052-3060.

10. Sekiguchi J, Tharavichitkul P, Miyoshi-Akiyama T, Chupia V, Fujino T, Araake M, et al. Cloning and characterization of a novel trimethoprim-resistant dihydrofolate reductase from a nosocomial isolate of *Staphylococcus aureus* CM.S2 (IMCJ1454). *Antimicrob. Agents Chemother.* 2005;49(9):3948-3951.
11. Kadlec K, Schwarz S. Identification of a Plasmid-Borne Resistance Gene Cluster Comprising the Resistance Genes *erm*(T), *dfr*K, and *tet*(L) in a Porcine Methicillin-Resistant *Staphylococcus aureus* ST398 Strain. *Antimicrob. Agents Chemother.* 2010;54(1):915-918.