

**Table 4.** Nonorthologous ORFs in *Staphylococcus aureus* N315

ORF ID	COG*	Product
<b>Transport systems</b>		
SA0106	C	L-lactate permease homologue
SA1270	E	Hypothetical protein, similar to amino acid permease
SA2227	E	Truncated hypothetical protein, similar to D-serine/D-alanine/glycine transporter
SA2234	E	Probable glycine betaine/carnitine/choline ABC transporter opuCD
SA2237	E	Glycine betaine/carnitine/choline ABC transporter opuCA
SA0199	EP	Truncated hypothetical protein, similar to oligopeptide ABC transporter permease
SA0200	EP	Hypothetical protein, similar to dipeptide transporter protein dppC
SA0850	EP	Hypothetical protein, similar to oligopeptide ABC transporter oligopeptide-binding protein
SA0851	EP	Oligopeptide ABC transporter ATP-binding protein homologue
SA0852	EP	Oligopeptide transport system ATP-binding protein AppF homologue
SA0853	EP	Probable oligopeptide transport system permease protein OppB
SA0854	EP	Hypothetical protein, similar to oligopeptide transport system permease protein OppC
SA0302	F	Probable pyrimidine nucleoside transport protein
SA0207	G	Hypothetical protein, similar to maltose/maltodextrin-binding protein
SA0237	G	Hypothetical protein, similar to PTS, galactitol-specific IIB component
SA0238	G	Probable PTS galactitol-specific enzyme IIC component
SA0255	G	Hypothetical protein, similar to PTS $\beta$ -glucoside-specific enzyme II, ABC component
SA0319	G	Conserved hypothetical protein
SA2326	G	PTS system, glucose-specific IIBC component
SA0115	GEPR	Hypothetical protein, similar to multi-drug resistance efflux pump
SA0132	GEPR	Hypothetical protein, similar to tetracyclin resistance protein
SA0263	GEPR	Hypothetical protein, similar to proton antiporter efflux pump
SA1269	GEPR	Blt-like protein
SA1341	GEPR	Hypothetical protein, similar to export protein SpcT protein
SA1970	GEPR	Hypothetical protein, similar to multidrug resistance protein
SA2283	GEPR	Conserved hypothetical protein
SA0236	GT	Hypothetical protein, similar to PTS fructose-specific enzyme IIBC component
SA0320	GT	Hypothetical protein, similar to PTS fructose-specific enzyme IIBC component
SA0977	M	Cell surface protein
SA0978	M	Conserved hypothetical protein
SA0068	P	Potassium-transporting ATPase A chain homologue
SA0070	P	Potassium-transporting ATPase B chain homologue
SA0071	P	Potassium-transporting ATPase C chain homologue
SA0111	P	Lipoprotein
SA0645	P	Conserved hypothetical protein
SA0891	P	Hypothetical protein, similar to ferrichrome ABC transporter
SA0980	P	Hypothetical protein, similar to ferrichrome ABC transporter
SA1016	P	Conserved hypothetical protein
SA1732	P	Hypothetical protein, similar to sodium-dependent transporter
SA1879	P	Probable potassium-transporting ATPase C chain
SA1880	P	Probable potassium-transporting ATPase B chain
SA1881	P	Probable potassium-transporting ATPase A chain
SA2475	P	Conserved hypothetical protein
SA2476	P	Hypothetical protein, similar to cation ABC transporter (ATP-binding protein)
SA2489	P	Hypothetical protein, similar to high-affinity nickel-transport protein
SA0109	PH	Lipoprotein
SA0110	PH	Lipoprotein
SA0981	PH	Hypothetical protein, similar to ferrichrome ABC transporter
SA0197	Q	Hypothetical protein, similar to ABC transporter ATP-binding protein
SA2216	Q	Hypothetical protein, similar to ABC transporter, ATP-binding protein
SA2217	Q	Hypothetical protein, similar to lipoprotein inner membrane ABC-transporter
SA2314	Q	Hypothetical protein, similar to ABC transporter (ATP-binding protein)
SA0198	R	Oligopeptide transport ATP-binding protein
SA0888	R	Conserved hypothetical protein
SA0318	S	Hypothetical protein, similar to transport protein SgaT
SA0976	S	Conserved hypothetical protein
SA1552	S	Hypothetical protein
<b>Regulation systems</b>		
SA1949	-	Lytic regulatory protein truncated with Tn554
SA0066	-	AgrD protein
SA0041	K	Xylose repressor homologue
SA0097	K	Hypothetical protein, similar to transcription regulator AraC/XylS family
SA0108	K	Staphylococcal accessory regulator A homologue
SA0130	K	Hypothetical protein, similar to trehalose operon transcriptional repressor
SA0187	K	Hypothetical protein, similar to transcription regulator
SA0254	K	Hypothetical protein, similar to transcription regulator GntR family
SA0261	K	Hypothetical protein, similar to rbs operon repressor RbsR
SA0321	K	Hypothetical protein, similar to transcription antiterminator BglG family
SA1804	K	Hypothetical transcriptional regulator
SA1805	K	Repressor homologue
SA1833	K	Hypothetical protein, similar to transcription regulator
SA2002	K	Hypothetical protein, similar to transcription regulator MerR family
SA2092	K	Hypothetical protein, similar to transcription regulator
SA2108	K	Hypothetical protein, similar to transcription regulator, RpiR family

SA2165	K	Hypothetical protein, similar to transcriptional regulator tetR-family
SA2286	K	Staphylococcal accessory regulator A homolog
SA2287	K	Staphylococcal accessory regulator A homolog
SA2364	K	Hypothetical protein, similar to transcription regulator acrR
SA2379	K	Hypothetical protein, similar to transcriptional regulator tetR-family
SA0067	T	Hypothetical protein, similar to kdp operon sensor protein
SA1248	T	Truncated (putative response regulator ArlR
SA1882	T	Sensor protein KdpD
SA0066	TK	Hypothetical protein, similar to kdp operon transcriptional regulatory protein
SA1883	TK	KDP operon transcriptional regulatory protein KdpE

#### Mobile elements

SA0028	-	Truncated replication protein for pUB110 plasmid
SA0029	-	Plasmid recombination enzyme
SA0050	-	Transposase for Tn554
SA0063	-	Transposase
SA0764	-	Transposase C for Tn554
SA1482	-	Transposase C for Tn554
SA1760	-	Holin homolog
SA1953	-	Transposition regulatory protein tnpC
SAS072	-	Hypothetical protein, similar to transposase for IS232
SAS077	-	Hypothetical protein, similar to transposase for IS232
SA0026	L	Transposase for IS-like element
SA0051	L	Transposase B for Tn554
SA0052	L	Transposase A for Tn554
SA0356	L	Truncated integrase
SA0369	L	Transposase for IS1181
SA0379	L	Probable transposase
SA0586	L	Transposase for IS1181
SA0762	L	Transposase A for Tn554
SA0763	L	Transposase B for Tn554
SA0787	L	Transposase for IS1181
SA1006	L	Transposase for insertion sequence IS1181
SA1038	L	Truncated transposase
SA1222	L	Truncated transposase
SA1483	L	Transposase B for Tn554
SA1484	L	Transposase A for Tn554
SA1541	L	Transposase
SA1605	L	Truncated transposase
SA1605	L	Truncated transposase
SA1623	L	Truncated transposase
SA1623	L	Truncated transposase
SA1624	L	Transposase homolog for IS232 [Insertion sequence IS1181]
SA1677	L	Transposase
SA1810	L	Integrase
SA1820	L	Hypothetical protein, similar to bacteriophage terminase small subunit
SA1884	L	Transposase
SA1954	L	Transposition regulatory protein tnpB
SA1955	L	Transposition regulatory protein tnpA
SA2013	L	Truncated IS232 IstB protein homolog
SA2014	L	Truncated IS232 IstA protein homolog
SA2289	L	Transposase
SA0055	L	Truncated transposase
SAS069	L	Hypothetical protein, similar to transposase for IS232
SAS070	L	Hypothetical protein, similar to transposase for IS232
SA1777	R	Hypothetical protein
SA1776	S	Hypothetical protein
SA1801	S	Anti repressor

#### Virulence factors and antibiotics resistance

SA0033	-	Kanamycin nucleotidyltransferase
SA0107	-	Immunoglobulin G binding protein A precursor
SA0126	-	Hypothetical protein, similar to capsular polysaccharide synthesis protein 14H
SA0222	-	Staphylocoagulase precursor
SA0357	-	Hypothetical protein, similar to exotoxin 2
SA0382	-	Exotoxin 6
SA0383	-	Exotoxin 7
SA0384	-	Exotoxin 8
SA0385	-	Exotoxin 9
SA0386	-	Exotoxin 10
SA0387	-	Exotoxin 11
SA0388	-	Exotoxin 12
SA0389	-	Exotoxin 13
SA0390	-	Exotoxin 14
SA0393	-	Exotoxin 15
SA0743	-	Hypothetical protein, similar to staphylocoagulase precursor
SA0744	-	Extracellular ECM and plasma binding protein
SA0745	-	Hypothetical protein, similar to extracellular matrix and plasma binding

SA0841	-	Hypothetical protein, similar to cell surface protein Map-w
SA0900	-	Cysteine protease precursor
SA1000	-	Hypothetical protein, similar to fibrinogen-binding protein
SA1003	-	Hypothetical protein, similar to fibrinogen-binding protein
SA1004	-	Hypothetical protein, similar to fibrinogen-binding protein
SA1007	-	$\alpha$ -Hemolysin precursor
SA1009	-	Hypothetical protein, similar to exotoxin 1
SA1010	-	Hypothetical protein, similar to exotoxin 4
SA1011	-	Hypothetical protein, similar to exotoxin 3
SA1429	-	Enterotoxin homolog
SA1430	-	Hypothetical protein, similar to enterotoxin A precursor
SA1637	-	Leukotoxin, LukD
SA1638	-	Leukotoxin LukE
SA1642	-	Extracellular enterotoxin type G precursor
SA1643	-	Enterotoxin SeN
SA1644	-	Enterotoxin YENT2
SA1645	-	Enterotoxin Yent1
SA1646	-	Extracellular enterotoxin type I precursor
SA1647	-	Enterotoxin SEM
SA1648	-	Enterotoxin SeO
SA1751	-	Truncated map-w protein
SA1751	-	Truncated map-w protein
SA1752	-	Truncated $\beta$ -hemolysin
SA1758	-	Staphylokinase precursor
SA1761	-	Enterotoxin P
SA1812	-	Hypothetical protein, similar to synergohymenotropic toxin precursor - Staphylococcus intermedius
SA1813	-	Hypothetical protein, similar to leukocidin chain lukM precursor
SA1816	-	Extracellular enterotoxin L
SA1817	-	Enterotoxin typeC3
SA1819	-	Toxic shock syndrome toxin-1
SA2003	-	Hyaluronate lyase precursor
SA2006	-	Hypothetical protein, similar to MHC class II analog
SA2206	-	IgG-binding protein SBI
SA2207	-	$\gamma$ -Hemolysin chain II precursor
SA2208	-	$\gamma$ -Hemolysin component C
SA2209	-	$\gamma$ -Hemolysin component B
SA2290	-	Fibronectin-binding protein homolog
SA2460	-	Intercellular adhesion protein D
SAS065	-	$\delta$ -Hemolysin
SA2291	D	Fibronectin-binding protein homolog
SA2456	D	Capsular polysaccharide biosynthesis, capB
SA0032	E	Bleomycin resistance protein
SA1627	E	Serine protease SplF
SA1628	E	Serine protease SplD
SA1629	E	Serine protease SplC
SA1630	E	Serine protease SplB
SA1631	E	Serine protease SplA
SA0146	G	Capsular polysaccharide synthesis enzyme Cap8C
SA2461	G	Intercellular adhesion protein B
SA0048	J	rRNA methylase
SA0766	J	rRNA methylase
SA1480	J	rRNA methylase Erm(A)
SA1951	J	rRNA methylase Erm(A)
SA2384	J	rRNA methylase Erm(A)
SA0519	K	Ser-Asp rich fibrinogen-binding, bone sialoprotein-binding protein
SA0742	K	Fibrinogen-binding protein A, clumping factor
SA2423	K	Clumping factor B
SA0746	L	Staphylococcal nuclease
SA0038	M	Penicillin binding protein 2' (2a)
SA0125	M	Hypothetical protein, similar to Eps(Exopolysaccharide)G
SA0150	M	Capsular polysaccharide synthesis enzyme Cap5G
SA0152	M	Capsular polysaccharide synthesis enzyme Cap5I
SA0155	M	Capsular polysaccharide synthesis enzyme Cap5L
SA0159	M	Capsular polysaccharide synthesis enzyme Cap5P
SA2457	M	Capsular polysaccharide biosynthesis, capA
SA2459	M	Intercellular adhesion protein A
SA0148	MG	Capsular polysaccharide synthesis enzyme Cap8E
SA0149	MG	Capsular polysaccharide synthesis enzyme Cap5F
SA0116	Q	Hypothetical protein, similar to rhizobactin siderophore biosynthesisprotein RhsC
SA0117	Q	Hypothetical protein, similar to rhizobactin siderophore biosynthesisprotein RhsF
SA0049	R	O-nucleotidyltransferase(9)
SA0127	R	Hypothetical protein, similar to capsular polysaccharide synthesis protein 14L
SA0765	R	O-nucleotidyltransferase(9)
SA1481	R	O-nucleotidyltransferase(9)
SA1952	R	O-nucleotidyltransferase(9)
SA2385	R	O-nucleotidyltransferase(9)
SA1268	S	Hypothetical protein, similar to streptococcal adhesin emb

## Other function assigned

SA0899	-	Cysteine protease
SA1757	-	Truncated amidase
SA1757	-	Truncated amidase
SA1759	-	Lytic enzyme
SA0220	C	Hypothetical protein, similar to glycerophosphodiester phosphodiesterase
SA0232	C	L-lactate dehydrogenase
SA0311	C	Hypothetical protein, similar to trimethylamine dehydrogenase (EC 1.5.99.7)
SA0510	C	Probable L-ribulokinase
SA2395	C	L-lactate dehydrogenase
SA0112	E	Hypothetical protein, similar to cysteine synthase
SA0119	E	Hypothetical protein, similar to diaminopimelate decarboxylase
SA0242	E	Hypothetical protein, similar to xylitol dehydrogenase
SA0246	E	Hypothetical protein, similar to D-xylulose reductase
SA0313	E	Hypothetical protein, similar to glycine cleavage system H protein
SA0837	E	Hypothetical protein, similar to 2-isopropylmalate synthase
SA1271	E	Threonine deaminase IlvA homolog
SA1272	E	Alanine dehydrogenase
SA1814	E	Hypothetical protein, similar to succinyl-diaminopimelate desuccinylase
SA2382	E	Truncated hypothetical protein, similar to glutamyl-endopeptidase
SA2389	E	Truncated hypothetical protein, similar to metalloproteinase mpr precursor
SA2425	E	Carbamate kinase
SA0239	ER	Sorbitol dehydrogenase
SA0240	ER	Sorbitol dehydrogenase homologue
SA0022	F	Hypothetical protein, similar to 5'-nucleotidase
SA0131	F	Purine nucleoside phosphorylase
SA0133	F	Deoxyribose-phosphate aldolase
SA0234	F	Hypothetical protein, similar to inosine-uridine preferring nucleoside hydrolase
SA1939	F	Deoxyribose-phosphate aldolase
SA0118	G	Hypothetical protein, similar to various aldolase
SA0212	G	Conserved hypothetical protein
SA0256	G	6-Phospho- $\beta$ -glucosidase
SA1991	G	6-Phospho- $\beta$ -galactosidase
SA0316	H	Hypothetical protein, similar to lipoate-protein ligase
SA0508	H	Hypothetical protein, similar to glycine C-acetyltransferase
SA2186	H	Uroporphyrin-III C-methyl transferase
SA2212	H	Hypothetical protein, similar to 8-amino-7-oxononanoate synthase
SA0091	I	1-Phosphatidylinositol phosphodiesterase precursor
SA1155	I	Cardiolipin synthetase homolog
SA2349	I	Squalene synthase
SA0426	KR	Conserved hypothetical protein
SA0392	L	Probable restriction modification system specificity subunit
SA1625	L	Probable specificity determinant HsdS
SA1626	L	Type I restriction enzyme EcoR124II M PROTEIN homolog [Pathogenicity island SaPln3]
SA1806	L	Probable ATP-dependent helicase
SA2010	L	Hypothetical protein, similar to RNA-directed DNA polymerase from retron EC86
SA2277	L	Conserved hypothetical protein
SA0124	M	Hypothetical protein, similar to glycosyltransferase TaaA
SA0243	M	Hypothetical protein, similar to teichoic acid biosynthesis protein B
SA0265	M	Peptidoglycan hydrolase
SA0522	M	Hypothetical protein, similar to poly (glycerol-phosphate) $\alpha$ -glucosyltransferase (teichoic acid biosynthesis)
SA1766	M	Hypothetical protein
SA1808	M	Probable ss-1,3-N-acetylglucosaminyltransferase
SA2350	M	Conserved hypothetical protein
SA0317	MG	Hypothetical protein, similar to dihydroflavonol-4-reductase
SA1775	NO	Hypothetical protein, similar to scaffolding protein
SA2336	O	ATP-dependent Clp proteinase chain clpL
SA0128	P	Superoxide dismutase
SA0332	P	Conserved hypothetical protein
SA0181	Q	Hypothetical protein, similar to isochorismatase
SA0301	Q	Conserved hypothetical protein
SA2348	Q	Squalene desaturase
SA2365	QR	Hypothetical protein, similar to short chain oxidoreductase
SA0043	R	Conserved hypothetical protein
SA0084	R	Hypothetical protein, similar to homo sapiens CGI-44 protein, PRO1975 protein
SA0211	R	Hypothetical protein, similar to NADH-dependent dehydrogenase
SA0309	R	Glycerol ester hydrolase
SA0328	R	Hypothetical protein, similar to NADH-dependent FMN reductase
SA0741	R	Conserved hypothetical protein
SA2001	R	Hypothetical protein, similar to oxidoreductase, aldo/keto reductase family
SA2106	R	Hypothetical protein, similar to protein of pXO2-46
SA2259	R	Conserved hypothetical protein
SA2366	R	Conserved hypothetical protein
SA2380	R	Conserved hypothetical protein
SA2400	R	Malate:quinone oxidoreductase
SA0314	S	Conserved hypothetical protein
SA0982	S	NPQTN specific sortase B
SA0077	T	Hypothetical protein, similar to serine/threonine protein kinase

## Unknown

SA0024	S	Hypothetical protein
SA0025	S	Hypothetical protein
SA0028	-	Truncated replication protein for plasmid
SA0030	S	Hypothetical protein
SA0031	S	Hypothetical protein
SA0035	I	Probable HMG-CoA synthase
SA0037	I	Conserved hypothetical protein
SA0042	P	Conserved hypothetical protein
SA0046	R	Conserved hypothetical protein
SA0047	Q	Hypothetical protein in transposon Tn554
SA0053	L	Truncated hypothetical protein, similar to DNA repair protein
SA0055	S	Conserved hypothetical protein
SA0056	S	Hypothetical protein
SA0065	S	Conserved hypothetical protein
SA0072	S	Hypothetical protein
SA0073	S	Hypothetical protein
SA0074	S	Hypothetical protein
SA0075	S	Hypothetical protein
SA0076	S	Hypothetical protein
SA0078	S	Hypothetical protein
SA0079	J	Conserved hypothetical protein
SA0081	S	Conserved hypothetical protein
SA0082	S	Conserved hypothetical protein
SA0086	S	Hypothetical protein
SA0087	K	Hypothetical protein
SA0088	S	Hypothetical protein
SA0090	S	Hypothetical protein
SA0092	S	Hypothetical protein
SA0093	S	Hypothetical protein
SA0094	S	Hypothetical protein
SA0095	S	Hypothetical protein
SA0096	S	Hypothetical protein
SA0101	S	Hypothetical protein
SA0103	GER	Conserved hypothetical protein
SA0105	S	Hypothetical protein
SA0114	Q	Conserved hypothetical protein
SA0120	K	Hypothetical protein
SA0121	S	Hypothetical protein
SA0129	S	Hypothetical protein
SA0141	S	Hypothetical protein
SA0142	E	Hypothetical protein, similar to DNA-binding protein
SA0161	S	Conserved hypothetical protein
SA0164	S	Hypothetical protein
SA0188	S	Hypothetical protein
SA0191	Q	Conserved hypothetical protein
SA0194	S	Hypothetical protein
SA0195	S	Hypothetical protein
SA0196	S	Conserved hypothetical protein
SA0201	EP	RGD-containing lipoprotein
SA0203	S	Hypothetical protein
SA0204	I	Hypothetical protein
SA0221	S	Hypothetical protein
SA0235	K	Hypothetical protein, similar to BglG antiterminator family
SA0241	I	Hypothetical protein, similar to 4-diphosphocytidyl-2C-methyl-D-erythritol synthase
SA0257	QR	Conserved hypothetical protein
SA0270	R	Hypothetical protein, similar to secretory antigen precursor SsaA
SA0271	S	Conserved hypothetical protein
SA0272	S	Hypothetical protein, similar to transmembrane protein Tmp7
SA0273	S	Hypothetical protein
SA0274	S	Conserved hypothetical protein
SA0275	S	Conserved hypothetical protein
SA0276	D	Conserved hypothetical protein
SA0277	S	Hypothetical protein
SA0278	S	Hypothetical protein
SA0279	S	Hypothetical protein
SA0280	S	Hypothetical protein
SA0282	S	Conserved hypothetical protein
SA0283	S	Hypothetical protein
SA0284	S	Hypothetical protein
SA0285	S	Hypothetical protein
SA0286	S	Conserved hypothetical protein
SA0287	S	Conserved hypothetical protein
SA0288	S	Conserved hypothetical protein
SA0289	S	Conserved hypothetical protein
SA0290	S	Conserved hypothetical protein
SA0291	S	Hypothetical protein

SA0292	S	Hypothetical protein
SA0299	G	Hypothetical protein, similar to carbohydrate kinase, PfkB family
SA0300	G	Truncated hypothetical protein
SA0308	S	Conserved hypothetical protein
SA0310	I	Hypothetical protein
SA0315	H	Hypothetical protein
SA0331	P	Conserved hypothetical protein
SA0333	P	Conserved hypothetical protein
SA0334	N	Conserved hypothetical protein
SA0335	N	Conserved hypothetical protein
SA0341	S	Hypothetical protein, similar to low temperature requirement A protein
SA0358	S	Conserved hypothetical protein
SA0359	S	Conserved hypothetical protein
SA0364	S	Hypothetical protein
SA0377	S	Hypothetical protein
SA0378	S	Hypothetical protein
SA0380	S	Conserved hypothetical protein
SA0394	S	Hypothetical protein
SA0395	S	Hypothetical protein
SA0396	S	Hypothetical protein
SA0397	S	Hypothetical protein
SA0398	S	Hypothetical protein
SA0399	S	Hypothetical protein
SA0400	S	Hypothetical protein
SA0401	S	Hypothetical protein
SA0402	S	Hypothetical protein
SA0403	S	Hypothetical protein
SA0404	S	Hypothetical protein
SA0405	S	Hypothetical protein
SA0406	S	Hypothetical protein
SA0407	S	Conserved hypothetical protein
SA0408	S	Hypothetical protein
SA0409	S	Hypothetical protein
SA0414	S	Hypothetical protein
SA0532	S	Hypothetical protein
SA0553	S	Conserved hypothetical protein
SA0555	S	Conserved hypothetical protein
SA0556	S	Conserved hypothetical protein
SA0611	S	Hypothetical protein
SA0737	S	Hypothetical protein
SA0738	S	Hypothetical protein
SA0739	S	Conserved hypothetical protein
SA0761	S	Conserved hypothetical protein
SA0767	Q	Hypothetical protein within Tn554
SA0779	S	Hypothetical protein
SA0838	J	Conserved hypothetical protein
SA0839	G	Hypothetical protein
SA0840	R	Conserved hypothetical protein
SA0886	S	Hypothetical protein, similar to lactococcin 972 immunity factor
SA0889	S	Hypothetical protein
SA0890	S	Conserved hypothetical protein
SA0930	S	Hypothetical protein
SA0979	S	Conserved hypothetical protein
SA0983	R	Conserved hypothetical protein
SA1001	S	Hypothetical protein
SA1002	S	Hypothetical protein
SA1005	S	Hypothetical protein
SA1008	S	Hypothetical protein
SA1017	S	Hypothetical protein
SA1049	S	Hypothetical protein
SA1090	-	LytN protein
SA1091	S	FmhC protein
SA1151	S	Hypothetical protein
SA1153	S	Hypothetical protein
SA1208	S	Hypothetical protein
SA1210	S	Hypothetical protein
SA1249	S	Hypothetical protein
SA1262	C	Conserved hypothetical protein
SA1263	S	Conserved hypothetical protein
SA1278	S	Hypothetical protein
SA1300	S	Hypothetical protein
SA1317	S	Hypothetical protein
SA1319	S	Hypothetical protein
SA1320	S	Hypothetical protein
SA1321	S	Hypothetical protein
SA1332	S	Hypothetical protein
SA1428	S	Hypothetical protein
SA1431	S	Conserved hypothetical protein

SA1452	S	SigmaB-controlled gene product
SA1479	Q	Hypothetical protein
SA1610	S	Hypothetical protein
SA1616	S	Hypothetical protein
SA1617	-	Hypothetical protein, similar to latent nuclear antigen
SA1618	S	Conserved hypothetical protein
SA1620	S	Hypothetical protein
SA1621	S	Hypothetical protein
SA1632	S	Hypothetical protein
SA1633	-	Probable $\beta$ -lactamase
SA1634	-	Truncated hypothetical protein
SA1635	S	Hypothetical protein
SA1636	S	Hypothetical protein
SA1639	S	Hypothetical protein
SA1640	S	Conserved hypothetical protein
SA1641	S	Hypothetical protein
SA1706	S	Hypothetical protein
SA1738	S	Hypothetical protein
SA1753	S	Hypothetical protein
SA1754	S	Hypothetical protein
SA1755	S	Hypothetical protein
SA1762	S	Hypothetical protein
SA1763	S	Hypothetical protein
SA1764	S	Hypothetical protein
SA1765	S	Hypothetical protein
SA1767	S	Hypothetical protein
SA1768	S	Hypothetical protein
SA1769	S	Hypothetical protein
SA1770	S	Hypothetical protein
SA1771	S	Hypothetical protein
SA1772	S	Hypothetical protein
SA1773	S	Hypothetical protein
SA1774	S	Hypothetical protein
SA1778	S	Hypothetical protein
SA1779	S	Hypothetical protein
SA1780	S	Hypothetical protein
SA1781	S	Hypothetical protein
SA1782	S	Hypothetical protein
SA1783	S	Hypothetical protein
SA1784	S	Hypothetical protein
SA1785	S	Hypothetical protein
SA1786	S	Hypothetical protein
SA1787	S	Hypothetical protein
SA1788	S	Hypothetical protein
SA1789	L	Hypothetical protein
SA1790	S	Hypothetical protein
SA1791	L	Hypothetical protein
SA1792	L	Single-strand DNA-binding protein
SA1793	R	Hypothetical protein
SA1794	L	Hypothetical protein
SA1795	S	Hypothetical protein
SA1796	S	Hypothetical protein
SA1797	S	Hypothetical protein
SA1798	S	Hypothetical protein
SA1799	S	Hypothetical protein
SA1800	S	Hypothetical protein
SA1802	S	Hypothetical protein
SA1803	S	Hypothetical protein
SA1807	S	Hypothetical protein
SA1809	S	Hypothetical protein
SA1818	-	Hypothetical protein, similar to $\beta$ -lactamase
SA1823	S	Hypothetical protein
SA1824	S	Hypothetical protein
SA1825	S	Hypothetical protein
SA1826	S	Hypothetical protein
SA1827	S	Hypothetical protein
SA1828	S	Hypothetical protein
SA1829	S	Hypothetical protein
SA1830	S	Hypothetical protein
SA1831	S	Hypothetical protein
SA1832	L	Hypothetical protein
SA1834	S	Hypothetical protein
SA1839	M	Hypothetical protein, similar to SdrH
SA1860	E	Hypothetical protein, similar to acetolactate synthase small subunit
SA1950	Q	Hypothetical protein
SA1964	LKJ	FmtB protein
SA2000	S	Hypothetical protein
SA2009	S	Hypothetical protein

SA2011	S	Hypothetical protein
SA2012	S	Hypothetical protein
SA2015	S	Hypothetical protein
SA2093	R	Secretory antigen precursor SsaA homolog
SA2107	S	Hypothetical protein
SA2130	S	Conserved hypothetical protein
SA2177	S	Conserved hypothetical protein
SA2195	S	Conserved hypothetical protein
SA2196	S	Conserved hypothetical protein
SA2210	-	Hypothetical protein, similar to BioX protein
SA2218	S	Hypothetical protein
SA2227	E	Truncated hypothetical protein
SA2245	S	Conserved hypothetical protein
SA2246	D	Hypothetical protein
SA2263	S	Hypothetical protein
SA2264	S	Hypothetical protein
SA2270	S	Hypothetical protein
SA2271	S	Hypothetical protein
SA2272	S	Hypothetical protein
SA2273	S	Hypothetical protein
SA2274	S	Hypothetical protein
SA2280	S	Hypothetical protein
SA2281	S	Hypothetical protein
SA2282	S	Hypothetical protein
SA2292	S	Hypothetical protein
SA2315	S	Conserved hypothetical protein
SA2321	S	Hypothetical protein
SA2343	S	Hypothetical protein
SA2351	Q	Hypothetical protein, similar to phytoene dehydrogenase
SA2352	S	Hypothetical protein
SA2353	R	Hypothetical protein, similar to secretory antigen precursor SsaA
SA2355	K	Conserved hypothetical protein
SA2359	S	Hypothetical protein
SA2362	MG	Conserved hypothetical protein
SA2363	S	Hypothetical protein
SA2367	R	Conserved hypothetical protein
SA2372	S	Hypothetical protein
SA2373	S	Hypothetical protein
SA2381	S	Hypothetical protein
SA2383	Q	Hypothetical protein
SA2394	Q	Hypothetical protein, similar to $\alpha$ -acetolactate decarboxylase
SA2401	S	Hypothetical protein
SA2419	S	Hypothetical protein
SA2449	S	Hypothetical protein
SA2450	S	Hypothetical protein
SA2473	S	Hypothetical protein
SA2477	S	Conserved hypothetical protein
SA2478	S	Conserved hypothetical protein
SA2494	K	Cold shock protein cspB
SAS002	S	Hypothetical protein
SAS003	S	Hypothetical protein
SAS004	S	Hypothetical protein
SAS005	S	Hypothetical protein
SAS006	S	Hypothetical protein
SAS008	S	Hypothetical protein
SAS011	S	Hypothetical protein
SAS012	S	Hypothetical protein
SAS013	S	Hypothetical protein
SAS014	S	Hypothetical protein
SAS015	S	Hypothetical protein
SAS017	S	Hypothetical protein
SAS019	S	Hypothetical protein
SAS021	S	Conserved hypothetical protein
SAS022	S	Truncated conserved hypothetical protein
SAS024	S	Hypothetical protein
SAS026	S	Hypothetical protein
SAS028	S	Hypothetical protein
SAS029	-	Hypothetical protein, similar to lactococcin 972
SAS034	S	Hypothetical protein
SAS035	S	Hypothetical protein
SAS036	S	Hypothetical protein
SAS038	S	Hypothetical protein
SAS043	S	Hypothetical protein
SAS045	S	Hypothetical protein
SAS046	S	Hypothetical protein
SAS048	S	Hypothetical protein
SAS050	S	Hypothetical protein
SAS051	S	Hypothetical protein

SAS053	S	Hypothetical protein
SAS058	S	Hypothetical protein
SAS059	S	Hypothetical protein
SAS060	S	Hypothetical protein
SAS061	S	Hypothetical protein
SAS062	S	Hypothetical protein
SAS063	S	Hypothetical protein
SAS064	S	Hypothetical protein
SAS071	S	Hypothetical protein
SAS073	S	Hypothetical protein
SAS075	S	Hypothetical protein
SAS076	-	Hypothetical protein
SAS080	S	Hypothetical protein
SAS082	S	Hypothetical protein
SAS083	S	Hypothetical protein
SAS086	S	Hypothetical protein
SAS087	S	Hypothetical protein
SAS089	S	Hypothetical protein
SAS090	S	Hypothetical protein
SAS092	S	Hypothetical protein

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\* Classification based on COGs category described in Fig. 1.