

**Table S2. List of genes included in NanoString studies.**

Gene Locus*	Gene name	Gene product	Log2-fold change $\Delta$ csrR vs. WT		Reason included in NanoString library			
			RNAseq	NanoString	Additional assay (this study)		Previous study	
Spy_0017	<i>sibA</i>	secreted protein	-1.04					(2, 3)
Spy_0029	<i>purD</i>	phosphoribosylamine-glycine ligase	-1.25		RNAseq			(2)
Spy_0034	-	transcription regulator	1.37	1.11	RNAseq	LL37 ChIP	Mg ChIP	
Spy_0083	<i>rpoB</i>	DNA-directed RNA polymerase subunit beta				LL37 ChIP	Mg ChIP	
Spy_0095	-	hypothetical protein						(3)
Spy_0106	<i>rofA</i>	transcriptional regulator				LL37 ChIP		(2, 14)
Spy_0113	-	transposase	7.17	7.63	RNAseq			
Spy_0115	-	hypothetical protein	9.45	10.21	RNAseq	LL37 ChIP	Mg ChIP	(2, 3, 14)
Spy_0124	-	Putative regulatory protein						(3)
Spy_0131	<i>ntpA</i>	putative V-type Na ATPase alpha subunit	1.08		RNAseq			(3)
Spy_0139	<i>nga</i>	NAD glycohydrolase	3.12	3.06	RNAseq		Mg ChIP	(2, 14)
Spy_0140	<i>ifs</i>	hypothetical protein			RNAseq			(14)
Spy_0141	<i>slo</i>	streptolysin O	2.55	2.87	RNAseq	LL37 ChIP		(2, 14)
Spy_0142	-	hypothetical protein		2.22			Mg ChIP	(14)
Spy_0143	-	hypothetical protein	11.99	11.49	RNAseq	LL37 ChIP	Mg ChIP	(3)
Spy_0144	-	hypothetical protein	9.87	10.52	RNAseq	LL37 ChIP	Mg ChIP	(3, 14)
Spy_0145	-	hypothetical protein				LL37 ChIP	Mg ChIP	
Spy_0146	<i>metB</i>	cystathionine beta-lyase				LL37 ChIP	Mg ChIP	
Spy_0157	<i>opuAA</i>	glycine betaine transport ATP-binding protein	-1.89	-2.74	RNAseq			(2)
Spy_0158	<i>opuABC</i>	glycine betaine-binding protein/glycine betaine transporter permease				RNAseq		(2, 3)

Spy_0161	<i>perR</i>	ferric transport regulator protein							(2)
Spy_0180	-	murein endopeptidase		1.56	RNAseq				(2)
Spy_0182	<i>speG</i>	exotoxin type G				LL37 ChIP			
Spy_0186	-	transcription regulator	1.67	2.66	RNAseq	LL37 ChIP	Mg ChIP		(2)
Spy_0195	-	MarR family transcription regulator	-1.69	-1.71	RNAseq	LL37 ChIP			
Spy_0205	<i>fasC</i>	putative histidine kinase							(2)
Spy_0275	-	serine/threonine transporter SstT	-2.05	-1.67	RNAseq	LL37 ChIP	Mg ChIP		
Spy_0281	-	hypothetical protein		1.02			Mg ChIP		
Spy_0282	<i>csrR</i>	response regulator	-12.95	-8.69	RNAseq	LL37 ChIP	Mg ChIP		(2)
Spy_0341	<i>scpC/prtS</i>	IL-8 protease	2.68	4.58	RNAseq	LL37 ChIP	Mg ChIP		(2, 3, 14)
Spy_0351	<i>spyA</i>	C3 family ADP-ribosyltransferase	3.02	3.27	RNAseq		Mg ChIP		(2, 14)
Spy_0352	-	hypothetical protein	6.33	7.29	RNAseq		Mg ChIP		
Spy_0354	-	hypothetical protein	3.14	3.51	RNAseq		Mg ChIP		
Spy_0355	-	hypothetical protein	4.18	6.6	RNAseq	LL37 ChIP	Mg ChIP		
Spy_0356	<i>speJ</i>	pyrogenic exotoxin type J	1.84	2.16	RNAseq		Mg ChIP		
Spy_0357	-	hypothetical protein	2.42	2.35	RNAseq		Mg ChIP		
Spy_0402	-	hypothetical protein					Mg ChIP		
Spy_0419	-	permease				LL37 ChIP			(2)
Spy_0425	-	putative sugar transferase							(3)
Spy_0436	<i>vick</i>	two-component sensor histidine kinase							(2)
Spy_0440	-	transcriptional regulator				LL37 ChIP			(2)
Spy_0444	-	hypothetical protein				LL37 ChIP	Mg ChIP		

Spy_0473	-	multidrug resistance protein B				LL37 ChIP		
Spy_0474	<i>licT</i>	BglG family transcription antiterminator				LL37 ChIP		
Spy_0475	-	beta-glucoside permease IIABC component						(3)
Spy_0476	<i>bglA</i>	beta-glucosidase						
Spy_0500	-	N-acetylmuramoyl-L-alanine amidase		1.07		LL37 ChIP	Mg ChIP	
Spy_0501	-	hypothetical protein				LL37 ChIP	Mg ChIP	
Spy_0529	-	(Fe-S)-binding protein				LL37 ChIP	Mg ChIP	
Spy_0545	<i>agaS</i>	putative tagatose-6-phosphate aldose/ketose isomerase						(2, 3)
Spy_0551	<i>rplS</i>	50S ribosomal protein L19	-1.77	-1.38	RNAseq			(2)
Spy_0561	<i>epf</i>	extracellular matrix binding protein	4.30	3.38	RNAseq	LL37 ChIP	Mg ChIP	
Spy_0562	<i>sagA</i>	streptolysin S			RNAseq	LL37 ChIP	Mg ChIP	(2, 3)
Spy_0563	<i>sagB</i>	streptolysin S biosynthesis protein	1.83	0.99	RNAseq			(2, 14)
Spy_0571	-	hypothetical protein					Mg ChIP	
Spy_0598	<i>mscL</i>	large-conductance mechanosensitive channel				LL37 ChIP		(2)
Spy_0622	-	methyltransferase				LL37 ChIP		(2)
Spy_0635	<i>rpmA</i>	50S ribosomal protein L27		-1.19				
Spy_0639	<i>pyrR</i>	putative pyrimidine regulatory protein		-1.79				(3)
Spy_0640	<i>pyrP</i>	putative uricil permease		-1.56				
Spy_0641	<i>pyrB</i>	putative aspartate transcarbamoylase				LL37 ChIP		(3)
Spy_0642	<i>carA</i>	putative carbamoylphosphate synthetase small subunit						(3)
Spy_0643	<i>carB</i>	putative carbamoylphosphate synthetase						(2, 3)

Spy_0648	<i>rpsP</i>	30S ribosomal protein S16	-1.14		RNAseq	LL37 ChIP		
Spy_0651	-	cell surface protein	-1.81	-1.01	RNAseq	LL37 ChIP	Mg ChIP	(2, 14)
Spy_0652	-	hypothetical protein	-1.53	-1.19	RNAseq			(3)
Spy_0668	<i>mac</i>	IgG-degrading protease	10.01	7.42	RNAseq	LL37 ChIP	Mg ChIP	(2, 3, 14)
Spy_0673	<i>papS</i>	tRNA CCA- pyrophosphorylase				LL37 ChIP		(2)
Spy_0701	<i>cpsY</i>	transcriptional regulator						(2)
Spy_0713	<i>bcaT</i>	branched-chain amino acid aminotransferase				LL37 ChIP	Mg ChIP	
Spy_0760	-	UDP-N- acetylmuramoylalanyl-D- glutamate--2,6- diaminopimelate ligase				LL37 ChIP		
Spy_0761	-	hypothetical protein				LL37 ChIP		
Spy_0777	-	hypothetical protein	2.93	3.34	RNAseq		Mg ChIP	(2)
Spy_0784	<i>yesN</i>	putative two-component sensor histidine kinase				LL37 ChIP		(2, 3)
Spy_0790	<i>gabD</i>	putative succinic semialdehyde dehydrogenase						(3)
Spy_0804	<i>srtK</i>	putative histidine kinase						(2)
Spy_0809	<i>srtE</i>	conserved hypothetical protein - lantibiotic						(3)
Spy_0817	<i>dacA1</i>	D-alanyl-D-alanine carboxypeptidase				LL37 ChIP		
Spy_0831	<i>dpiB</i>	sensor kinase				LL37 ChIP		(2)
Spy_0858	<i>xpt</i>	xanthine phosphoribosyltransferase	-1.59	-0.98	RNAseq			
Spy_0859	-	xanthine permease	-1.00	-0.98	RNAseq	LL37 ChIP		
Spy_0874	<i>gyrA</i>	DNA gyrase subunit A						
Spy_0913	-	putative integrase/recombinase						(3)
Spy_0947	<i>ciaH</i>	sensor protein				LL37 ChIP		(2)

Spy_0978	-	Na(+)-linked D-alanine glycine permease	-1.06		RNAseq	LL37 ChIP		(2)
Spy_0981	<i>cfa</i>	cAMP factor				LL37 ChIP		(2)
Spy_0996	<i>speA2</i>	enterotoxin	2.54	2.35	RNAseq		Mg ChIP	(14)
Spy_1048	-	phage protein				LL37 ChIP		
Spy_1079	-	PTS system cellobiose-specific transporter subunit IIC	1.47		RNAseq			
Spy_1094	-	hypothetical protein						(3)
Spy_1106	<i>grab</i>	protein G-related alpha 2M-binding protein		2.79		LL37 ChIP	Mg ChIP	(2, 3)
Spy_1114	-	hypothetical protein	1.53	1.75	RNAseq	LL37 ChIP		
Spy_1119	<i>gapN</i>	NADP-dependent glyceraldehyde-3-phosphate dehydrogenase				LL37 ChIP		(2)
Spy_1137	-	putative transcription factor						(2)
Spy_1139	<i>nagB</i>	glucosamine-6-phosphate isomerase	-2.37		RNAseq	LL37 ChIP	Mg ChIP	
Spy_1152	-	putative cation (K+) transport protein						
Spy_1155	<i>prfC</i>	peptide chain release factor 3				LL37 ChIP		(2)
Spy_1169	<i>spd3</i>	DNase	1.23	1.07	RNAseq	LL37 ChIP		(2, 14)
Spy_1170	-	hypothetical protein	1.15	1.03	RNAseq			
Spy_1171	-	conserved hypothetical protein, phage associated						(3)
Spy_1200	-	conserved hypothetical protein, phage associated						(3)
Spy_1237	<i>artP</i>	arginine transport ATP-binding protein			RNAseq			
Spy_1238	<i>artQ</i>	arginine transporter permease	-1.16	-1.35	RNAseq			
Spy_1267	<i>ktdB</i>	putative 3-deoxy-D-manno-octulosonic-acid transferase						(3)

Spy_1269	<i>asnA</i>	putative asparagine synthase A				LL37 ChIP		(3)
Spy_1274	-	acetyltransferase	1.28	1.74	RNAseq			
Spy_1284	<i>ccdA</i>	putative cytochrome C-type biogenesis protein						(3)
Spy_1290	-	hypothetical protein	2.23	1.44	RNAseq	LL37 ChIP		
Spy_1291	-	ATP-dependent RNA helicase	3.50	2.61	RNAseq		Mg ChIP	
Spy_1305	<i>lytR</i>	putative two-component sensor response regulator						(2)
Spy_1320	-	hypothetical protein rexA						(3)
Spy_1329	<i>cysM</i>	putative O-acetylserine lyase						(3)
Spy_1386	-	hypothetical protein					Mg ChIP	(2)
Spy_1401	-	PTS system galactose-specific transporter subunit IIA	1.11	2.26	RNAseq			(3)
Spy_1407	-	esterase	1.43	2.64	RNAseq		Mg ChIP	(14)
Spy_1411	-	hypothetical protein						(2, 3)
Spy_1415	<i>sdaD2</i>	phage-encoded DNase	3.28	3.54	RNAseq			(14)
Spy_1472	<i>hit</i>	bis(5'-nucleosyl)-tetraphosphatase (asymmetrical)				RNAseq		
Spy_1473	-	hypothetical protein	1.34	1.14	RNAseq			
Spy_1477	-	guanine-hypoxanthine permease	-1.87	-1.99	RNAseq			(2)
Spy_1479	<i>manL</i>	PTS system mannose-specific transporter subunit IIAB				LL37 ChIP		(2)
Spy_1492	<i>fabK</i>	enoyl-ACP reductase	-1.01			RNAseq	Mg ChIP	(2)
Spy_1499	<i>grpE</i>	putative Hsp-70 cofactor						(2, 3)
Spy_1503	-	phosphoglycerate mutase				LL37 ChIP		
Spy_1504	-	hypothetical protein				LL37 ChIP		(2)
Spy_1512	<i>codY</i>	transcriptional repressor CodY				LL37 ChIP	Mg ChIP	

Spy_1513	-	aminotransferase				LL37 ChIP		
Spy_1514	-	universal stress protein				LL37 ChIP		(2)
Spy_1524	-	putative ABC transporter (ATP-binding protein)						(2, 3)
Spy_1525	-	putative ABC transporter (ATP-binding protein)						(2, 3)
Spy_1526		putative ABC transporter (ATP-binding protein)						(3)
Spy_1527		putative ABC transporter (permease)						
Spy_1528	-	ferrichrome-binding protein	-1.83		RNAseq			(2)
Spy_1531	<i>isp2</i>	hypothetical protein	1.99	2.12	RNAseq	LL37 ChIP		(2)
Spy_1540	<i>endoS</i>	endo-beta-N- acetylglucosaminidase F2	-1.29		RNAseq		Mg ChIP	(2)
Spy_1545	<i>nusB</i>	putative transcriptional terminator						(3)
Spy_1556	-	hypothetical protein	3.89	3.84	RNAseq	LL37 ChIP	Mg ChIP	
Spy_1557	<i>mutY</i>	A/G-specific adenine glycosylase			RNAseq	LL37 ChIP	Mg ChIP	(2)
Spy_1573	<i>glpF.2</i>	glycerol uptake facilitator protein	-1.06		RNAseq			
Spy_1578	-	Cro/Ci family transcriptional regulator				LL37 ChIP	Mg ChIP	
Spy_1579	-	transcriptional regulator				LL37 ChIP	Mg ChIP	
Spy_1601	-	membrane protease					Mg ChIP	(2)
Spy_1607	<i>fba</i>	fructose-bisphosphate aldolase						(14)
Spy_1635	<i>lacD.2</i>	putative tagatose 1,6- diphosphate aldolase						(2, 3)
Spy_1636	<i>lacC.2</i>	putative galactose-6- phosphate isomerase (C subunit)						(2, 3)
Spy_1637	<i>lacB.2</i>	putative galactose-6- phosphate isomerase (B subunit)						(2, 3)

Spy_1638	<i>lacA</i>	galactose-6-phosphate isomerase subunit LacA				LL37 ChIP		(2, 3)
Spy_1646	<i>prsI</i>	30S ribosomal protein S9			RNAseq			
Spy_1647	<i>rplM</i>	50S ribosomal protein L13	-1.08		RNAseq			
Spy_1649	-	Putative transcription regulator						(3)
Spy_1673	<i>proS</i>	prolyl-tRNA synthetase						
Spy_1680	<i>pulA</i>	Pullulanase						
Spy_1684	<i>ska</i>	streptokinase	4.32	4.29	RNAseq	LL37 ChIP	Mg ChIP	(2, 3)
Spy_1687	<i>sclA</i>	collagen-like surface protein	7.75		RNAseq			(14)
Spy_1702	<i>smeZ</i>	mitogenic exotoxin Z					Mg ChIP	(2)
Spy_1704	<i>dppA</i>	dipeptide-binding protein	-1.93	-2.52	RNAseq	LL37 ChIP	Mg ChIP	(2, 14)
Spy_1709	-	hypothetical protein	1.13		RNAseq			
Spy_1711	<i>lmb</i>	putative laminin adhesion						(2)
Spy_1714	-	cell surface protein	1.53	1.73	RNAseq			(2)
Spy_1715	<i>scpA</i>	C5A peptidase	1.76	1.92	RNAseq		Mg ChIP	(2, 14)
Spy_1718	<i>sic1.01</i>	inhibitor of complement protein	2.99	3.79	RNAseq	LL37 ChIP	Mg ChIP	(2, 14)
Spy_1719	<i>emm1.0</i>	M protein					Mg ChIP	(2, 14)
Spy_1720	<i>mga</i>	trans-acting positive regulator				LL37 ChIP	Mg ChIP	(2, 14)
Spy_1724	<i>irr</i>	putative two-component response regulator						(2)
Spy_1731	-	hypothetical protein	2.29	2.45	RNAseq			
Spy_1732	<i>prsA</i>	foldase PrsA	-1.08		RNAseq			(2)
Spy_1733	-	hypothetical protein	3.69	1.05	RNAseq			
Spy_1735	<i>speB</i>	exotoxin B		1.18		LL37 ChIP	Mg ChIP	(2)
Spy_1737	<i>ropB</i>	transcriptional regulator					Mg ChIP	(2)
Spy_1738	<i>spd</i>	phage-associated deoxyribonuclease	2.00	2.25	RNAseq	LL37 ChIP	Mg ChIP	(2, 3)
Spy_1757	-	hypothetical protein				LL37 ChIP		(2)
Spy_1758	-	dipeptidase B		1.81		LL37 ChIP		(2)



Spy_1768	<i>ahpC</i>	peroxiredoxin reductase (NAD(P)H)				LL37 ChIP	Mg ChIP	(2)
Spy_1782	<i>pepO</i>	neutral endopeptidase	1.56	1.52	RNAseq		Mg ChIP	
Spy_1794	-	hypothetical protein					Mg ChIP	
Spy_1799	<i>recA</i>	recombination protein				LL37 ChIP	Mg ChIP	
Spy_1825	-	PadR family transcriptional regulator					Mg ChIP	(2)
Spy_1839	-	MutT/nudix family protein	-1.15		RNAseq			(2)
Spy_1842	<i>sdhA</i>	putative L-serine dehydratase alpha subunit						(3)
Spy_1843	-	transglycosylase				LL37 ChIP	Mg ChIP	(3)
Spy_1851	<i>hasA</i>	hyaluronan synthase	6.41	7.18	RNAseq	LL37 ChIP	Mg ChIP	(2, 3, 14)
Spy_1857	<i>guaB</i>	inosine monophosphate dehydrogenase						(3)

Shaded boxes indicate significant transcript change identified by NanoString, but not by RNAseq.

\*Gene locus numbers refer to MGAS5005 genome.