

Table S1. Proteins not represented on the proteome array

ORF ID	Accession	JCVI main role annotation	COG	Signal peptide prediction	Number of TM domains	Sub-cellular localization
LIC10889	YP_000866.1	Cell envelope	M	No	1	Unknown
LIC11008	YP_000981.1	Protein fate	M	No	2	Cytoplasmic
LIC11109	YP_001079.1	Unclassified	-	No	0	OuterMembrane
LIC11352	YP_001316.1	Unclassified	-	Yes	1	Unknown
LIC11364	YP_001328.1	Energy metabolism	R	No	0	Cytoplasmic
LIC11885	YP_001834.1	Cell envelope	-	Yes	0	Unknown
LIC12227	YP_002162.1	Purines, pyrimidines, nucleosides, and nucleotides	-	Yes	0	Unknown
LIC12322	YP_002256.1	Energy metabolism	I	No	0	Cytoplasmic
LIC13131	YP_003039.1	Hypothetical proteins	-	Yes	0	Unknown
LIC20250	YP_003634.1	Cell envelope	M	No	1	OuterMembrane
LIC20254	YP_003638.1	Regulatory functions	TK	No	0	Cytoplasmic
LIC10415	YP_000401.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC20044	YP_003436.1	Protein fate	O	No	0	Cytoplasmic
LIC13136	YP_003044.1	Fatty acid and phospholipid metabolism	I	No	0	Cytoplasmic
LIC11791	YP_001743.1	DNA metabolism	KL	No	0	Cytoplasmic
LIC10772	YP_000752.1	Hypothetical proteins	-	Yes	1	Unknown
LIC10037	YP_000037.1	Central intermediary metabolism	E	No	0	Unknown
LIC11499	YP_001460.1	Hypothetical proteins	-	No	0	Unknown
LIC11898	YP_001847.1	Energy metabolism	C	No	0	Cytoplasmic
LIC10958	YP_000932.1	Energy metabolism	CR	No	0	Cytoplasmic
LIC11620	YP_001578.1	DNA metabolism	L	No	0	Cytoplasmic
LIC11707	YP_001659.1	Energy metabolism	G	No	0	Cytoplasmic
LIC10838	YP_000815.1	Energy metabolism	R	No	0	Cytoplasmic
LIC12414	YP_002345.1	Hypothetical proteins	-	No	0	Unknown

LIC12958	YP_002871.1	Hypothetical proteins	-	No	0	Unknown
LIC11423	YP_001385.1	Transcription	R	No	0	Unknown
LIC12744	YP_002664.1	Energy metabolism	C	No	0	Cytoplasmic
LIC12251	YP_002186.1	Biosynthesis of cofactors, prosthetic groups, and carriers	H	No	0	Cytoplasmic
LIC13194	YP_003102.1	Energy metabolism	E	No	0	Unknown
LIC11500	YP_001461.1	Protein fate	J	No	0	Cytoplasmic
LIC10712	YP_000696.1	Energy metabolism	C	No	1	Unknown
LIC11851	YP_001800.1	Protein synthesis	-	Yes	1	OuterMembrane
LIC12679	YP_002601.1	Biosynthesis of cofactors, prosthetic groups, and carriers	H	No	0	Cytoplasmic
LIC11854	YP_001803.1	Cell envelope	R	No	0	Cytoplasmic
LIC11989	YP_001928.1	Unclassified	G	Yes	1	Unknown
LIC10163	YP_000155.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC10241	YP_000232.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC11514	YP_001473.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC12331	YP_002263.1	Energy metabolism	G	Yes	0	Cytoplasmic
LIC12675	YP_002597.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC13261	YP_003168.1	Cell envelope	R	No	0	Cytoplasmic
LIC20156	YP_003547.1	Unclassified	S	No	0	Unknown
LIC11134	YP_001104.2	Central intermediary metabolism	BQ	No	0	Cytoplasmic
LIC10434	YP_000419.1	Hypothetical proteins	-	Yes	0	Unknown
LIC10723	YP_000707.1	Cellular processes	N	No	0	Periplasmic
LIC11062	YP_001032.1	Central intermediary metabolism	-	No	0	Cytoplasmic
LIC20192	YP_003583.1	Unclassified	R	Yes	0	Extracellular
LIC11433	YP_001395.1	Regulatory functions	T	No	0	Cytoplasmic
LIC13032	YP_002945.1	Hypothetical proteins	-	No	1	Unknown
LIC12646	YP_002569.1	Protein fate	M	No	1	CytoplasmicMembrane
LIC10298	YP_000288.1	Cellular processes	N	No	0	Periplasmic
LIC12993	YP_002906.1	Hypothetical proteins	-	Yes	1	CytoplasmicMembrane

LIC10021	YP_000021.1	Cell envelope	-	Yes	0	Unknown
LIC10137	YP_000133.1	Unclassified	O	No	0	Unknown
LIC10417	YP_000403.1	Hypothetical proteins	-	No	0	Unknown
LIC10774	YP_000754.1	Cell envelope	-	Yes	0	Unknown
LIC10784	YP_000763.1	No Data	-	No	0	Unknown
LIC10785	YP_000764.1	Mobile and extrachromosomal element functions	L	No	0	Unknown
LIC10865	YP_000842.1	Unclassified	S	Yes	1	Unknown
LIC11033	YP_001003.1	Hypothetical proteins	-	No	1	Unknown
LIC11225	YP_001194.1	No Data	-	No	0	Unknown
LIC11242	YP_001211.1	Energy metabolism	C	No	0	Cytoplasmic
LIC11305	YP_001271.1	Hypothetical proteins	H	No	0	Cytoplasmic
LIC11306	YP_001272.1	Hypothetical proteins	S	No	1	Unknown
LIC11321	YP_001287.1	Hypothetical proteins	-	Yes	1	Unknown
LIC11382	YP_001346.1	Hypothetical proteins	-	No	0	Unknown
LIC11432	YP_001394.1	Regulatory functions	T	No	0	CytoplasmicMembrane
LIC11587	YP_001546.1	Purines, pyrimidines, nucleosides, and nucleotides	F	No	0	Cytoplasmic
LIC11690	YP_001642.1	Hypothetical proteins	-	Yes	1	Unknown
LIC11760	YP_001712.1	Protein synthesis	J	No	0	Cytoplasmic
LIC11995	YP_001934.1	Hypothetical proteins	-	No	0	Unknown
LIC12111	YP_002045.2	Protein synthesis	J	No	0	Cytoplasmic
LIC12159	YP_002094.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC12249	YP_002184.1	Hypothetical proteins	-	No	1	Cytoplasmic
LIC12385	YP_002317.1	No Data	-	No	1	Unknown
LIC12525	YP_002453.1	Cell envelope	-	Yes	0	Unknown
LIC12558	YP_002485.1	Cell envelope	-	Yes	0	Unknown
LIC12637	YP_002560.1	Protein synthesis	J	No	0	Cytoplasmic
LIC12839	YP_002755.1	Purines, pyrimidines, nucleosides, and nucleotides	F	No	0	Cytoplasmic
LIC12855	YP_002771.1	Protein synthesis	J	No	0	Unknown

LIC12860	YP_002776.1	No Data	J	No	0	Cytoplasmic
LIC12865	YP_002781.1	Protein synthesis	-	No	0	Unknown
LIC13013	YP_002926.1	No Data	-	No	0	Unknown
LIC13034	YP_002947.1	No Data	-	No	0	Unknown
LIC13109	YP_003018.1	Hypothetical proteins	R	No	0	Cytoplasmic
LIC13163	YP_003071.1	Biosynthesis of cofactors, prosthetic groups, and carriers	H	No	0	Cytoplasmic
LIC13182	YP_003090.1	Energy metabolism	C	No	0	Cytoplasmic
LIC13221	YP_003129.1	Energy metabolism	O	No	0	Cytoplasmic
LIC13391	YP_003294.1	No Data	-	No	0	Unknown
LIC13422	YP_003325.1	Energy metabolism	CP	No	12	CytoplasmicMembrane
LIC14000	YP_003858659.1		-	No	0	Unknown
LIC20065	YP_003457.1	Fatty acid and phospholipid metabolism	IQ	No	0	Cytoplasmic
LIC20263	YP_003647.1	No Data	-	Yes	0	CytoplasmicMembrane
LIC20300	YP_003858670.1		-	No	0	Unknown
LIC12693	YP_002614.1	Cell envelope	MU	Yes	0	Unknown
LIC13301	YP_003206.1	Fatty acid and phospholipid metabolism	I	No	0	Unknown
LIC10583	YP_000567.1	Fatty acid and phospholipid metabolism	I	No	0	Cytoplasmic
LIC13009	YP_002922.1	Fatty acid and phospholipid metabolism	I	No	0	Cytoplasmic
LIC10445	YP_000430.1	Central intermediary metabolism	M	No	0	Cytoplasmic
LIC11571	YP_001530.1	Protein fate	NU	No	0	Cytoplasmic
LIC20175	YP_003566.1	Protein fate	T	No	0	Cytoplasmic
LIC12026	YP_001964.1	Biosynthesis of cofactors, prosthetic groups, and carriers	H	No	0	Cytoplasmic
LIC12535	YP_002463.1	Biosynthesis of cofactors, prosthetic groups, and carriers	H	No	0	Cytoplasmic
LIC11602	YP_001560.1	Unclassified	G	No	0	Unknown
LIC13020	YP_002933.2	Hypothetical proteins	-	No	0	Cytoplasmic
LIC10641	YP_000625.1	Fatty acid and phospholipid metabolism	T	No	0	CytoplasmicMembrane
LIC20259	YP_003643.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC10485	YP_000469.1	Unclassified	-	No	0	Cytoplasmic

LIC13110	YP_003019.1	Regulatory functions	T	No	0	CytoplasmicMembrane
LIC12700	YP_002621.1	Protein fate	R	No	0	Unknown
LIC12163	YP_002098.1	Purines, pyrimidines, nucleosides, and nucleotides	O	No	0	Cytoplasmic
LIC12785	YP_002702.1	Unknown function	R	No	0	Cytoplasmic
LIC12302	YP_002236.1	Protein fate	O	No	0	Extracellular
LIC13280	YP_003187.1	Unknown function	I	No	0	Unknown
LIC10668	YP_000652.1	Unclassified	V	No	0	Cytoplasmic
LIC13457	YP_003360.1	Hypothetical proteins	-	No	3	CytoplasmicMembrane
LIC10561	YP_000545.1	Hypothetical proteins	-	Yes	0	Extracellular
LIC11773	YP_001725.1	Amino acid biosynthesis	E	No	0	Cytoplasmic
LIC10376	YP_000362.1	Hypothetical proteins	R	No	3	CytoplasmicMembrane
LIC10454	YP_000438.1	Hypothetical proteins	R	No	0	Cytoplasmic
LIC13389	YP_003292.1	DNA metabolism	L	No	3	CytoplasmicMembrane
LIC12428	YP_002359.1	Transport and binding proteins	V	No	0	CytoplasmicMembrane
LIC12692	YP_002613.1	Purines, pyrimidines, nucleosides, and nucleotides	O	No	0	Cytoplasmic
LIC10139	YP_000135.1	Fatty acid and phospholipid metabolism	T	No	0	Cytoplasmic
LIC10154	YP_000147.1	Protein synthesis	J	No	0	Cytoplasmic
LIC10309	YP_000299.1	Energy metabolism	E	No	0	Cytoplasmic
LIC10689	YP_000673.1	Energy metabolism	P	No	0	Cytoplasmic
LIC10767	YP_000747.1	Hypothetical proteins	-	No	0	Unknown
LIC10821	YP_000798.1	Cell envelope	-	Yes	0	Unknown
LIC10882	YP_000859.1	Hypothetical proteins	-	No	0	OuterMembrane
LIC10943	YP_000917.1	Mobile and extrachromosomal element functions	L	No	0	Cytoplasmic
LIC10998	YP_000972.1	Hypothetical proteins	-	No	0	OuterMembrane
LIC11172	YP_001142.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC11215	YP_001184.1	No Data	-	No	0	Unknown
LIC11243	YP_001212.1	Energy metabolism	C	No	0	Cytoplasmic
LIC11502	YP_001463.1	Hypothetical proteins	-	No	0	Unknown

LIC11540	YP_001499.1	Purines, pyrimidines, nucleosides, and nucleotides	F	No	0	Cytoplasmic
LIC11827	YP_001778.1	Protein fate	M	No	0	Cytoplasmic
LIC11867	YP_001816.1	Cell envelope	M	No	0	Cytoplasmic
LIC12234	YP_002169.1	Transport and binding proteins	-	No	0	Extracellular
LIC12462	YP_002390.1	Protein synthesis	J	No	0	Cytoplasmic
LIC12472	YP_002400.1	Central intermediary metabolism	-	No	0	Cytoplasmic
LIC12634	YP_002557.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC12711	YP_002632.1	No Data	E	No	0	Cytoplasmic
LIC12912	YP_002828.1	Mobile and extrachromosomal element functions	-	No	0	Cytoplasmic
LIC12914	YP_002830.1	No Data	L	No	0	Unknown
LIC12970	YP_002883.1	Cellular processes	D	No	0	Cytoplasmic
LIC13148	YP_003056.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC13177	YP_003085.1	DNA metabolism	-	No	0	Cytoplasmic
LIC13252	YP_003159.1	Energy metabolism	C	No	0	Cytoplasmic
LIC13305	YP_003210.1	Cell envelope	-	Yes	0	Unknown
LIC13349	YP_003254.1	Hypothetical proteins	-	No	1	Unknown
LIC13427	YP_003330.1	No Data	T	No	1	Unknown
LIC20180	YP_003571.1	Regulatory functions	T	No	0	CytoplasmicMembrane
LIC12357	YP_002289.1	Unknown function	T	No	0	CytoplasmicMembrane
LIC12616	YP_002539.1	Hypothetical proteins	-	No	0	Unknown
LIC10396	YP_000382.1	Fatty acid and phospholipid metabolism	I	No	0	Cytoplasmic
LIC10522	YP_000506.1	Energy metabolism	R	No	0	Cytoplasmic
LIC20209	YP_003598.1	Fatty acid and phospholipid metabolism	I	No	0	Cytoplasmic
LIC11555	YP_001514.2	Protein synthesis	J	No	0	Cytoplasmic
LIC12551	YP_002478.1	Fatty acid and phospholipid metabolism	I	No	0	Cytoplasmic
LIC12027	YP_001965.1	Fatty acid and phospholipid metabolism	Q	No	0	Cytoplasmic
LIC10538	YP_000522.1	Transport and binding proteins	R	No	0	Cytoplasmic
LIC13219	YP_003127.2	Protein synthesis	J	No	0	Cytoplasmic

LIC12792	YP_002709.1	Central intermediary metabolism	K	No	0	Cytoplasmic
LIC11067	YP_001037.1	Unknown function	M	No	0	Unknown
LIC10344	YP_000334.1	Transcription	T	No	0	Unknown
LIC11741	YP_001693.1	Regulatory functions	R	No	0	Cytoplasmic
LIC10222	YP_000213.1	DNA metabolism	L	No	0	Cytoplasmic
LIC11536	YP_001495.1	Unclassified	M	Yes	0	Unknown
LIC13372	YP_003277.1	Central intermediary metabolism	EH	No	0	Cytoplasmic
LIC12173	YP_002108.1	Cell envelope	M	No	0	Cytoplasmic
LIC13464	YP_003367.1	Protein fate	E	No	0	Unknown
LIC13021	YP_002934.1	Hypothetical proteins	T	No	0	Unknown
LIC10662	YP_000646.1	Hypothetical proteins	-	Yes	1	CytoplasmicMembrane
LIC11811	YP_001762.1	Unclassified	M	No	0	Cytoplasmic
LIC13331	YP_003236.1	Regulatory functions	T	No	0	CytoplasmicMembrane
LIC12268	YP_002203.1	Energy metabolism	C	No	1	Cytoplasmic
LIC13147	YP_003055.1	Protein fate	R	No	0	Cytoplasmic
LIC12371	YP_002303.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC11844	YP_001793.1	Unclassified	O	No	2	Cytoplasmic
LIC10040	YP_000040.1	Cell envelope	M	No	0	Cytoplasmic
LIC10068	YP_000068.1	Hypothetical proteins	-	No	0	Unknown
LIC12600	YP_002523.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC10678	YP_000662.1	Regulatory functions	TK	No	0	Cytoplasmic
LIC13077	YP_002989.1	Hypothetical proteins	R	No	0	Cytoplasmic
LIC11311	YP_001277.1	Unclassified	I	No	0	Unknown
LIC11421	YP_001383.1	Energy metabolism	P	No	11	CytoplasmicMembrane
LIC12014	YP_001953.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC12298	YP_002232.1	Hypothetical proteins	-	No	0	Unknown
LIC11879	YP_001828.1	Hypothetical proteins	S	No	0	Cytoplasmic
LIC12178	YP_002113.1	Cell envelope	-	Yes	9	CytoplasmicMembrane

LIC13302	YP_003207.1	Hypothetical proteins	-	No	4	CytoplasmicMembrane
LIC12097	YP_002031.1	Regulatory functions	T	No	0	CytoplasmicMembrane
LIC12539	YP_002467.1	Hypothetical proteins	-	Yes	1	Extracellular
LIC10323	YP_000313.1	Energy metabolism	G	No	0	Cytoplasmic
LIC11045	YP_001015.1	Regulatory functions	T	No	0	Cytoplasmic
LIC11390	YP_001353.1	Cellular processes	NUO	No	0	Cytoplasmic
LIC11624	YP_001582.1	DNA metabolism	L	No	0	Cytoplasmic
LIC10051	YP_000051.1	Biosynthesis of cofactors, prosthetic groups, and carriers	H	No	0	Cytoplasmic
LIC20222	YP_003611.1	Hypothetical proteins	R	No	0	Cytoplasmic
LIC10950	YP_000924.1	Regulatory functions	TK	No	0	Cytoplasmic
LIC13218	YP_003126.1	Unclassified	R	No	0	Cytoplasmic
LIC10161	YP_000153.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC10227	YP_000218.1	Hypothetical proteins	S	No	0	Cytoplasmic
LIC13118	YP_003027.1	Cell envelope	M	No	0	Cytoplasmic
LIC10529	YP_000513.1	Unclassified	S	No	0	Cytoplasmic
LIC11748	YP_001700.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC12019	YP_001957.1	Transcription	KL	No	0	Cytoplasmic
LIC10200	YP_000191.1	Protein fate	M	No	0	Cytoplasmic
LIC10131	YP_000127.1	Protein synthesis	D	No	0	Cytoplasmic
LIC10189	YP_000180.1	Hypothetical proteins	-	No	0	Unknown
LIC10083	YP_000082.1	Hypothetical proteins	-	No	3	CytoplasmicMembrane
LIC10217	YP_000208.1	No Data	-	No	2	CytoplasmicMembrane
LIC10255	YP_000246.1	Protein fate	O	No	0	Cytoplasmic
LIC10448	YP_000432.1	Protein synthesis	J	No	0	Cytoplasmic
LIC10563	YP_000547.1	Unclassified	R	No	1	CytoplasmicMembrane
LIC10639	YP_000623.1	Hypothetical proteins	-	Yes	0	Extracellular
LIC10688	YP_000672.1	Energy metabolism	-	No	3	CytoplasmicMembrane
LIC10762	YP_000742.1	Protein synthesis	J	No	0	Cytoplasmic

LIC10807	YP_000784.1	Central intermediary metabolism	O	No	0	Cytoplasmic
LIC10867	YP_000844.1	Hypothetical proteins	-	No	0	Unknown
LIC10917	YP_000892.1	Hypothetical proteins	-	No	0	Unknown
LIC10955	YP_000929.1	Biosynthesis of cofactors, prosthetic groups, and carriers	I	No	0	Cytoplasmic
LIC11002	YP_000975.1	Mobile and extrachromosomal element functions	-	No	0	Unknown
LIC11126	YP_001096.1	Unknown function	T	No	0	Cytoplasmic
LIC11178	YP_001148.1	Hypothetical proteins	-	Yes	0	Cytoplasmic
LIC11226	YP_001195.1	Hypothetical proteins	-	No	4	CytoplasmicMembrane
LIC11269	YP_001238.1	No Data	-	No	0	Unknown
LIC11308	YP_001274.1	Amino acid biosynthesis	E	No	0	Cytoplasmic
LIC11322	YP_001288.1	Hypothetical proteins	-	No	0	Unknown
LIC11323	YP_001289.1	DNA metabolism	-	No	0	Unknown
LIC11339	YP_001303.1	DNA metabolism	L	No	0	Cytoplasmic
LIC11497	YP_001458.1	Central intermediary metabolism		No	0	Cytoplasmic
LIC11717	YP_001669.1	DNA metabolism	L	No	0	Cytoplasmic
LIC11746	YP_001698.1	Amino acid biosynthesis	E	No	0	Cytoplasmic
LIC11774	YP_001726.1	DNA metabolism	L	No	0	Cytoplasmic
LIC12335	YP_002267.1	Purines, pyrimidines, nucleosides, and nucleotides	E	No	0	Cytoplasmic
LIC12370	YP_002302.1	Transcription	-	No	0	Unknown
LIC12386	YP_002318.1	Unclassified	GER	No	10	CytoplasmicMembrane
LIC12406	YP_002338.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC12417	YP_002348.1	Unknown function	R	No	0	Cytoplasmic
LIC12461	YP_002389.1	Protein synthesis	J	No	0	Cytoplasmic
LIC12650	YP_002573.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC12670	YP_002592.1	Unclassified	T	No	2	CytoplasmicMembrane
LIC12688	YP_002609.1	DNA metabolism	L	No	0	Cytoplasmic
LIC12697	YP_002618.1	Hypothetical proteins	-	No	0	Unknown
LIC12750	YP_002670.1	Energy metabolism	CP	No	15	CytoplasmicMembrane

LIC12752	YP_002672.1	Energy metabolism	C	No	11	CytoplasmicMembrane
LIC12753	YP_002673.1	Hypothetical proteins	-	No	0	Unknown
LIC12784	YP_002701.1	Cell envelope	-	No	0	Unknown
LIC12825	YP_002741.1	Unclassified	E	No	0	Unknown
LIC12869	YP_002785.1	Protein synthesis	J	No	0	Cytoplasmic
LIC13081	YP_002993.1	Hypothetical proteins	-	No	0	Unknown
LIC13129	YP_003037.1	Protein synthesis	J	No	0	Cytoplasmic
LIC13291	YP_003198.1	Central intermediary metabolism	R	No	1	Unknown
LIC13304	YP_003209.1	Hypothetical proteins	-	No	0	Unknown
LIC13317	YP_003222.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC13320	YP_003225.1	Protein fate	E	No	0	Extracellular
LIC13322	YP_003227.1	Protein fate	E	Yes	0	Extracellular
LIC13430	YP_003333.1	Unclassified	G	No	0	Cytoplasmic
LIC13468	YP_003370.1	Hypothetical proteins	-	No	0	Unknown
LIC14005	YP_003858660.1		-	No	0	Unknown
LIC20255	YP_003639.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC10382	YP_000368.1	Fatty acid and phospholipid metabolism	I	No	0	Cytoplasmic
LIC10543	YP_000527.1	Fatty acid and phospholipid metabolism	I	No	0	Cytoplasmic
LIC11173	YP_001143.1	Unknown function	L	No	0	Cytoplasmic
LIC12505	YP_002433.1	Regulatory functions	T	No	0	CytoplasmicMembrane
LIC12762	YP_002682.1	Hypothetical proteins	T	No	0	Cytoplasmic
LIC20198	YP_003587.1	Hypothetical proteins	T	No	0	Cytoplasmic
LIC11257	YP_001226.1	Central intermediary metabolism	FP	No	0	Cytoplasmic
LIC12350	YP_002282.1	Protein synthesis	J	No	0	Cytoplasmic
LIC13448	YP_003351.1	Regulatory functions	T	No	0	Unknown
LIC10174	YP_000166.1	Hypothetical proteins	-	No	0	Unknown
LIC10896	YP_000873.1	Transport and binding proteins	P	Yes	0	OuterMembrane
LIC20009	YP_003401.1	Biosynthesis of cofactors, prosthetic groups, and carriers	H	No	0	Cytoplasmic

LIC12701	YP_002622.1	Transcription	J	No	0	Cytoplasmic
LIC12421	YP_002352.1	Hypothetical proteins	R	No	0	Cytoplasmic
LIC12205	YP_002140.1	Unclassified	MG	No	0	Cytoplasmic
LIC11483	YP_001444.1	Unknown function	L	No	0	Cytoplasmic
LIC20088	YP_003480.1	Unclassified	G	No	0	Cytoplasmic
LIC10151	YP_000145.1	Hypothetical proteins	-	No	2	Cytoplasmic
LIC12536	YP_002464.1	Unclassified	H	No	0	Cytoplasmic
LIC10350	YP_000339.1	Hypothetical proteins	T	No	0	Unknown
LIC12413	YP_002344.1	Unclassified	S	No	0	Unknown
LIC20265	YP_003649.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC13308	YP_003213.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC10322	YP_000312.1	Hypothetical proteins	-	No	2	Cytoplasmic
LIC10457	YP_000441.1	Hypothetical proteins	-	No	0	Cytoplasmic
LIC10556	YP_000540.1	Hypothetical proteins	-	No	0	Unknown
LIC11034	YP_001004.1	Hypothetical proteins	-	No	0	Unknown
LIC11246	YP_001215.1	Central intermediary metabolism	R	No	0	Extracellular
LIC11248	YP_001217.1	Energy metabolism	M	No	11	CytoplasmicMembrane
LIC11453	YP_001414.1	Amino acid biosynthesis	E	No	0	Cytoplasmic
LIC11460	YP_001421.1	Protein synthesis	J	No	0	Cytoplasmic
LIC11558	YP_001517.1	Protein synthesis	J	No	0	Cytoplasmic
LIC11647	YP_001605.1	Protein synthesis	J	No	0	Cytoplasmic
LIC11655	YP_001611.1	Purines, pyrimidines, nucleosides, and nucleotides	F	No	0	Cytoplasmic
LIC11869	YP_001818.1	Unknown function	M	No	0	Cytoplasmic
LIC12025	YP_001963.1	Protein synthesis	J	No	0	Cytoplasmic
LIC12562	YP_002489.1	Energy metabolism	PR	No	0	Cytoplasmic
LIC13404	YP_003307.1	Unclassified	I	No	0	Cytoplasmic
LIC20055	YP_003447.1	Hypothetical proteins	S	No	0	Cytoplasmic
LIC20110	YP_003502.1	Hypothetical proteins	-	Yes	1	Unknown

LIC10464	YP_000448.1	Unknown function	N	Yes	1	Unknown
LIC10465	YP_000449.1	Unknown function	-	Yes	0	Unknown
LIC11739	YP_001691.1	Hypothetical proteins	R	No	0	Unknown
LIC11026	YP_000996.1	Hypothetical proteins	-	No	1	OuterMembrane
LIC12602	YP_002525.1	Hypothetical proteins	-	No	0	Unknown
LIC11755	YP_001707.1	Hypothetical proteins	-	No	0	OuterMembrane
LIC12048	YP_001983.1	Hypothetical proteins	-	No	1	OuterMembrane

Table S2. COG enrichment

COG	Definition	Proteins on chip	IgM			IgG				
			Hits	FoldEnrich	p-value	Hits	FoldEnrich	p-value		
A	RNA processing and modification	0	0	0.0	1.00E+00	0	0.0	1.00E+00		
B	Chromatin structure and dynamics	2	0	0.0	1.00E+00	0	0.0	1.00E+00		
C	Energy production and conversion	119	3	0.8	1.00E+00	1	0.2	1.30E-01		
D	Cell division and chromosome partitioning	22	3	*	4.4	2.95E-02	1	1.3	5.55E-01	
E	Amino acid transport and metabolism	152	1	0.2	9.08E-02	0	**	0.0	6.29E-03	
F	Nucleotide transport and metabolism	49	1	0.7	1.00E+00	0	0.0	4.22E-01		
G	Carbohydrate transport and metabolism	93	1	0.3	3.69E-01	1	0.3	2.61E-01		
H	coenzyme metabolism	122	2	0.5	5.90E-01	3	0.7	8.02E-01		
I	Lipid metabolism	103	1	0.3	3.78E-01	0	0.0	5.27E-02		
J	Translation, ribosomal structure and biogenesis	148	2	0.4	3.29E-01	1	0.2	6.59E-02		
K	Transcription	110	2	0.6	5.84E-01	2	0.5	4.38E-01		
L	DNA replication, recombination and repair	135	1	0.2	1.29E-01	1	0.2	9.32E-02		
M	Cell envelope biogenesis, outer membrane	217	5	0.7	6.85E-01	8	1.0	8.52E-01		
N	Cell motility and secretion	90	12	*	4.3	1.69E-05	12	*	3.7	7.32E-05
O	Posttranslational modification, protein turnover, chaperones	103	5	1.6	2.53E-01	4	1.1	7.87E-01		
P	Inorganic ion transport and metabolism	91	0	0.0	1.17E-01	2	0.6	7.73E-01		
Q	Secondary metabolites biosynthesis, transport and catabolism	28	0	0.0	1.00E+00	0	0.0	6.24E-01		
R	General function prediction only	302	5	0.5	1.65E-01	5	0.5	7.42E-02		
S	Function unknown	198	5	0.8	8.33E-01	13	*	1.8	2.99E-02	
T	Signal transduction mechanisms	220	5	0.7	6.87E-01	5	0.6	3.52E-01		
U	Intracellular trafficking and secretion	73	13	*	5.7	2.41E-07	13	*	4.9	1.33E-06
V	Defense mechanisms	38	1	0.8	1.00E+00	5	*	3.7	1.09E-02	
W	Extracellular Structure	0	0	0.0	1.00E+00	0	0.0	1.00E+00		

Y	Nuclear structure	0	0	0.0	1.00E+00	0	0.0	1.00E+00
Z	Cytoskeleton	1	0	0.0	1.00E+00	0	0.0	1.00E+00
	Not in COGs	1469	53	1.2	1.82E-01	62	1.2	7.64E-02
Total ORFs		3885	121			140		
	True positive rate	-		0.231			0.309	
	True negative rate	-		0.958			0.905	
	Positive predictive value	-		0.151			0.108	
	Negative predictive value	-		0.975			0.973	

*Enriched category. **Under represented category.

NOTE: Proteins may be included in more than one category.

Table S3. JCVI mainrole enrichment

JCVI mainrole	Proteins on chip	IgM			IgG			
		Hits	FoldEnrich	p-value	Hits	FoldEnrich	p-value	
Amino acid biosynthesis	78	0	0.0	1.74E-01	0	0.0	1.14E-01	
Biosynthesis of cofactors, prosthetic groups, and carriers	92	0	0.0	1.15E-01	1	0.3	3.79E-01	
Cell envelope	322	21	*	2.2	4.61E-04	26	* 2.3	3.99E-05
Cellular processes	145	16	*	3.7	4.29E-06	15	* 2.9	1.32E-04
Central intermediary metabolism	74	2		0.9	1.00E+00	2	0.8	1.00E+00
Disrupted reading frame	0	0		0.0	1.00E+00	0	0.0	1.00E+00
DNA metabolism	91	1		0.4	5.25E-01	1	0.3	3.77E-01
Energy metabolism	228	2	**	0.3	6.63E-02	3	0.4	6.27E-02
Fatty acid and phospholipid metabolism	100	2		0.7	7.69E-01	1	0.3	2.64E-01
Gene/protein expression	0	0		0.0	1.00E+00	0	0.0	1.00E+00
Hypothetical proteins	1118	25		0.7	9.10E-02	38	1.0	8.46E-01
Hypothetical proteins - Conserved	0	0		0.0	1.00E+00	0	0.0	1.00E+00
Metabolism	0	0		0.0	1.00E+00	0	0.0	1.00E+00
Mobile and extrachromosomal element functions	60	0		0.0	2.63E-01	0	0.0	2.73E-01
Pathogen responses	0	0		0.0	1.00E+00	0	0.0	1.00E+00
Protein fate	137	11	*	2.7	2.32E-03	9	1.9	5.66E-02
Protein synthesis	169	7		1.4	3.51E-01	5	0.8	8.33E-01
Purines, pyrimidines, nucleosides, and nucleotides	62	1		0.5	1.00E+00	0	0.0	1.72E-01
Regulatory functions	192	3		0.5	3.78E-01	2	0.3	6.60E-02
Signal transduction	0	0		0.0	1.00E+00	0	0.0	1.00E+00
Transcription	61	1		0.5	1.00E+00	1	0.5	7.24E-01
Transport and binding proteins	136	6		1.5	3.00E-01	5	1.0	8.13E-01
Unclassified	303	7		0.8	5.97E-01	11	1.0	8.70E-01

Unknown function	137	4	1.0	1.00E+00	7	1.5	3.36E-01
Viral functions	0	0	0.0	1.00E+00	0	0.0	1.00E+00
Not annotated	138	0	0.0	3.51E-02	1	0.2	9.24E-02
Total	3643	109			128		
True positive rate	-		0.44			0.32	
True negative rate	-		0.836			0.879	
Positive predictive value	-		0.079			0.088	
Negative predictive value	-		0.979			0.973	

*Enriched category. **Under represented category.

Table S4. Transmembrane domain enrichment

Transmembrane domains	Proteins on chip	IgM			IgG				
		Hits	FoldEnrich	p-value	Hits	FoldEnrich	p-value		
0	2644	60	**	0.8	8.21E-05	61	**	0.4	1.50E-09
1	492	30	*	2.0	8.67E-05	39	*	1.7	4.44E-07
>1	531	19		1.2	4.08E-01	29	**	0.3	1.47E-02
Total	3667	109				129			
True positive rate	-			0.275				0.302	
True negative rate	-			0.975				0.972	
Positive predictive value	-			0.275				0.302	
Negative predictive value	-			0.975				0.972	

*Enriched category. **Under represented category.

Table S5. Signal peptide enrichment

Signal Peptide	Proteins on chip	IgM			IgG				
		Hits	FoldEnrich	p-value	Hits	FoldEnrich	p-value		
Score ≥ 0.7	562	38	*	2.3	5.00E-07	47	*	2.4	1.92E-09
Score < 0.7	3105	72	**	0.8	5.00E-07	82	**	0.8	1.92E-09
Total	3667	109				129			
True positive rate	-			0.345				0.364	
True negative rate	-			0.977				0.974	
Positive predictive value	-			0.345				0.364	
Negative predictive value	-			0.977				0.974	

*Enriched category. **Under represented category.

Table S6. Sub-cellular localization enrichment

Sub-cellular localization	Proteins on chip	IgM			IgG				
		Hits	FoldEnrich	p-value	Hits	FoldEnrich	p-value		
Cytoplasmic	1675	38	**	0.8	1.94E-02	35	**	0.6	1.31E-05
Cytoplasmic Membrane	665	24		1.2	3.15E-01	29		1.2	2.00E-01
Extracellular	63	3		1.6	4.37E-01	6	*	2.7	2.22E-02
Outer Membrane	62	6	*	3.2	9.97E-03	9	*	4.1	2.61E-04
Periplasmic	29	0		0	1.00E+00	0		0	6.24E-01
Unknown	1173	38		1.1	6.04E-01	50		1.2	1.02E-01
Total	3667	109				129			
True positive rate	-			0.055				0.116	
True negative rate	-			0.971				0.969	
Positive predictive value	-			0.055				0.12	
Negative predictive value	-			0.971				0.968	

*Enriched category. **Under represented category.