

Table S3. Virulence factor genes (VFG) detected in genome of analyzed MRSA SO574/12 strain.

Function as VF	Gene	Product of the gene/ function	Source database
Adherence	<i>clfA</i>	Clumping factor ClfA, fibrinogen-binding protein	VFG001289
	<i>clfB</i>	Clumping factor ClfB, fibrinogen-binding protein	VFG001290
	<i>ebp</i>	Elastin binding protein EbpS	VFG001278
	<i>map</i>	Extracellular adherence protein of broad specificity Eap/Map	VFG001799
Adherence, biofilm formation	<i>icaA</i>	Polysaccharide intercellular adhesin (PIA) biosynthesis N-glycosyltransferase IcaA	VFG001285
	<i>icaB</i>	Polysaccharide intercellular adhesin (PIA) biosynthesis deacetylase IcaB	VFG001287
	<i>icaC</i>	Polysaccharide intercellular adhesin (PIA) biosynthesis protein IcaC	VFG001288
	<i>icaD</i>	Polysaccharide intercellular adhesin (PIA) biosynthesis protein IcaD	VFG001286
	<i>icaR</i>	Biofilm operon <i>ica</i> ABCD HTH-type negative transcriptional regulator IcaR	VFG001284
Adherence, MSCRAMMs	<i>sdrC</i>	Adhesin SdrC	VFG001279
	<i>sdrE</i>	Adhesin SdrE, similar to bone sialoprotein-binding protein Bbp	VFG001281
Antiphagocytosis	<i>cap8A</i>	Capsular polysaccharide synthesis enzyme Cap5A/ Tyrosine-protein kinase transmembrane modulator EpsC	VFG001297
	<i>cap8B</i>	Tyrosine-protein kinase EpsD/ Capsular polysaccharide synthesis enzyme Cap5B	VFG001298
	<i>cap8C</i>	Capsular polysaccharide synthesis enzyme Cap5C; Manganese-dependent protein-tyrosine phosphatase	VFG001299
	<i>cap8D</i>	Probable polysaccharide biosynthesis protein EpsC	VFG001300
	<i>cap8E</i>	UDP-N-acetylglucosamine 4,6-dehydratase	VFG001301
	<i>cap8F</i>	Capsular polysaccharide synthesis enzyme Cap5F	VFG001302
	<i>cap8G</i>	UDP-N-acetyl-L-fucosamine synthase	VFG001303
	<i>cap8H</i>	Capsular polysaccharide synthesis enzyme Cap8H	VFG001304
	<i>cap8I</i>	Capsular polysaccharide synthesis enzyme Cap8I	VFG001305
	<i>cap8J</i>	Maltose O-acetyltransferase	VFG001306
	<i>cap8K</i>	O-antigen flippase Wzx	VFG001307

Function as VF	Gene	Product of the gene/ function	Source database
	<i>cap8L</i>	Capsular polysaccharide synthesis enzyme Cap5L	VFG001308
	<i>cap8M</i>	Capsular polysaccharide synthesis enzyme Cap8M	VFG001309
	<i>cap8N</i>	Capsular polysaccharide synthesis enzyme Cap8N	VFG001310
	<i>cap8O</i>	UDP-N-acetyl-D-mannosamine dehydrogenase	VFG001311
	<i>cap8P</i>	UDP-N-acetylglucosamine 2-epimerase	VFG001312
Exoenzyme, protease	<i>clpX</i>	ATP-dependent Clp protease ATP-binding subunit ClpX	15927253
Exoenzyme, protease, stress protein	<i>clpP</i>	ATP-dependent Clp protease proteolytic subunit ClpP	VFG000077
Exoenzyme, lipase	<i>geh</i>	Lipase precursor	VFG001316
	<i>lip</i>	Triacylglycerol lipase	VFG004773
Exoenzyme, protease, cysteine protease	<i>sspB</i>	Staphopain B precursor	VFG001295
	<i>sspC</i>	Staphostatin B	VFG001294
Exoenzyme, protease, serine protease	<i>sspA</i>	Glutamyl endopeptidase precursor, serine proteinase SspA	VFG001296
Exoenzyme, protease, zinc metalloproteinase	<i>aur</i>	Zinc metalloproteinase aureolysin	VFG001314
Exoenzyme, spreading factor	<i>hysA</i>	Hyaluronate lyase precursor	VFG001315
Immune evasion	<i>adsA</i>	Virulence-associated cell-wall-anchored protein SasH, 5'-nucleotidase	VFG002420
	<i>chp</i>	Chemotaxis-inhibiting protein CHIPS, phage-associated	VFG002422
	<i>sbi</i>	IgG-binding protein SBI	VFG002421
	<i>scn</i>	Involved in expression of fibrinogen binding protein, phage-associated	VFG002423
Immune evasion, adherence	<i>spa</i>	Protein A, von Willebrand factor binding protein Spa	VFG001313
Iron uptake, heme uptake	<i>isdA</i>	Cell surface protein IsdA, transfers heme from hemoglobin to apo-IsdC	VFG001318
	<i>isdB</i>	Cell surface receptor IsdB for hemoglobin and hemoglobin-haptoglobin complexes	VFG001317
	<i>isdC</i>	NPQTN cell wall anchored protein IsdC	VFG001319
	<i>isdD</i>	Heme transporter IsdDEF, membrane component IsdD	VFG001320
	<i>isdE</i>	Heme transporter IsdDEF, lipoprotein IsdE	VFG001321
	<i>isdF</i>	Heme transporter IsdDEF, permease component IsdF	VFG001322
	<i>isdG</i>	Heme-degrading monooxygenase, staphylobilin-producing	VFG001324

Function as VF	Gene	Product of the gene/ function	Source database
	<i>srtB</i>	NPQTN specific sortase B	VFG001323
Secretion system, type VII secretion system	<i>esaA</i>	Putative secretion accessory protein EsaA/YueB, phage SPP1 receptor	VFG002406
	<i>esaB</i>	Putative secretion accessory protein EsaB/YukD	VFG002407
	<i>essA</i>	Putative secretion system component EssA	VFG002404
	<i>essB</i>	Putative secretion system component EssB/YukC	VFG002408
	<i>esxA</i>	6 kDa early secretory antigenic target ESAT-6 (EsxA)	VFG002405
Toxin, membrane-acting, superantigen	<i>hlb</i>	Sphingomyelinase	VFG001798
	<i>seb</i>	Exotoxin, phage-associated superantigen enterotoxin SEB	VFG001802
	<i>selk</i>	Superantigen enterotoxin SEK	VFG001327
	<i>selq</i>	Exotoxin, phage-associated	VFG001326
Toxin, membrane-damaging, pore-forming, channel-forming involving alpha-helix-containing toxin	<i>hld</i>	RNAIII (delta-hemolysin)	VFG001292
Toxin, membrane-damaging, pore-forming, channel-forming involving β -sheet-containing toxin	<i>hly/ hla</i>	Cytolytic pore-forming protein, alpha-hemolysin	VFG001293
Toxin, membrane-damaging, pore-forming, channel-forming involving β -sheet-containing toxin (β -barrel), bicomponent leukocidin	<i>hlgA</i>	Cytolytic pore-forming protein S component, gamma-hemolysin HlgA	VFG001273
	<i>hlgB</i>	Cytolytic pore-forming protein F component, gamma-hemolysin HlgB	VFG001275
	<i>hlgC</i>	Cytolytic pore-forming protein S component, gamma-hemolysin HlgC	VFG001274
	<i>lukF-PV</i>	Panton-Valentine leukocidin chain F precursor	VFG001276
	<i>lukS-PV</i>	Panton-Valentine leukocidin chain S precursor	VFG001277

Legend: VF – virulence factor; VFG – virulence factor gene in virulence factor database, VFDB; MSCRAMM – microbial surface components recognizing adhesive matrix molecules