

Supplemental Table A. Predicted ORFs containing cell-wall anchor motif in four strains of GAS genome

Gene description	Strains				Motif	Signal ¹
	SSI-1 (SPs)	SF370 (SPy)	MGAS315 (spyM3_)	MGAS8232 (spyM18_)		
A. Genes containing LPXTG motif in C-terminal						
Fibronectin binding protein (F2-like)	0106	-	0104	0132	LPATG	yes
Fibronectin binding protein (Fba)	-	2009	-	-	LPSTG	yes
Putative glutamine-binding periplasmic protein	0209	0277	0203	0264	LPATG	yes
Hypothetical protein	0712	1494	1150	1512	LPQTG	yes
GRAB precursor	0828	1357	1032	1369	LPTTG	yes
SclB protein	0939	1054	0738	1029	LPATG	no
Conserved hypothetical protein	1035	1190	0835	1140	LPTTG	yes
Putative lysyl-aminopeptidase; aminopeptidase N	1075	1239	0875	1188	LPETG	no
Putative extracellular hyaluronate lyase	1188	1032	0665	1014	LPHTG	no
Putative secreted 5'-nucleotidase(CSS)	1262	0872	0591	0933	LPITG	yes
Hypothetical protein	1285	0843	0569	0903	LPRTG	yes
Conserved hypothetical protein	1365	0747	0489	0808	LPKTG	no
Putative pullulanase	1696	1972	1694	2038	LPATG	yes
Putative collagen-like surface protein	(1703) ²	1983	(1702) ²	2046	LPATG	no
Putative PTS system, enzyme IIA component	1708	1986	1708	2050	LPITG	yes
M protein	1725	2018	1727	2076	LPSTG	yes
Conserved hypothetical protein	1857	2211	1861	2250	LPQTG	yes
B. Genes containing tripartite motif in C-terminal³						
Hypothetical protein	0104	0130	0102	0130	LPLAGE	yes
Putative putative DNA-directed DNA polymerase I	0149	0185	0145	0184	LPLANV	no
Conserved hypothetical protein	0564	1604	1297	1611	LPDNT	no
Putative cell envelope proteinase	1559	0416	0298	0464	LPSAGE	no
C5a peptidase precursor	1724	2010	1726	2074	LPTTND	yes
Putative transaldolase-like protein	1746	2048	1748	2109	LPLAGV	no

¹Signal sequences were predicted by PSORT and SOSUI/SOUSUI signal (see METHODS)

²ORF number in parenthesis indicates a disrupted ORF with frameshift mutation.

³First 6 characters of motifs were shown in this Table. Tripartite motif are retrieved based on the information from Janulczyk and Rasmussen (31).