

Table 3. Gene content of genomic islands

REGION 1.1 [7 sequence(s)]:

2603V/R [111524-118753]

SAG0102	154 aa	conserved hypothetical protein
SAG0103	189 aa	conserved hypothetical protein TIGR01440
SAG0104	280 aa	conserved hypothetical protein
SAG0105	427 aa	trigger factor
SAG0106	191 aa	DNA-directed RNA polymerase, delta subunit, putative
SAG0107	534 aa	CTP synthase
SAG0108	308 aa	conserved hypothetical protein

NEM316 [111556-118785]

gbs0101	154 aa	integral membrane protein
gbs0102	189 aa	conserved hypothetical protein TIGR01440
gbs0103	280 aa	mechanosensitive transport protein
gbs0104	427 aa	trigger factor
gbs0105	176 aa	DNA-directed RNA polymerase delta chain
gbs0106	534 aa	CTP synthase
gbs0107	308 aa	cell surface hydrolase, membrane-bound

A909 [111218-118447]

A909.ORF01962	154 aa	membrane protein, putative
A909.ORF01961	189 aa	conserved hypothetical protein TIGR01440
A909.ORF01960	280 aa	mechanosensitive ion channel family protein
A909.ORF01959	427 aa	trigger factor
A909.ORF01958	191 aa	DNA-directed RNA polymerase, delta subunit
A909.ORF01957	534 aa	CTP synthase
A909.ORF01956	308 aa	conserved hypothetical protein

515 [103127-110244]

515.ORF00119	154 aa	Unknown
515.ORF00120	189 aa	conserved hypothetical protein TIGR01440
515.ORF00121	280 aa	Mechanosensitive ion channel family
515.ORF00122	427 aa	trigger factor
515.ORF00123	62 aa	delta subunit RNA polymerase
515.ORF00124	88 aa	delta subunit RNA polymerase
515.ORF00125	50 aa	CTP synthase [imported]
515.ORF00126	443 aa	CTP synthase
515.ORF00127	44 aa	CTP synthase
515.ORF00128	308 aa	Unknown

CJB111 [85168-92181]

CJB111.ORF00093	154 aa	conserved hypothetical protein
CJB111.ORF00094	189 aa	conserved hypothetical protein TIGR01440
CJB111.ORF00095	280 aa	Mechanosensitive ion channel family

CJB111.ORF00096	427 aa	trigger factor
CJB111.ORF00097	140 aa	delta subunit RNA polymerase
CJB111.ORF00098	77 aa	delta subunit RNA polymerase
CJB111.ORF00099	534 aa	CTP synthase
CJB111.ORF00100	300 aa	conserved hypothetical protein

COH1 [116302-121476]

COH1.ORF00130	65 aa	BioY family protein
COH1.ORF00131	199 aa	trigger factor
COH1.ORF00132	176 aa	delta subunit RNA polymerase
COH1.ORF00133	534 aa	CTP synthase
COH1.ORF00134	239 aa	Unknown

H36B [106464-114629]

H36B.ORF00110	154 aa	Unknown
H36B.ORF00111	189 aa	conserved hypothetical protein TIGR01440
H36B.ORF00112	280 aa	Mechanosensitive ion channel family
H36B.ORF00113	91 aa	heat-inducible transcription repressor HrcA
H36B.ORF00114	286 aa	trigger factor
H36B.ORF00115	370 aa	trigger factor
H36B.ORF00116	191 aa	delta subunit RNA polymerase
H36B.ORF00117	534 aa	CTP synthase
H36B.ORF00118	308 aa	Unknown

REGION 1.2 [6 sequence(s)]:

2603V/R [231668-244184]

SAG0216	33 aa	hypothetical protein
SAG0217	384 aa	site-specific recombinase, phage integrase family
SAG0218	158 aa	transcriptional regulator, Cro/CI family
SAG0219	101 aa	hypothetical protein
SAG0220	92 aa	conserved hypothetical protein
SAG0221	76 aa	hypothetical protein
SAG0222	108 aa	conserved domain protein
SAG0223	209 aa	conserved hypothetical protein, fusion
SAG0224	332 aa	replication initiation protein, putative
SAG0225	144 aa	hypothetical protein
SAG0226	418 aa	recombination protein
SAG0227	156 aa	hypothetical protein
SAG0228	111 aa	conserved hypothetical protein
SAG0229	95 aa	conserved hypothetical protein
SAG0230	96 aa	conserved hypothetical protein
SAG0231	135 aa	hypothetical protein
SAG0232	186 aa	hypothetical protein
SAG0233	226 aa	hypothetical protein
SAG0234	128 aa	hypothetical protein

SAG0235	93 aa	hypothetical protein	
SAG0236	32 aa	hypothetical protein	
NEM316 [232768-245594]			
gbs0211	384 aa	site-specific recombinase, phage integrase family	
gbs0212	183 aa	Helix-turn-helix domain protein	
gbs0213	97 aa	conserved hypothetical protein	
gbs0214	93 aa	conserved hypothetical protein	
gbs0215	108 aa	Replication initiator protein A (RepA) N-terminus family	
gbs0216	213 aa	conserved hypothetical protein	
gbs0217	208 aa	RepJ	
gbs0218	144 aa	conserved hypothetical protein	
gbs0219	418 aa	recombination protein	
gbs0220	156 aa	conserved hypothetical protein	
gbs0221	111 aa	conserved hypothetical protein	
gbs0222	95 aa	conserved hypothetical protein	
gbs0223	96 aa	a small heat shock protein of Clostridium acetobutylicum	homolog
lmo0056			
gbs0224	135 aa	conserved hypothetical protein	
gbs0225	135 aa	RAD2 endonuclease PFB0265c	
gbs0226	195 aa	conserved hypothetical protein	
gbs0228	128 aa	conserved hypothetical protein	
gbs0229	93 aa	conserved hypothetical protein	
A909 [241218-253571]			
A909.ORF01840	384 aa	site-specific recombinase, phage integrase family	
A909.ORF01839	183 aa	DNA-binding protein	
A909.ORF01838	97 aa	hypothetical protein	
A909.ORF01837	93 aa	conserved hypothetical protein	
A909.ORF01836	108 aa	replication initiation factor, RepA family	
A909.ORF01835	213 aa	conserved domain protein	
A909.ORF01834	291 aa	replication initiation factor family protein	
A909.ORF01833	144 aa	hypothetical protein	
A909.ORF01832	418 aa	plasmid recombination enzyme	
A909.ORF01831	156 aa	hypothetical protein	
A909.ORF01830	111 aa	RelE/ParE family protein	
A909.ORF01829	95 aa	conserved hypothetical protein	
A909.ORF01828	96 aa	conserved hypothetical protein	
A909.ORF02143	135 aa	hypothetical protein	
A909.ORF01827	186 aa	hypothetical protein	
A909.ORF01826	226 aa	conserved hypothetical protein, truncation	
A909.ORF01825	128 aa	hypothetical protein	
A909.ORF01824	93 aa	hypothetical protein	
A909.ORF01823	32 aa	hypothetical protein	
CJB111 [204882-222292]			

CJB111.ORF00215	384 aa	site-specific recombinase, phage integrase family
CJB111.ORF00216	196 aa	transcriptional regulator, Cro/CI family
CJB111.ORF00217	101 aa	conserved hypothetical protein
CJB111.ORF00218	92 aa	conserved hypothetical protein
CJB111.ORF00219	76 aa	conserved hypothetical protein
CJB111.ORF00220	108 aa	conserved hypothetical protein
CJB111.ORF00221	209 aa	conserved hypothetical protein
CJB111.ORF00222	332 aa	replication initiation protein, putative
CJB111.ORF00223	144 aa	conserved hypothetical protein
CJB111.ORFA00217	53 aa	hypothetical protein
CJB111.ORF00224	418 aa	recombination protein
CJB111.ORF00225	156 aa	conserved hypothetical protein
CJB111.ORF00226	111 aa	conserved hypothetical protein
CJB111.ORF00227	95 aa	conserved hypothetical protein
CJB111.ORF00228	484 aa	adenine specific DNA methyltransferase (mod)
CJB111.ORF00229	902 aa	restriction enzyme LlaFI
CJB111.ORF00230	96 aa	conserved hypothetical protein
CJB111.ORF00231	142 aa	conserved hypothetical protein
CJB111.ORF00232	58 aa	conserved hypothetical protein
CJB111.ORF00233	121 aa	conserved hypothetical protein
CJB111.ORF00234	226 aa	conserved hypothetical protein
CJB111.ORF00235	128 aa	conserved hypothetical protein
CJB111.ORF00236	93 aa	conserved hypothetical protein
CJB111.ORF00237	32 aa	conserved hypothetical protein

H36B [208398-220750]

H36B.ORF00218	384 aa	site-specific recombinase, phage integrase family
H36B.ORF00219	183 aa	Unknown
H36B.ORF00220	97 aa	Unknown
H36B.ORF00221	93 aa	Unknown
H36B.ORF00222	108 aa	Unknown
H36B.ORF00223	213 aa	Unknown
H36B.ORF00224	291 aa	replication initiation protein, putative
H36B.ORF00225	144 aa	conserved hypothetical protein
H36B.ORF00226	418 aa	recombination protein
H36B.ORF00227	156 aa	conserved hypothetical protein
H36B.ORF00228	111 aa	conserved hypothetical protein
H36B.ORF00229	95 aa	conserved hypothetical protein
H36B.ORF00230	96 aa	conserved hypothetical protein
H36B.ORF00231	142 aa	conserved hypothetical protein
H36B.ORF00232	186 aa	conserved hypothetical protein
H36B.ORF00233	87 aa	conserved hypothetical protein
H36B.ORF00234	81 aa	conserved hypothetical protein
H36B.ORF00235	128 aa	conserved hypothetical protein

H36B.ORF00236	93 aa	conserved hypothetical protein
H36B.ORF00237	32 aa	conserved hypothetical protein
18RS21 [222344-234698]		
18RS21.ORF00227	384 aa	site-specific recombinase, phage integrase family
18RS21.ORF00228	183 aa	Helix-turn-helix domain protein
18RS21.ORF00229	97 aa	conserved hypothetical protein
18RS21.ORF00230	93 aa	conserved hypothetical protein
18RS21.ORF00231	213 aa	conserved hypothetical protein
18RS21.ORF00232	291 aa	RepJ
18RS21.ORF00233	144 aa	conserved hypothetical protein
18RS21.ORF00234	418 aa	recombination protein
18RS21.ORF00235	156 aa	conserved hypothetical protein
18RS21.ORF00236	111 aa	Plasmid stabilization system protein superfamily
18RS21.ORF00237	95 aa	conserved hypothetical protein
18RS21.ORF00238	96 aa	a small heat shock protein of Clostridium acetobutylicum
homolog lmo0056		
18RS21.ORF00239	135 aa	conserved hypothetical protein
18RS21.ORF00240	186 aa	conserved hypothetical protein
18RS21.ORF00241	226 aa	conserved hypothetical protein
18RS21.ORF00242	128 aa	conserved hypothetical protein
18RS21.ORF00243	93 aa	conserved hypothetical protein
18RS21.ORF00244	32 aa	conserved hypothetical protein

REGION 1.3 [4 sequence(s)]:

2603V/R [249947-261676]

SAG0245	152 aa	protein of unknown function/lipoprotein, putative
SAG0246	268 aa	hypothetical protein
SAG0247	116 aa	hypothetical protein
SAG0248	90 aa	hypothetical protein
SAG0249	116 aa	hypothetical protein
SAG0250	193 aa	membrane protein, putative
SAG0251	72 aa	transcriptional regulator, Cro/CI family

A909 [259334-272624]

A909.ORF01815	496 aa	ISSag8, transposase
A909.ORF01814	152 aa	lipoprotein, putative
A909.ORF01813	544 aa	conserved domain protein
A909.ORF01812	90 aa	hypothetical protein
A909.ORF01811	116 aa	conserved domain protein
A909.ORF01810	193 aa	membrane protein, putative
A909.ORF01809	72 aa	DNA-binding protein

CJB111 [333152-344784]

CJB111.ORF00351	152 aa	protein of unknown function/lipoprotein, putative
CJB111.ORF00352	544 aa	conserved hypothetical protein

CJB111.ORF00353	90 aa	conserved hypothetical protein
CJB111.ORF00354	116 aa	conserved hypothetical protein
CJB111.ORFA00344	32 aa	conserved hypothetical protein
CJB111.ORF00355	193 aa	membrane protein, putative
CJB111.ORF00356	72 aa	transcriptional regulator, Cro/CI family

18RS21 [240461-250474]

18RS21.ORF00252	152 aa	protein of unknown function/lipoprotein, putative
18RS21.ORF00253	544 aa	conserved hypothetical protein
18RS21.ORF00254	90 aa	conserved hypothetical protein
18RS21.ORF00255	116 aa	conserved hypothetical protein
18RS21.ORF00256	32 aa	conserved hypothetical protein
18RS21.ORF00257	209 aa	membrane protein, putative
18RS21.ORF00258	48 aa	DNA-binding protein

REGION 1.4 [2 sequence(s)]:

2603V/R [555272-600189]

SAG0540	91 aa	chorismate mutase, putative
SAG0541	398 aa	voltage-gated chloride channel family protein
SAG0542	127 aa	IS1381, transposase OrfA
SAG0543	129 aa	IS1381, transposase OrfB
SAG0544	115 aa	ribosomal protein L19
SAG0545	359 aa	prophage LambdaSa1, site-specific recombinase, phage integrase family
SAG0546	67 aa	conserved domain protein
SAG0547	185 aa	hypothetical protein
SAG0548	265 aa	prophage LambdaSa1, repressor protein, putative
SAG0549	47 aa	hypothetical protein
SAG0550	74 aa	conserved hypothetical protein
SAG0551	52 aa	conserved hypothetical protein
SAG0552	62 aa	hypothetical protein
SAG0553	268 aa	hypothetical protein
SAG0554	63 aa	prophage LambdaSa1, transcriptional regulator, Cro/CI family
SAG0555	249 aa	prophage LambdaSa1, antirepressor, putative
SAG0556	47 aa	hypothetical protein
SAG0557	76 aa	hypothetical protein
SAG0558	74 aa	hypothetical protein
SAG0559	286 aa	conserved hypothetical protein
SAG0560	77 aa	conserved hypothetical protein
SAG0561	46 aa	hypothetical protein
SAG0562	84 aa	hypothetical protein
SAG0563	53 aa	hypothetical protein
SAG0564	160 aa	conserved hypothetical protein
SAG0565	224 aa	conserved domain protein
SAG0566	138 aa	prophage LambdaSa1, single-strand binding protein

SAG0567	439 aa	prophage LambdaSa1, reverse transcriptase/maturase family protein
SAG0568	67 aa	conserved hypothetical protein
SAG0569	158 aa	conserved hypothetical protein
SAG0570	115 aa	hypothetical protein
SAG0571	43 aa	hypothetical protein
SAG0572	138 aa	conserved hypothetical protein
SAG0573	54 aa	hypothetical protein
SAG0574	89 aa	conserved hypothetical protein
SAG0575	110 aa	hypothetical protein
SAG0576	43 aa	hypothetical protein
SAG0577	177 aa	conserved hypothetical protein
SAG0578	88 aa	conserved hypothetical protein
SAG0579	142 aa	conserved hypothetical protein
SAG0580	111 aa	conserved hypothetical protein, truncation
SAG0581	118 aa	conserved hypothetical protein
SAG0582	422 aa	conserved hypothetical protein
SAG0583	406 aa	conserved hypothetical protein
SAG0584	62 aa	conserved hypothetical protein, truncation
SAG0585	471 aa	conserved hypothetical protein
SAG0586	154 aa	conserved hypothetical protein
SAG0587	300 aa	prophage LambdaSa1, structural protein, putative
SAG0588	71 aa	conserved hypothetical protein
SAG0589	143 aa	conserved hypothetical protein
SAG0590	112 aa	conserved hypothetical protein
SAG0591	78 aa	conserved hypothetical protein
SAG0592	111 aa	conserved hypothetical protein
SAG0593	185 aa	prophage LambdaSa1, structural protein
SAG0594	81 aa	conserved hypothetical protein
SAG0595	123 aa	conserved hypothetical protein
SAG0596	670 aa	prophage LambdaSa1, pblA protein, internal deletion
SAG0597	506 aa	prophage LambdaSa1, minor structural protein, putative
SAG0598	1374 aa	prophage LambdaSa1, N-acetylmuramoyl-L-alanine amidase, family 4
SAG0599	668 aa	prophage LambdaSa1, minor structural protein, putative
SAG0600	109 aa	hypothetical protein
SAG0601	70 aa	hypothetical protein
SAG0602	100 aa	conserved hypothetical protein
SAG0603	111 aa	conserved hypothetical protein
SAG0604	239 aa	prophage LambdaSa1, lysin, putative
SAG0605	323 aa	conserved hypothetical protein
SAG0606	66 aa	conserved hypothetical protein
SAG0607	56 aa	conserved hypothetical protein
SAG0608	59 aa	hypothetical protein

515 [547295-591885]

515.ORF00610	191 aa	DNA polymerase III, epsilon subunit/ATP-dependent helicase DinG
515.ORF00611	91 aa	chorismate mutase
515.ORF00612	142 aa	voltage-gated chloride channel family protein
515.ORF00613	115 aa	ribosomal protein L19
515.ORF00614	330 aa	prophage LambdaSa1, site-specific recombinase, phage integrase family
515.ORF00615	55 aa	hypothetical protein
515.ORF00616	204 aa	hypothetical protein
515.ORFA00586	31 aa	hypothetical protein
515.ORF00617	259 aa	prophage LambdaSa1, repressor protein, putative
515.ORF00618	97 aa	hypothetical protein
515.ORF00619	56 aa	conserved protein-related protein
515.ORF00620	52 aa	conserved hypothetical protein
515.ORF00621	80 aa	hypothetical protein
515.ORF00622	185 aa	hypothetical protein
515.ORF00623	69 aa	conserved hypothetical protein
515.ORF00624	68 aa	transcriptional regulator, Cro/CI family
515.ORF00625	319 aa	conserved hypothetical protein
515.ORF00626	169 aa	hypothetical protein
515.ORF00627	45 aa	hypothetical protein
515.ORF00628	48 aa	hypothetical protein
515.ORF00629	102 aa	hypothetical protein
515.ORF00630	76 aa	conserved hypothetical protein
515.ORF00632	74 aa	conserved hypothetical protein
515.ORF00633	286 aa	phage replisome organizer, putative, N-terminal region domain protein
515.ORF00634	77 aa	conserved hypothetical protein
515.ORF00635	46 aa	conserved hypothetical protein
515.ORF00636	53 aa	conserved hypothetical protein
515.ORF00637	160 aa	Siphovirus Gp157 superfamily
515.ORF00638	222 aa	ERF superfamily family
515.ORF00639	138 aa	prophage LambdaSa1, single-strand binding protein
515.ORF00640	66 aa	conserved hypothetical protein
515.ORF00641	162 aa	Endodeoxyribonuclease RusA superfamily
515.ORF00642	114 aa	conserved hypothetical protein
515.ORF00643	54 aa	conserved hypothetical protein
515.ORF00644	96 aa	conserved hypothetical protein
515.ORF00645	47 aa	hypothetical protein
515.ORF00646	170 aa	conserved hypothetical protein
515.ORF00647	99 aa	hypothetical protein
515.ORF00648	64 aa	hypothetical protein
515.ORF00649	88 aa	conserved hypothetical protein
515.ORF00650	144 aa	transcriptional regulator, ArpU family, putative
515.ORF00651	144 aa	transcriptional regulator, ArpU family, putative
515.ORF00652	258 aa	hypothetical phage protein

515.ORF00653	79 aa	bacteriophage L54a, HNH endonuclease family protein
515.ORF00654	169 aa	conserved hypothetical protein
515.ORF00655	521 aa	phage terminase, large subunit, putative
515.ORF00656	99 aa	hypothetical protein
515.ORF00657	382 aa	phage portal protein, HK97 family
515.ORF00658	243 aa	ClpP protease family protein
515.ORF00659	386 aa	conserved hypothetical protein
515.ORF00660	97 aa	conserved hypothetical protein
515.ORF00661	78 aa	conserved hypothetical protein
515.ORF00662	143 aa	SLT orf 110-like protein
515.ORF00663	116 aa	SLT orf 123-like protein, putative
515.ORF00664	127 aa	SLT orf 131b-like protein, putative
515.ORF00665	201 aa	major tail protein, putative
515.ORF00666	100 aa	conserved hypothetical protein
515.ORF00667	35 aa	conserved hypothetical protein
515.ORF00668	1307 aa	reticulocyte binding protein
515.ORF00669	502 aa	prophage LambdaSa1, minor structural protein, putative
515.ORF00670	1377 aa	reticulocyte binding protein
515.ORF00671	663 aa	prophage LambdaSa1, minor structural protein, putative
515.ORF00672	99 aa	conserved hypothetical protein
515.ORF00673	70 aa	conserved hypothetical protein
515.ORF00674	100 aa	conserved hypothetical protein
515.ORF00675	111 aa	phage holin, LL-H family
515.ORF00676	248 aa	endolysin domain protein
515.ORF00677	323 aa	conserved hypothetical protein
515.ORF00678	66 aa	CsbD-like superfamily
515.ORF00679	67 aa	conserved hypothetical protein

REGION 1.5 [4 sequence(s)]:

2603V/R [624710-631949]

SAG0634	70 aa	hypothetical protein
SAG0635	245 aa	acid phosphatase, class B
SAG0636	172 aa	conserved hypothetical protein
SAG0637	0 aa	transcriptional regulator, TetR family, putative, authentic frameshift
SAG0638	109 aa	cell wall surface anchor family protein, truncation
SAG0639	273 aa	transposase OrfB, IS3 family
SAG0640	91 aa	transposase OrfA, IS3 family
SAG0641	0 aa	Tn5252, Orf 10 protein, degenerate
SAG0642	59 aa	hypothetical protein
SAG0643	0 aa	chaperonin, 33 kDa, degenerate
SAG0644	402 aa	transcriptional regulator, AraC family

NEM316 [637887-645133]

gbs0614	70 aa	conserved hypothetical protein
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gbs0615	245 aa	HAD superfamily (subfamily IIIB) phosphatase, TIGR01672
gbs0616	150 aa	conserved hypothetical protein
gbs0617	78 aa	conserved hypothetical protein
gbs0618	126 aa	conserved hypothetical protein
gbs0619	110 aa	surface protein R28
gbs0621	91 aa	transposase
gbs0622	49 aa	Tn5252, Orf 10 protein
gbs0625	115 aa	33 kDa chaperonin (Heat shock protein 33 homolog) (HSP33)
gbs0627	262 aa	transcriptional regulator, AraC family

COH1 [628012-635254]

COH1.ORF00686	70 aa	Unknown-related protein
COH1.ORF00687	245 aa	HAD superfamily (subfamily IIIB) phosphatase, TIGR01672
COH1.ORF00688	172 aa	Unknown
COH1.ORF00689	38 aa	hypothetical protein
COH1.ORFA00669	78 aa	conserved hypothetical protein
COH1.ORF00690	110 aa	cell wall surface anchor family protein, truncation
COH1.ORF00691	273 aa	transposase OrfB, IS3 family, truncation
COH1.ORF00692	106 aa	probable transposase TnpA
COH1.ORF00693	49 aa	Tn5252, Orf 10 protein [imported]
COH1.ORF00694	59 aa	conserved hypothetical protein
COH1.ORF00695	67 aa	chaperonin, 33 kDa
COH1.ORF00696	115 aa	chaperonin, 33 kDa
COH1.ORF00697	402 aa	transcriptional regulator, AraC family

18RS21 [566307-574505]

18RS21.ORF00590	70 aa	conserved hypothetical protein
18RS21.ORF00591	245 aa	HAD superfamily (subfamily IIIB) phosphatase, TIGR01672
18RS21.ORF00592	172 aa	conserved hypothetical protein
18RS21.ORF00593	78 aa	conserved hypothetical protein
18RS21.ORF00594	109 aa	surface protein R28
18RS21.ORF00595	273 aa	transposase
18RS21.ORF00596	91 aa	transposase
18RS21.ORF00597	89 aa	transposase OrfA, IS3 family
18RS21.ORF00598	49 aa	Tn5252, Orf 10 protein
18RS21.ORF00599	115 aa	33 kDa chaperonin (Heat shock protein 33 homolog) (HSP33)
18RS21.ORF00600	402 aa	transcriptional regulator, AraC family
18RS21.ORF00601	32 aa	hypothetical protein
18RS21.ORF00602	213 aa	conserved hypothetical protein

REGION 1.6 [6 sequence(s)]:

2603V/R [659648-672432]

SAG0674	113 aa	hypothetical protein
SAG0675	171 aa	secreted protein, putative
SAG0676	885 aa	proteinase, putative

SAG0677	1062 aa	hypothetical protein
SAG0678	0 aa	endopeptidase O, degenerate
SAG0679	343 aa	protein of unknown function
SAG0680	339 aa	protein of unknown function
SAG0681	353 aa	conserved domain protein
A909 [739150-751970]		
A909.ORF01345	113 aa	hypothetical protein
A909.ORF01344	171 aa	conserved domain protein
A909.ORF01343	885 aa	peptidase, S8 (subtilisin) family
A909.ORF01342	1074 aa	hypothetical protein
A909.ORF01341	0 aa	endopeptidase O, degenerate
A909.ORF01338	343 aa	conserved hypothetical protein
A909.ORF01337	339 aa	conserved domain protein
A909.ORF01336	353 aa	conserved hypothetical protein
CJB111 [661635-674490]		
CJB111.ORF00692	113 aa	conserved hypothetical protein
CJB111.ORF00693	171 aa	secreted protein, putative
CJB111.ORF00694	885 aa	proteinase, putative
CJB111.ORF00695	1105 aa	conserved hypothetical protein
CJB111.ORF00696	361 aa	endopeptidase O [imported], putative
CJB111.ORF00697	272 aa	endopeptidase O [imported]
CJB111.ORF00698	36 aa	endopeptidase O
CJB111.ORF00699	343 aa	protein of unknown function
CJB111.ORF00700	339 aa	protein of unknown function
CJB111.ORF00701	118 aa	protein of unknown function
CJB111.ORF00702	235 aa	protein of unknown function
COH1 [662957-675793]		
COH1.ORF00727	113 aa	conserved hypothetical protein
COH1.ORF00728	171 aa	secreted protein, putative
COH1.ORF00729	870 aa	proteinase, putative
COH1.ORF00730	147 aa	conserved hypothetical protein
COH1.ORF00731	964 aa	conserved hypothetical protein
COH1.ORF00732	361 aa	endopeptidase O [imported], putative
COH1.ORF00733	272 aa	endopeptidase O [imported]
COH1.ORF00734	36 aa	endopeptidase O
COH1.ORF00735	343 aa	protein of unknown function
COH1.ORF00736	83 aa	protein of unknown function
COH1.ORF00737	89 aa	protein of unknown function
COH1.ORF00738	189 aa	protein of unknown function
COH1.ORF00739	353 aa	protein of unknown function
H36B [652301-665155]		
H36B.ORF00734	113 aa	conserved hypothetical protein
H36B.ORF00735	171 aa	secreted protein, putative

H36B.ORF00736	870 aa	proteinase, putative
H36B.ORF00737	1105 aa	conserved hypothetical protein
H36B.ORF00738	80 aa	hypothetical protein
H36B.ORF00739	221 aa	endopeptidase O [imported], putative
H36B.ORF00740	272 aa	endopeptidase O [imported]
H36B.ORF00741	36 aa	endopeptidase O
H36B.ORF00742	253 aa	protein of unknown function
H36B.ORF00743	83 aa	protein of unknown function
H36B.ORF00744	339 aa	protein of unknown function
H36B.ORF00745	353 aa	protein of unknown function

18RS21 [603205-615971]

18RS21.ORF00633	113 aa	conserved hypothetical protein
18RS21.ORF00634	171 aa	Pac protein precursor
18RS21.ORF00635	870 aa	proteinase, putative
18RS21.ORF00636	1075 aa	conserved hypothetical protein
18RS21.ORF00637	361 aa	endopeptidase O, putative
18RS21.ORF00638	272 aa	endopeptidase PepO
18RS21.ORF00639	36 aa	end peptidase
18RS21.ORF00640	343 aa	protein of unknown function
18RS21.ORF00641	339 aa	protein of unknown function
18RS21.ORF00642	353 aa	conserved hypothetical protein

REGION 1.7 [7 sequence(s)]:

2603V/R [800810-807331]

SAG0801	239 aa	ribosomal small subunit pseudouridine synthase A, putative
SAG0802	38 aa	hypothetical protein
SAG0803	383 aa	major facilitator family protein
SAG0804	315 aa	competence protein CoiA
SAG0805	601 aa	oligoendopeptidase B
SAG0806	208 aa	hydrolase, haloacid dehalogenase-like family
SAG0807	235 aa	O-methyltransferase family protein

NEM316 [845194-851715]

gbs0821	239 aa	Ribosomal small subunit pseudouridine synthase A
gbs0822	383 aa	major facilitator family protein
gbs0823	315 aa	competence protein CoiA
gbs0824	601 aa	oligoendopeptidase F
gbs0825	208 aa	hydrolase, haloacid dehalogenase-like family
gbs0826	223 aa	O-methyltransferase family protein

A909 [877462-883983]

A909.ORF01215	239 aa	RNA pseudouridine synthase family protein
A909.ORF01214	383 aa	major facilitator family protein
A909.ORF01213	315 aa	competence protein CoiA, putative
A909.ORF01212	601 aa	group B oligopeptidase PepB

A909.ORF01211	208 aa	HAD-superfamily hydrolase, subfamily IA, variant 1 family protein
A909.ORF01210	223 aa	O-methyltransferase family protein
515 [764722-771476]		
515.ORF00861	96 aa	Unknown
515.ORF00862	240 aa	hydrolase, haloacid dehalogenase-like family
515.ORF00863	220 aa	major facilitator family protein
515.ORF00864	315 aa	competence protein CoiA
515.ORF00865	601 aa	oligoendopeptidase F
515.ORF00866	208 aa	hydrolase, haloacid dehalogenase-like family
515.ORF00867	223 aa	O-methyltransferase family protein
CJB111 [799466-806092]		
CJB111.ORF00827	239 aa	ribosomal small subunit pseudouridine synthase A
CJB111.ORF00828	383 aa	major facilitator family protein
CJB111.ORF00829	315 aa	competence protein CoiA
CJB111.ORF00830	601 aa	oligoendopeptidase F
CJB111.ORF00831	208 aa	hydrolase, haloacid dehalogenase-like family
CJB111.ORF00832	223 aa	O-methyltransferase family protein
COH1 [819751-829200]		
COH1.ORF00895	239 aa	ribosomal small subunit pseudouridine synthase A
COH1.ORF00896	217 aa	major facilitator family protein
COH1.ORF00897	309 aa	PTS system, beta-glucosides-specific IIABC components
COH1.ORF00898	91 aa	phage infection protein, putative
COH1.ORF00899	102 aa	6-phospho-beta-glucosidase
COH1.ORF00900	139 aa	permease, GntP family
COH1.ORF00901	147 aa	Unknown
COH1.ORF00902	135 aa	major facilitator family protein
COH1.ORF00903	315 aa	competence protein CoiA
COH1.ORF00904	601 aa	oligoendopeptidase F
COH1.ORF00905	208 aa	hydrolase, haloacid dehalogenase-like family
COH1.ORF00906	223 aa	O-methyltransferase family protein
H36B [796428-802871]		
H36B.ORF00885	239 aa	ribosomal small subunit pseudouridine synthase A
H36B.ORF00886	383 aa	major facilitator family protein
H36B.ORF00887	315 aa	competence protein CoiA
H36B.ORF00888	601 aa	oligoendopeptidase F
H36B.ORF00889	208 aa	hydrolase, haloacid dehalogenase-like family
H36B.ORF00890	188 aa	O-methyltransferase family protein
REGION 1.8 [3 sequence(s)]:		
2603V/R [922143-943033]		
SAG0914	203 aa	conserved hypothetical protein
SAG0915	405 aa	Tn916, transposase
SAG0916	67 aa	Tn916, excisionase

SAG0917	83 aa	Tn916, hypothetical protein
SAG0918	76 aa	Tn916, hypothetical protein
SAG0919	157 aa	Tn916, hypothetical protein
SAG0920	23 aa	Tn916, hypothetical protein
SAG0921	117 aa	Tn916, transcriptional regulator, putative
SAG0922	61 aa	Tn916, hypothetical protein
SAG0923	639 aa	Tn916, tetracycline resistance protein
SAG0924	28 aa	Tn916, tetM leader peptide
SAG0925	310 aa	Tn916, hypothetical protein
SAG0926	333 aa	Tn916, NLP/P60 family protein
SAG0927	725 aa	membrane protein, putative
SAG0928	0 aa	Tn916, hypothetical protein, authentic frameshift
SAG0929	168 aa	Tn916, hypothetical protein
SAG0930	165 aa	Tn916, hypothetical protein
SAG0931	73 aa	Tn916, hypothetical protein
SAG0932	401 aa	Tn916, transcriptional regulator, putative
SAG0933	461 aa	Tn916, FtsK/SpoIIIE family protein
SAG0934	128 aa	Tn916, hypothetical protein
SAG0935	104 aa	Tn916, hypothetical protein
SAG0936	39 aa	Tn916, hypothetical protein
SAG0937	0 aa	ABC transporter, ATP-binding protein, authentic frameshift

515 [879366-898394]

515.ORF00975	147 aa	D-tyrosyl-tRNA(Tyr) deacylase
515.ORF00976	738 aa	GTP pyrophosphokinase family protein
515.ORF00977	405 aa	transposase
515.ORF00978	67 aa	conserved hypothetical protein
515.ORF00979	140 aa	conserved hypothetical protein
515.ORF00980	117 aa	Tn916, transcriptional regulator, putative
515.ORF00981	639 aa	tetracycline resistance protein (tetM)
515.ORF00982	304 aa	conserved hypothetical protein
515.ORF00983	333 aa	lipoprotein, NLP/P60 family
515.ORF00984	725 aa	conserved hypothetical protein
515.ORF00986	815 aa	ATP/GTP-binding protein, putative
515.ORF00987	168 aa	conserved hypothetical protein
515.ORF00988	165 aa	conserved hypothetical protein
515.ORF00989	57 aa	conserved hypothetical protein
515.ORF00990	165 aa	conserved hypothetical protein
515.ORF00991	73 aa	conserved hypothetical protein
515.ORF00992	267 aa	transcriptional regulator, Cro/CI family

COH1 [979057-999935]

COH1.ORF01053	104 aa	uncharacterized conserved protein CAC1439 [imported]
COH1.ORF01054	125 aa	conserved hypothetical protein
COH1.ORF01055	257 aa	conserved hypothetical protein

COH1.ORF01056	30 aa	hypothetical protein
COH1.ORF01058	467 aa	TN916 ORF21 homolog lmo1112 [imported]
COH1.ORF01057	52 aa	hypothetical protein
COH1.ORF01059	394 aa	transcriptional regulator, Cro/CI family
COH1.ORF01060	90 aa	conserved hypothetical protein
COH1.ORF01061	73 aa	conserved hypothetical protein
COH1.ORF01062	220 aa	conserved hypothetical protein
COH1.ORF01063	166 aa	TN916 ORF18 homolog lmo1108 [imported]
COH1.ORF01065	341 aa	hypothetical protein
COH1.ORF01064	30 aa	hypothetical protein
COH1.ORF01066	145 aa	TN916 ORF17 homolog lmo1107 [imported]
COH1.ORF01067	817 aa	ATP/GTP-binding protein, putative
COH1.ORF01068	675 aa	membrane protein, putative
COH1.ORF01069	340 aa	TN916 ORF14 and to <i>L. monocytogenes</i> P60 protein homolog lmo1104 [imported]
COH1.ORF01070	282 aa	TN916 ORF13 homolog lmo1103 [imported]
COH1.ORF01071	639 aa	tetracycline resistance protein (tetM)
COH1.ORF01072	117 aa	Tn916, transcriptional regulator, putative
COH1.ORF01073	188 aa	conserved hypothetical protein
COH1.ORF01074	76 aa	conserved hypothetical protein
COH1.ORF01075	81 aa	conserved hypothetical protein
COH1.ORF01076	397 aa	site-specific recombinase, phage integrase family

REGION 1.9 [5 sequence(s)]:

2603V/R [1028558-1036565]

SAG1018	40 aa	lipoprotein, putative
SAG1019	39 aa	hypothetical protein
SAG1020	227 aa	lipoprotein, putative
SAG1021	107 aa	hypothetical protein
SAG1022	177 aa	hypothetical protein
SAG1023	48 aa	hypothetical protein
SAG1024	183 aa	lipoprotein, putative
SAG1025	149 aa	hypothetical protein
SAG1026	0 aa	immunogenic secreted protein, degenerate
SAG1027	84 aa	conserved hypothetical protein
SAG1028	196 aa	hypothetical protein
SAG1029	101 aa	hypothetical protein

NEM316 [1098347-1106336]

gbs1053	127 aa	lipoprotein, putative
gbs1055	107 aa	conserved hypothetical protein
gbs1056	177 aa	conserved hypothetical protein
gbs1057	180 aa	lipoprotein, putative
gbs1061	142 aa	conserved hypothetical protein

gbs1062	84 aa	uncharacterized protein, homolog of <i>Bacillus firmus</i> (gi,	2654481)
gbs1063	196 aa	conserved hypothetical protein	
gbs1064	101 aa	conserved hypothetical protein	
515 [1025263-1033262]			
515.ORF01128	40 aa	lipoprotein, putative	
515.ORF01129	39 aa	conserved hypothetical protein	
515.ORF01130	227 aa	lipoprotein, putative	
515.ORF01131	107 aa	conserved hypothetical protein	
515.ORF01132	177 aa	conserved hypothetical protein	
515.ORF01133	48 aa	conserved hypothetical protein	
515.ORF01134	180 aa	lipoprotein, putative	
515.ORF01135	149 aa	FtsK/SpoIIIE family protein	
515.ORF01136	86 aa	N-acetylmuramoyl-L-alanine amidase domain protein	
515.ORF01137	269 aa	immunogenic secreted protein, putative	
515.ORF01138	142 aa	Unknown	
515.ORF01139	84 aa	conserved hypothetical protein	
515.ORF01140	196 aa	conserved hypothetical protein	
515.ORF01141	101 aa	conserved hypothetical protein	
CJB111 [1010521-1021611]			
CJB111.ORF01027	38 aa	hypothetical protein	
CJB111.ORF01028	70 aa	hypothetical protein	
CJB111.ORF01029	176 aa	conserved hypothetical protein	
CJB111.ORF01030	238 aa	lipoprotein, putative	
CJB111.ORF01031	180 aa	FtsK/SpoIIIE family protein	
CJB111.ORF01032	295 aa	N-acetylmuramoyl-L-alanine amidase domain protein	
CJB111.ORF01033	138 aa	hypothetical protein	
CJB111.ORF01034	83 aa	conserved hypothetical protein	
CJB111.ORF01035	294 aa	hypothetical protein	
CJB111.ORF01036	247 aa	hypothetical protein	
CJB111.ORF01037	81 aa	protein of unknown function	
CJB111.ORF01038	47 aa	conserved hypothetical protein	
CJB111.ORF01039	97 aa	conserved hypothetical protein	
CJB111.ORF01040	216 aa	hypothetical protein	
CJB111.ORF01041	84 aa	hypothetical protein	
CJB111.ORF01042	199 aa	hypothetical Cytosolic Protein, putative	
CJB111.ORF01043	104 aa	conserved hypothetical protein	
CJB111.ORF01044	181 aa	hypothetical protein	
18RS21 [921301-930038]			
18RS21.ORF00954	40 aa	lipoprotein, putative	
18RS21.ORF00955	227 aa	lipoprotein, putative	
18RS21.ORF00956	107 aa	conserved hypothetical protein	
18RS21.ORF00957	177 aa	conserved hypothetical protein	
18RS21.ORF00958	186 aa	lipoprotein, putative	

18RS21.ORF00959	149 aa	FtsK/SpoIIIE family protein
18RS21.ORF00960	86 aa	immunogenic secreted protein precursor homolog
18RS21.ORF00961	269 aa	immunogenic secreted protein precursor homolog
18RS21.ORF00962	142 aa	conserved hypothetical protein
18RS21.ORF00963	84 aa	uncharacterized protein, homolog of <i>Bacillus firmus</i> (gi, 2654481)
18RS21.ORF00964	196 aa	conserved hypothetical protein
18RS21.ORF00965	101 aa	conserved hypothetical protein

REGION 1.10 [7 sequence(s)]:

2603V/R [1133383-1143006]

SAG1126	228 aa	protein of unknown function
SAG1127	446 aa	conserved domain protein
SAG1128	65 aa	transcriptional regulator, Cro/CI family
SAG1129	36 aa	hypothetical protein
SAG1130	49 aa	hypothetical protein
SAG1131	164 aa	thiol peroxidase
SAG1132	219 aa	conserved hypothetical protein
SAG1133	254 aa	conserved hypothetical protein
SAG1134	213 aa	transcriptional regulator, GntR family/potassium uptake protein, TrkA family
SAG1135	183 aa	gls24 protein, putative
SAG1136	65 aa	conserved hypothetical protein
SAG1137	180 aa	gls24 protein, putative
SAG1138	64 aa	conserved hypothetical protein
SAG1139	193 aa	conserved hypothetical protein
SAG1140	82 aa	conserved hypothetical protein
SAG1141	112 aa	conserved hypothetical protein

NEM316 [1236464-1246102]

gbs1194	228 aa	conserved hypothetical protein
gbs1195	447 aa	conserved hypothetical protein
gbs1197	177 aa	conserved hypothetical protein
gbs1198	164 aa	thiol peroxidase
gbs1199	219 aa	DNA alkylation repair enzyme
gbs1200	254 aa	HAD-superfamily hydrolase, subfamily IIB subfamily
gbs1201	213 aa	transcriptional regulator, GntR family/potassium uptake protein, TrkA family
gbs1202	183 aa	gls24 protein
gbs1203	65 aa	CsbD-like superfamily
gbs1204	180 aa	EF0117
gbs1205	64 aa	conserved hypothetical protein
gbs1206	193 aa	conserved hypothetical protein
gbs1207	82 aa	integral membrane protein
gbs1208	112 aa	integral membrane protein

A909 [1189137-1198714]

A909.ORF00928	228 aa	conserved hypothetical protein
A909.ORF00927	0 aa	conserved hypothetical protein, degenerate
A909.ORF00925	62 aa	DNA-binding protein
A909.ORF00924	177 aa	conserved hypothetical protein
A909.ORF00923	164 aa	thiol peroxidase
A909.ORF00922	219 aa	conserved hypothetical protein
A909.ORF00920	0 aa	conserved hypothetical protein, authentic frameshift
A909.ORF00919	213 aa	transcriptional regulator, GntR family/TrkA domain protein
A909.ORF00918	183 aa	alkaline shock protein 23, putative
A909.ORF00917	65 aa	CsbD family protein
A909.ORF00916	180 aa	alkaline shock protein 23, putative
A909.ORF00915	64 aa	conserved hypothetical protein
A909.ORF00914	193 aa	conserved hypothetical protein
A909.ORF00913	82 aa	transglycosylase associated protein
A909.ORF00912	81 aa	transglycosylase associated protein

515 [1132658-1142281]

515.ORF01250	228 aa	protein of unknown function
515.ORF01251	356 aa	conserved hypothetical protein
515.ORF01252	35 aa	conserved hypothetical protein
515.ORF01253	31 aa	Unknown
515.ORF01254	62 aa	conserved hypothetical protein
515.ORF01255	177 aa	conserved hypothetical protein
515.ORF01256	164 aa	thiol peroxidase
515.ORF01257	219 aa	Unknown
515.ORF01259	179 aa	conserved hypothetical protein
515.ORF01260	30 aa	conserved hypothetical protein
515.ORF01261	213 aa	transcriptional regulator, GntR family/potassium uptake protein, TrkA

family

515.ORF01262	183 aa	gls24 protein
515.ORF01263	65 aa	CsbD-like superfamily
515.ORF01264	180 aa	gls24 protein
515.ORF01265	64 aa	conserved hypothetical protein
515.ORF01266	193 aa	conserved hypothetical protein
515.ORF01267	82 aa	Transglycosylase associated protein family
515.ORF01268	112 aa	Transglycosylase associated protein family

CJB111 [1118612-1128433]

CJB111.ORF01140	214 aa	protein of unknown function
CJB111.ORF01141	447 aa	Unknown
CJB111.ORF01142	36 aa	conserved hypothetical protein
CJB111.ORF01143	177 aa	conserved hypothetical protein
CJB111.ORF01144	164 aa	thiol peroxidase
CJB111.ORF01145	200 aa	Unknown

CJB111.ORF01146	67 aa	6-phospho-beta-glucosidase
CJB111.ORF01147	99 aa	conserved hypothetical protein
CJB111.ORF01148	156 aa	conserved hypothetical protein
CJB111.ORF01149	213 aa	transcriptional regulator, GntR family/potassium uptake protein, TrkA family
CJB111.ORF01150	183 aa	gls24 protein
CJB111.ORF01151	65 aa	CsbD-like superfamily
CJB111.ORF01152	180 aa	gls24 protein
CJB111.ORF01153	64 aa	conserved hypothetical protein
CJB111.ORF01154	193 aa	conserved hypothetical protein
CJB111.ORF01155	82 aa	Transglycosylase associated protein family
CJB111.ORF01156	112 aa	Transglycosylase associated protein family
COH1 [1163446-1170912]		
COH1.ORF01255	256 aa	spermidine/putrescine ABC transporter, ATP-binding protein
COH1.ORF01256	447 aa	Unknown
COH1.ORFA01216	62 aa	transcription regulator, probable -related protein
COH1.ORF01257	177 aa	conserved hypothetical protein
COH1.ORF01258	164 aa	thiol peroxidase
COH1.ORF01259	177 aa	Unknown
COH1.ORFA01220	38 aa	hypothetical protein
COH1.ORF01260	64 aa	conserved hypothetical protein
COH1.ORF01261	193 aa	conserved hypothetical protein
COH1.ORF01262	82 aa	Transglycosylase associated protein family
COH1.ORF01263	112 aa	Transglycosylase associated protein family
H36B [1114116-1123650]		
H36B.ORF01213	228 aa	protein of unknown function
H36B.ORF01214	356 aa	conserved hypothetical protein
H36B.ORF01215	35 aa	conserved hypothetical protein
H36B.ORF01216	31 aa	Unknown
H36B.ORF01217	62 aa	conserved hypothetical protein
H36B.ORF01218	177 aa	conserved hypothetical protein
H36B.ORF01219	164 aa	thiol peroxidase
H36B.ORF01220	219 aa	Unknown
H36B.ORF01222	179 aa	conserved hypothetical protein
H36B.ORF01223	30 aa	conserved hypothetical protein
H36B.ORF01224	179 aa	transcriptional regulator, GntR family/potassium uptake protein, TrkA family
H36B.ORF01225	73 aa	gls24 protein
H36B.ORF01226	38 aa	conserved hypothetical protein
H36B.ORF01227	180 aa	gls24 protein
H36B.ORF01228	64 aa	conserved hypothetical protein
H36B.ORF01229	193 aa	conserved hypothetical protein
H36B.ORF01230	82 aa	Transglycosylase associated protein family

H36B.ORF01231 112 aa Transglycosylase associated protein family

REGION 1.11 [2 sequence(s)]:

2603V/R [1166651-1174667]

SAG1163 318 aa polysaccharide biosynthesis protein CpsK(V)
 SAG1164 321 aa glycosyl transferase CpsJ(V)
 SAG1165 327 aa glycosyl transferase CpsO(V)
 SAG1166 295 aa glycosyl transferase CpsN(V)
 SAG1167 241 aa polysaccharide biosynthesis protein CpsM(V)
 SAG1168 364 aa polysaccharide biosynthesis protein cpsH(V)
 SAG1169 163 aa glycosyl transferase CpsG(V)
 SAG1170 149 aa polysaccharide biosynthesis protein CpsF

CJB111 [1150988-1157652]

CJB111.ORF01179 318 aa capsular polysaccharide biosynthesis protein cpsL [imported]
 CJB111.ORF01180 321 aa glycosyl transferase CpsJ
 CJB111.ORF01181 327 aa glycosyl transferase CpsO
 CJB111.ORF01182 295 aa glycosyl transferase CpsN
 CJB111.ORF01183 163 aa glycosyl transferase CpsG
 CJB111.ORF01184 149 aa conserved hypothetical protein

REGION 1.12 [6 sequence(s)]:

2603V/R [1229953-1237290]

SAG1221 0 aa glycerophosphoryl diester phosphodiesterase, putative, authentic point mutation
 SAG1222 593 aa excinuclease ABC, C subunit
 SAG1223 255 aa conserved hypothetical protein
 SAG1224 446 aa MATE efflux family protein
 SAG1225 136 aa conserved hypothetical protein
 SAG1226 165 aa conserved hypothetical protein

NEM316 [1338964-1344350]

gbs1294 593 aa excinuclease ABC, C subunit
 gbs1295 255 aa ncharacterized conserved protein CAC1577
 gbs1296 446 aa MATE efflux family protein
 gbs1297 136 aa glyoxalase family protein superfamily
 gbs1298 165 aa conserved hypothetical protein

A909 [1286183-1291571]

A909.ORF00832 593 aa UvrABC system, C protein
 A909.ORF00831 255 aa conserved hypothetical protein
 A909.ORF00830 446 aa MATE efflux family protein
 A909.ORF00829 136 aa glyoxalase family protein
 A909.ORF00828 165 aa conserved hypothetical protein

515 [1230984-1237565]

515.ORF01359 583 aa excinuclease ABC, C subunit

515.ORF01360	255 aa	Uncharacterized BCR, COG1636 superfamily
515.ORF01361	310 aa	MATE efflux family protein
515.ORF01362	128 aa	glucose-inhibited division protein A
515.ORF01363	124 aa	galactosyl transferase cpsD [imported]
515.ORF01364	186 aa	CpsIaC
515.ORF01365	135 aa	purine nucleoside phosphorylase, family 1 [imported]

COH1 [1259168-1265278]

COH1.ORF01354	277 aa	IS861, transposase OrfB
COH1.ORF01355	178 aa	IS861, transposase OrfA
COH1.ORF01356	583 aa	excinuclease ABC, C subunit
COH1.ORF01357	255 aa	Uncharacterized BCR, COG1636 superfamily
COH1.ORF01358	425 aa	MATE efflux family protein
COH1.ORFA01314	32 aa	hypothetical protein
COH1.ORF01360	90 aa	alpha-acetolactate decarboxylase
COH1.ORF01361	37 aa	membrane protein, putative

H36B [1215991-1221561]

H36B.ORF01325	593 aa	excinuclease ABC, C subunit
H36B.ORF01326	255 aa	Uncharacterized BCR, COG1636 superfamily
H36B.ORF01327	373 aa	MATE efflux family protein
H36B.ORF01328	161 aa	ABC transporter, permease protein
H36B.ORFA01288	31 aa	hypothetical protein
H36B.ORF01329	161 aa	ABC transporter, permease protein
H36B.ORF01330	120 aa	conserved hypothetical protein

REGION 1.13 [3 sequence(s)]:

2603V/R [1239695-1312758]

SAG1231	0 aa	transposase OrfB, IS3 family, degenerate
SAG1232	77 aa	transposase OrfB, IS3 family, truncation
SAG1233	822 aa	streptococcal histidine triad family protein
SAG1234	306 aa	laminin-binding surface protein
SAG1235	425 aa	GBSi1, group II intron, maturase
SAG1236	0 aa	C5a peptidase, authentic frameshift
SAG1237	444 aa	hypothetical protein
SAG1238	202 aa	hypothetical protein
SAG1239	76 aa	conserved hypothetical protein
SAG1240	125 aa	conserved hypothetical protein, truncation
SAG1241	91 aa	transposase OrfA, IS3 family
SAG1242	67 aa	transposase OrfB, IS3 family, truncation
SAG1243	96 aa	ISSdy1, transposase OrfA
SAG1244	259 aa	ISSdy1, transposase OrfB
SAG1245	38 aa	hypothetical protein
SAG1246	389 aa	hypothetical protein
SAG1247	399 aa	site-specific recombinase, phage integrase family

SAG1248	75 aa	conserved hypothetical protein
SAG1249	74 aa	transcriptional regulator, Cro/CI family
SAG1250	621 aa	Tn5252, relaxase
SAG1251	121 aa	Tn5252, Orf 9 protein
SAG1252	120 aa	Tn5252, Orf 10 protein
SAG1253	435 aa	transposase, ISL3 family
SAG1254	546 aa	mercuric reductase
SAG1255	130 aa	mercuric resistance operon regulatory protein MerR
SAG1256	142 aa	IS861, transposase OrfB, truncation
SAG1257	709 aa	cation-transporting ATPase, E1-E2 family
SAG1258	122 aa	cadmium efflux system accessory protein
SAG1259	99 aa	conserved hypothetical protein
SAG1260	262 aa	hypothetical protein
SAG1261	198 aa	conserved hypothetical protein
SAG1262	695 aa	cation-transporting ATPase, E1-E2 family
SAG1263	0 aa	conserved domain protein, authentic frameshift
SAG1264	148 aa	transcriptional repressor CopY, putative
SAG1265	206 aa	cadmium resistance transporter, putative
SAG1266	152 aa	hypothetical protein
SAG1267	108 aa	hypothetical protein
SAG1268	230 aa	repressor protein, putative
SAG1269	44 aa	hypothetical protein
SAG1270	471 aa	ImpB/MucB/SamB family protein
SAG1271	116 aa	conserved hypothetical protein
SAG1272	102 aa	conserved hypothetical protein
SAG1273	118 aa	conserved hypothetical protein
SAG1274	129 aa	conserved hypothetical protein
SAG1275	75 aa	hypothetical protein
SAG1276	358 aa	conserved hypothetical protein
SAG1277	163 aa	hypothetical protein
SAG1278	96 aa	hypothetical protein
SAG1279	99 aa	conserved domain protein
SAG1280	2274 aa	SNF2 family protein
SAG1281	183 aa	hypothetical protein
SAG1282	63 aa	calcium-binding protein, putative
SAG1283	1631 aa	agglutinin receptor
SAG1284	196 aa	abortive infection protein AbiGI
SAG1285	281 aa	abortive infection protein AbiGII
SAG1286	933 aa	Tn5252, Orf28
SAG1287	776 aa	Tn5252, Orf26
SAG1288	0 aa	Tn5252, Orf25, degenerate
SAG1289	284 aa	Tn5252, Orf23
SAG1290	80 aa	hypothetical protein

SAG1291	0 aa	Tn5252, Orf 21 protein, internal deletion
SAG1292	162 aa	hypothetical protein
SAG1293	194 aa	protease, putative
SAG1294	77 aa	conserved hypothetical protein
SAG1295	127 aa	conserved hypothetical protein
SAG1296	142 aa	conserved hypothetical protein
SAG1297	451 aa	C-5 cytosine-specific DNA methylase
SAG1298	31 aa	hypothetical protein
SAG1299	272 aa	conserved hypothetical protein
SAG1300	57 aa	conserved hypothetical protein
SAG1301	121 aa	ribosomal protein L7/L12
SAG1302	166 aa	ribosomal protein L10
H36B [1233895-1300439]		
H36B.ORF01341	80 aa	ISSdy1, transposase OrfA
H36B.ORF01342	169 aa	FtsK/SpoIIIE family protein, putative
H36B.ORF01343	167 aa	Unknown
H36B.ORF01344	104 aa	Unknown
H36B.ORF01345	401 aa	conserved hypothetical protein
H36B.ORF01346	163 aa	Unknown
H36B.ORF01347	1203 aa	reticulocyte binding protein
H36B.ORF01348	399 aa	site-specific recombinase, phage integrase family
H36B.ORF01349	75 aa	conserved hypothetical protein
H36B.ORF01350	70 aa	transcriptional regulator, Cro/CI family
H36B.ORF01351	621 aa	Tn5252, relaxase
H36B.ORF01352	121 aa	Tn5252, Orf 9 protein
H36B.ORF01353	120 aa	Tn5252, Orf 10 protein
H36B.ORFA01313	41 aa	hypothetical protein
H36B.ORF01355	440 aa	transposase, ISL3 family
H36B.ORF01356	546 aa	carbamoyl-phosphate synthase, large subunit
H36B.ORF01357	130 aa	mercuric resistance operon regulatory protein MerR
H36B.ORFA01318	160 aa	hypothetical protein
H36B.ORFA01317	36 aa	hypothetical protein
H36B.ORF01359	61 aa	IS861, transposase OrfB, truncation
H36B.ORF01360	709 aa	cation-transporting ATPase, E1-E2 family
H36B.ORF01361	122 aa	cadmium efflux system accessory protein
H36B.ORF01362	262 aa	conserved hypothetical protein
H36B.ORF01363	198 aa	integral membrane protein TIGR01906
H36B.ORF01364	695 aa	copper-translocating P-type ATPase
H36B.ORF01365	68 aa	copper-translocating P-type ATPase
H36B.ORF01366	158 aa	copper-translocating P-type ATPase
H36B.ORF01367	148 aa	transcriptional repressor CopY
H36B.ORF01368	206 aa	cadmium resistance protein
H36B.ORF01369	105 aa	cation-transporting ATPase, E1-E2 family

H36B.ORF01370	63 aa	conserved hypothetical protein
H36B.ORF01371	152 aa	conserved hypothetical protein
H36B.ORF01372	108 aa	conserved hypothetical protein
H36B.ORF01373	230 aa	repressor protein, putative
H36B.ORF01374	44 aa	conserved hypothetical protein
H36B.ORF01375	471 aa	ImpB/MucB/SamB family protein
H36B.ORF01376	116 aa	conserved hypothetical protein
H36B.ORF01377	119 aa	conserved hypothetical protein
H36B.ORF01378	119 aa	conserved hypothetical protein
H36B.ORF01379	129 aa	conserved hypothetical protein
H36B.ORF01380	75 aa	conserved hypothetical protein
H36B.ORF01381	358 aa	conserved hypothetical protein
H36B.ORF01382	212 aa	conserved hypothetical protein
H36B.ORF01383	96 aa	conserved hypothetical protein
H36B.ORFA01340	56 aa	conserved hypothetical protein
H36B.ORF01384	172 aa	SNF2 family protein
H36B.ORF01385	769 aa	SNF2 family protein
H36B.ORF01387	1355 aa	reticulocyte binding protein
H36B.ORF01388	183 aa	conserved hypothetical protein
H36B.ORF01389	63 aa	calcium-binding protein, putative
H36B.ORF01390	1631 aa	reticulocyte binding protein
H36B.ORF01391	196 aa	abortive infection protein AbiGI
H36B.ORF01392	289 aa	abortive infection protein AbiGII
H36B.ORF01393	933 aa	Tn5252, Orf28
H36B.ORF01394	776 aa	Tn5252, Orf26
H36B.ORF01395	154 aa	Tn5252, Orf25, degenerate
H36B.ORF01396	284 aa	Tn5252, Orf23
H36B.ORF01397	80 aa	conserved hypothetical protein
H36B.ORF01398	605 aa	Tn5252, Orf 21 protein, internal deletion
H36B.ORF01399	162 aa	conserved hypothetical protein
H36B.ORF01400	194 aa	protease, putative
H36B.ORF01401	77 aa	conserved hypothetical protein
H36B.ORF01402	158 aa	conserved hypothetical protein
H36B.ORF01403	451 aa	C-5 cytosine-specific DNA methylase
H36B.ORF01404	31 aa	hypothetical protein
H36B.ORF01405	92 aa	conserved hypothetical protein
H36B.ORF01406	93 aa	SNF2 family protein
H36B.ORF01407	57 aa	conserved hypothetical protein
H36B.ORF01408	121 aa	ribosomal protein L7/L12
H36B.ORF01409	166 aa	ribosomal protein L10
18RS21 [1112876-1169347]		
18RS21.ORF01159	202 aa	SAG1238-like protein
18RS21.ORF01160	86 aa	conserved hypothetical protein

18RS21.ORF01161	125 aa	ParA
18RS21.ORF01162	106 aa	transposase
18RS21.ORF01163	86 aa	transposase
18RS21.ORF01164	96 aa	transposase
18RS21.ORF01165	177 aa	ISSdy1, transposase OrfB
18RS21.ORF01166	127 aa	degenerate transposase
18RS21.ORF01167	129 aa	Transposase (IS4 family)
18RS21.ORF01168	411 aa	conserved hypothetical protein
18RS21.ORF01169	399 aa	site-specific recombinase, phage integrase family
18RS21.ORF01170	75 aa	conserved hypothetical protein
18RS21.ORF01171	70 aa	transcriptional regulator, Cro/CI family
18RS21.ORF01172	621 aa	Tn5252, relaxase
18RS21.ORF01173	75 aa	Tn5252, Orf 9 protein
18RS21.ORF01174	53 aa	Tn5252, Orf 10 protein
18RS21.ORF01175	35 aa	hypothetical protein
18RS21.ORF01176	160 aa	hypothetical protein
18RS21.ORF01177	355 aa	cation-transporting ATPase, E1-E2 family
18RS21.ORF01178	385 aa	cation-transporting ATPase, E1-E2 family
18RS21.ORF01179	122 aa	cadmium efflux system accessory protein
18RS21.ORF01180	262 aa	conserved hypothetical protein
18RS21.ORF01181	198 aa	integral membrane protein TIGR01906
18RS21.ORF01182	502 aa	copper-translocating P-type ATPase
18RS21.ORF01183	178 aa	cation-transporting ATPase, E1-E2 family
18RS21.ORF01184	68 aa	copper-translocating P-type ATPase
18RS21.ORF01185	127 aa	copper-translocating P-type ATPase
18RS21.ORF01186	105 aa	transcriptional repressor CopY
18RS21.ORF01187	124 aa	CadD
18RS21.ORF01188	152 aa	conserved hypothetical protein
18RS21.ORF01189	230 aa	phage repressor protein
18RS21.ORF01190	44 aa	conserved hypothetical protein
18RS21.ORF01191	471 aa	ImpB/MucB/SamB family protein
18RS21.ORF01192	116 aa	conserved hypothetical protein
18RS21.ORF01193	129 aa	conserved hypothetical protein
18RS21.ORF01194	75 aa	conserved hypothetical protein
18RS21.ORF01195	213 aa	conserved hypothetical protein
18RS21.ORF01196	2278 aa	SNF2 family protein
18RS21.ORF01197	183 aa	conserved hypothetical protein
18RS21.ORF01198	63 aa	calcium-binding protein homolog
18RS21.ORF01199	1631 aa	agglutinin receptor
18RS21.ORF01200	196 aa	abortive infection protein AbiGI
18RS21.ORF01201	281 aa	abortive infection protein AbiGII
18RS21.ORF01202	933 aa	Tn5252, Orf28
18RS21.ORF01203	776 aa	Tn5252, Orf26

18RS21.ORF01204	284 aa	Tn5252, Orf23
18RS21.ORF01205	80 aa	conserved hypothetical protein
18RS21.ORF01206	605 aa	TraG family protein
18RS21.ORF01207	162 aa	conserved hypothetical protein
18RS21.ORF01208	194 aa	protease, putative
18RS21.ORF01209	77 aa	conserved hypothetical protein
18RS21.ORF01210	451 aa	C-5 cytosine-specific DNA methylase
18RS21.ORF01211	31 aa	hypothetical protein
18RS21.ORF01212	272 aa	IFN-response binding factor 1 (IREBF-1)
18RS21.ORF01213	57 aa	conserved hypothetical protein
18RS21.ORF01214	121 aa	ribosomal protein L7/L12
18RS21.ORF01215	31 aa	50S ribosomal protein
18RS21.ORF01216	60 aa	50S ribosomal protein

REGION 1.14 [1 sequence(s)]:

2603V/R [1334107-1342948]

SAG1329	208 aa	GTP pyrophosphokinase family protein
SAG1330	68 aa	hypothetical protein
SAG1331	979 aa	R5 protein
SAG1332	146 aa	transcriptional regulator, MarR family
SAG1333	690 aa	5'-nucleotidase family protein

REGION 1.15 [7 sequence(s)]:

2603V/R [1448128-1457502]

SAG1437	55 aa	hypothetical protein
SAG1438	754 aa	glycogen phosphorylase
SAG1439	498 aa	4-alpha-glucanotransferase
SAG1440	342 aa	maltose operon repressor MalR, putative
SAG1441	415 aa	maltose/maltodextrin ABC transporter, maltose/maltodextrin-binding protein
SAG1442	456 aa	maltose ABC transporter, permease protein
SAG1443	278 aa	maltose ABC transporter, permease protein

NEM316 [1559177-1568551]

gbs1507	754 aa	glycogen phosphorylase
gbs1508	498 aa	4-alpha-glucanotransferase
gbs1509	342 aa	transcription regulator
gbs1510	415 aa	sugar ABC transporter, sugar-binding protein
gbs1511	456 aa	sugar ABC transporter, permease protein
gbs1512	278 aa	sugar ABC transporter, permease protein

A909 [1454279-1463652]

A909.ORF00665	754 aa	glycogen/starch/alpha-glucan phosphorylase
A909.ORF00664	498 aa	4-alpha-glucanotransferase
A909.ORF00663	342 aa	maltose operon transcriptional repressor MalR, putative

A909.ORF00662	415 aa	carbohydrate uptake 1 (CUT1) family, carbohydrate-binding protein
A909.ORF00661	456 aa	cyclodextrin ABC transporter, permease protein
A909.ORF00660	278 aa	cyclodextrin ABC transporter, permease protein
515 [1379522-1389251]		
515.ORF01527	754 aa	glycogen phosphorylase
515.ORF01528	498 aa	4-alpha-glucanotransferase
515.ORF01529	342 aa	sugar-binding transcriptional regulator, LacI family
515.ORF01530	415 aa	maltose/maltodextrin ABC transporter, maltose/maltodextrin-binding protein
515.ORF01531	456 aa	maltose ABC transporter, permease protein
515.ORF01532	278 aa	maltose ABC transporter, permease protein
CJB111 [1369391-1379127]		
CJB111.ORF01403	754 aa	glycogen phosphorylase
CJB111.ORF01404	52 aa	4-alpha-glucanotransferase
CJB111.ORF01405	450 aa	4-alpha-glucanotransferase
CJB111.ORF01406	69 aa	maltose operon repressor MalR, putative
CJB111.ORF01407	195 aa	sugar-binding transcriptional regulator, LacI family
CJB111.ORF01408	415 aa	maltose/maltodextrin ABC transporter, maltose/maltodextrin-binding protein
CJB111.ORF01409	456 aa	maltose ABC transporter, permease protein
CJB111.ORF01410	278 aa	maltose ABC transporter, permease protein
COH1 [1447605-1461182]		
COH1.ORF01557	773 aa	glycogen phosphorylase
COH1.ORF01558	498 aa	4-alpha-glucanotransferase
COH1.ORF01559	342 aa	sugar-binding transcriptional regulator, LacI family
COH1.ORF01560	415 aa	maltose/maltodextrin ABC transporter, maltose/maltodextrin-binding protein
COH1.ORF01561	114 aa	maltose ABC transporter, permease protein
COH1.ORF01562	149 aa	maltose/maltodextrin ABC transporter, maltose/maltodextrin-binding protein
COH1.ORF01563	195 aa	maltose/maltodextrin ABC transporter, maltose/maltodextrin-binding protein
COH1.ORF01564	145 aa	maltose ABC transporter, permease protein
COH1.ORF01565	245 aa	maltose ABC transporter, permease protein
COH1.ORF01566	278 aa	maltose ABC transporter, permease protein
COH1.ORF01567	490 aa	proton/peptide symporter family protein
COH1.ORF01568	178 aa	IS861, transposase OrfA
COH1.ORF01569	30 aa	IS861, transposase OrfB
H36B [1433347-1442793]		
H36B.ORF01555	534 aa	glycogen phosphorylase
H36B.ORF01556	209 aa	glycogen phosphorylase
H36B.ORF01557	464 aa	4-alpha-glucanotransferase
H36B.ORF01558	340 aa	sugar-binding transcriptional regulator, LacI family

H36B.ORF01559	415 aa	maltose/maltodextrin ABC transporter, maltose/maltodextrin-binding protein
H36B.ORF01560	456 aa	maltose ABC transporter, permease protein
H36B.ORF01561	278 aa	maltose ABC transporter, permease protein

REGION 1.16 [7 sequence(s)]:

2603V/R [1470298-1483258]

SAG1454	398 aa	glycosyl transferase, putative
SAG1455	295 aa	glycosyl transferase, group 2 family protein
SAG1456	0 aa	glycosyl transferase, family 8, degenerate
SAG1457	129 aa	IS1381, transposase OrfB
SAG1458	127 aa	IS1381, transposase OrfA
SAG1459	413 aa	glycosyl transferase, family 8
SAG1460	401 aa	glycosyl transferase, family 8
SAG1461	335 aa	conserved hypothetical protein
SAG1462	970 aa	cell wall surface anchor family protein
SAG1463	0 aa	transcriptional regulator, RofA family, authentic point mutation

NEM316 [1581358-1594478]

gbs1523	398 aa	glycosyl transferase, family 8 SP1767
gbs1524	295 aa	glycosyl transferase, group 2 family protein
gbs1525	406 aa	glycosyl transferase, family 8 SP1767
gbs1526	413 aa	glycosyl transferase, family 8 SP1770
gbs1527	401 aa	glycosyl transferase, family 8 SP1765
gbs1528	335 aa	nucleotide sugar synthetase-like protein
gbs1529	1310 aa	cell wall surface anchor family protein
gbs1530	498 aa	RogB protein

A909 [1476459-1489420]

A909.ORF00650	398 aa	conserved hypothetical protein
A909.ORF00649	291 aa	glycosyl transferase, group 2 family protein
A909.ORF00648	394 aa	glycosyl transferase, family 8
A909.ORF00647	413 aa	glycosyl transferase, family 8
A909.ORF00646	401 aa	glycosyl transferase, family 8
A909.ORF00645	335 aa	conserved hypothetical protein
A909.ORF00644	1258 aa	cell wall surface anchor family protein
A909.ORF00643	0 aa	transcriptional regulator, RofA family, authentic frameshift

515 [1402058-1417717]

515.ORF01543	398 aa	glycosyl transferase, family 8 SP1767 [imported]
515.ORF01544	295 aa	glycosyl transferase, group 2 family protein
515.ORF01545	394 aa	glycosyl transferase, family 8, degenerate
515.ORF01546	413 aa	glycosyl transferase, family 8
515.ORF01547	401 aa	glycosyl transferase, family 8
515.ORF01548	335 aa	conserved hypothetical protein
515.ORF01549	50 aa	cell wall surface anchor family protein

515.ORF01550	536 aa	hypothetical protein
515.ORF01551	162 aa	glycosyl transferase, family 8
515.ORF01552	174 aa	conserved hypothetical protein
515.ORF01554	939 aa	cell wall surface anchor family protein
515.ORFA01481	256 aa	hypothetical protein
515.ORF01555	498 aa	transcription regulator, probable [imported], putative

CJB111 [1391932-1404505]

CJB111.ORF01422	398 aa	glycosyl transferase, family 8 SP1767 [imported]
CJB111.ORF01423	295 aa	glycosyl transferase, group 2 family protein
CJB111.ORF01424	394 aa	glycosyl transferase, family 8, degenerate
CJB111.ORF01425	413 aa	glycosyl transferase, family 8
CJB111.ORF01426	401 aa	glycosyl transferase, family 8
CJB111.ORF01427	335 aa	conserved hypothetical protein
CJB111.ORF01429	1130 aa	cell wall surface anchor family protein
CJB111.ORF01430	273 aa	transcription regulator, probable [imported], putative
CJB111.ORF01431	50 aa	Unknown
CJB111.ORF01432	114 aa	Unknown

H36B [1456431-1469598]

H36B.ORF01573	398 aa	glycosyl transferase, family 8 SP1767 [imported]
H36B.ORF01574	295 aa	glycosyl transferase, group 2 family protein
H36B.ORF01575	394 aa	glycosyl transferase, family 8, degenerate
H36B.ORF01576	413 aa	glycosyl transferase, family 8
H36B.ORF01577	401 aa	glycosyl transferase, family 8
H36B.ORF01578	335 aa	conserved hypothetical protein
H36B.ORF01580	1326 aa	cell wall surface anchor family protein
H36B.ORF01581	498 aa	transcription regulator, probable [imported], putative

18RS21 [1302019-1313939]

18RS21.ORF01350	398 aa	glycosyl transferase, family 8 SP1767
18RS21.ORF01351	295 aa	glycosyl transferase, group 2 family protein
18RS21.ORF01352	394 aa	glycosyl transferase, family 8 SP1767
18RS21.ORF01353	413 aa	glycosyl transferase, family 8 SP1770
18RS21.ORF01354	401 aa	glycosyl transferase, family 8 SP1765
18RS21.ORF01355	335 aa	nucleotide sugar synthetase-like protein
18RS21.ORF01356	910 aa	cell wall surface anchor family protein
18RS21.ORF01357	498 aa	RogB protein

REGION 1.17 [7 sequence(s)]:

2603V/R [1506316-1513839]

SAG1486	548 aa	membrane protein, putative
SAG1487	233 aa	ABC transporter, ATP binding protein
SAG1488	195 aa	dephospho-CoA kinase
SAG1489	273 aa	formamidopyrimidine-DNA glycosylase
SAG1490	282 aa	transcriptional regulator, MutR family

SAG1491	530 aa	hypothetical protein
SAG1492	58 aa	hypothetical protein
SAG1493	66 aa	hypothetical protein
NEM316 [1617517-1624996]		
gbs1551	548 aa	membrane protein, putative
gbs1552	233 aa	gliding motility protein
gbs1553	197 aa	dephospho-CoA kinase
gbs1554	273 aa	formamidopyrimidine-DNA glycosylase
gbs1555	282 aa	transcriptional activator, Rgg/GadR/MutR family, C-terminal domain protein
gbs1556	530 aa	conserved hypothetical protein
A909 [1512462-1519985]		
A909.ORF00620	548 aa	membrane protein, putative
A909.ORF00619	233 aa	ABC transporter, ATP binding protein
A909.ORF00618	195 aa	dephospho-CoA kinase
A909.ORF00617	273 aa	formamidopyrimidine-DNA glycosylase
A909.ORF00616	282 aa	transcriptional activator, Rgg/GadR/MutR family
A909.ORF00615	530 aa	hypothetical protein
515 [1443756-1452197]		
515.ORF01584	548 aa	membrane protein, putative
515.ORF01585	233 aa	ABC transporter, ATP binding protein
515.ORF01586	197 aa	dephospho-CoA kinase
515.ORF01588	273 aa	formamidopyrimidine-DNA glycosylase
515.ORF01589	282 aa	transcriptional regulator, MutR family
515.ORF01590	349 aa	conserved hypothetical protein
515.ORF01591	264 aa	transcriptional regulator, MutR family
515.ORF01592	195 aa	conserved hypothetical protein
515.ORF01593	58 aa	conserved hypothetical protein
CJB111 [1427543-1435355]		
CJB111.ORF01455	366 aa	membrane protein, putative
CJB111.ORF01456	198 aa	membrane protein, putative
CJB111.ORF01457	233 aa	ABC transporter, ATP binding protein
CJB111.ORF01458	197 aa	dephospho-CoA kinase
CJB111.ORF01460	273 aa	formamidopyrimidine-DNA glycosylase
CJB111.ORF01461	282 aa	transcriptional regulator, MutR family
CJB111.ORF01462	530 aa	conserved hypothetical protein
CJB111.ORF01463	58 aa	conserved hypothetical protein
CJB111.ORFA01420	66 aa	conserved hypothetical protein
COH1 [1488861-1496367]		
COH1.ORF01597	531 aa	membrane protein, putative
COH1.ORF01598	233 aa	ABC transporter, ATP binding protein
COH1.ORF01599	197 aa	dephospho-CoA kinase
COH1.ORF01601	273 aa	formamidopyrimidine-DNA glycosylase
COH1.ORF01602	282 aa	transcriptional regulator, MutR family

COH1.ORF01603	529 aa	conserved hypothetical protein
COH1.ORF01604	58 aa	conserved hypothetical protein
H36B [1492637-1500161]		
H36B.ORF01604	548 aa	membrane protein, putative
H36B.ORF01605	233 aa	ABC transporter, ATP binding protein
H36B.ORF01606	197 aa	dephospho-CoA kinase
H36B.ORF01608	273 aa	formamidopyrimidine-DNA glycosylase
H36B.ORF01609	190 aa	transcriptional regulator, MutR family
H36B.ORF01610	100 aa	transcriptional regulator, MutR family
H36B.ORF01611	529 aa	conserved hypothetical protein
H36B.ORF01612	58 aa	conserved hypothetical protein
H36B.ORFA01554	45 aa	conserved hypothetical protein
REGION 1.18 [7 sequence(s)]:		
2603V/R [1633028-1638363]		
SAG1631	223 aa	potassium uptake protein, Trk family, putative
SAG1632	276 aa	cobalt transport family protein
SAG1633	558 aa	ABC transporter, ATP-binding protein
SAG1634	212 aa	conserved hypothetical protein
SAG1635	402 aa	sodium:dicarboxylate symporter family protein
NEM316 [1736140-1741477]		
gbs1678	223 aa	potassium uptake protein, Trk family
gbs1679	276 aa	cobalt transport family protein
gbs1680	558 aa	ABC transporter, ATP-binding protein
gbs1681	182 aa	conserved hypotehtical protein
gbs1682	402 aa	sodium:dicarboxylate symporter family protein
A909 [1635659-1642474]		
A909.ORF00489	223 aa	potassium uptake protein, K ⁺ transporter (Trk) family
A909.ORF00488	276 aa	nickel/cobalt uptake transporter (NiCoT) family ABC transporter, permease protein
A909.ORF00487	558 aa	ABC transporter, ATP-binding protein
A909.ORF00486	182 aa	membrane protein, putative
A909.ORF00485	402 aa	dicarboxylate/amino acid,cation (Na ⁺ or H ⁺) symporter (DAACS) family protein YgjU
A909.ORF00484	0 aa	branched chain amino acid,cation symporter, authentic frameshift
515 [1565663-1570723]		
515.ORF01729	223 aa	potassium uptake protein, Trk family [imported]
515.ORF01730	276 aa	cobalt transport family protein
515.ORF01731	558 aa	ABC transporter, ATP-binding protein
515.ORF01732	212 aa	conserved hypothetical protein
515.ORF01733	274 aa	sodium:dicarboxylate symporter family protein
CJB111 [1547809-1553054]		
CJB111.ORF01589	223 aa	potassium uptake protein, Trk family [imported]

CJB111.ORF01590	276 aa	cobalt transport family protein
CJB111.ORF01591	558 aa	ABC transporter, ATP-binding protein
CJB111.ORF01592	182 aa	conserved hypothetical protein
CJB111.ORF01593	374 aa	sodium:dicarboxylate symporter family protein
COH1 [1616635-1624981]		
COH1.ORF01745	223 aa	potassium uptake protein, Trk family [imported]
COH1.ORF01746	276 aa	cobalt transport family protein
COH1.ORF01747	558 aa	ABC transporter, ATP-binding protein
COH1.ORF01748	212 aa	conserved hypothetical protein
COH1.ORF01749	402 aa	sodium:dicarboxylate symporter family protein
COH1.ORF01750	241 aa	amidase family protein
COH1.ORF01751	105 aa	conserved hypothetical protein
COH1.ORFA01686	100 aa	conserved hypothetical protein
COH1.ORF01752	143 aa	Unknown
COH1.ORF01753	443 aa	branched-chain amino acid transport system II carrier protein
H36B [1616792-1622629]		
H36B.ORF01750	223 aa	potassium uptake protein, Trk family [imported]
H36B.ORF01751	276 aa	cobalt transport family protein
H36B.ORF01752	259 aa	ABC transporter, ATP-binding protein
H36B.ORF01753	282 aa	ABC transporter, ATP-binding protein
H36B.ORF01754	79 aa	conserved hypothetical protein
H36B.ORF01755	0 aa	conserved hypothetical protein
H36B.ORF01756	324 aa	sodium:dicarboxylate symporter family protein
H36B.ORF01757	286 aa	GTP-binding protein, Era/ThdF family
REGION 1.19 [7 sequence(s)]:		
2603V/R [1675066-1683135]		
SAG1679	320 aa	asparaginase family protein
SAG1680	292 aa	shikimate 5-dehydrogenase
SAG1681	304 aa	oxidoreductase, aldo/keto reductase family
SAG1682	671 aa	ATP-dependent DNA helicase RecG
SAG1683	512 aa	immunogenic secreted protein, putative
NEM316 [1778183-1786252]		
gbs1723	297 aa	asparaginase family protein
gbs1724	292 aa	shikimate 5-dehydrogenase
gbs1725	304 aa	oxidoreductase, aldo/keto reductase family
gbs1726	671 aa	ATP-dependent DNA helicase RecG
gbs1727	512 aa	immunogenic secreted protein precursor homologue
A909 [1677696-1685765]		
A909.ORF00443	320 aa	asparaginase family protein
A909.ORF00442	292 aa	shikimate 5-dehydrogenase
A909.ORF00441	304 aa	oxidoreductase, aldo/keto reductase family
A909.ORF00440	671 aa	ATP-dependent DNA helicase RecG

A909.ORF00439	512 aa	immunogenic secreted protein, putative
515 [1608018-1616087]		
515.ORF01779	297 aa	asparaginase family protein
515.ORF01780	292 aa	shikimate 5-dehydrogenase
515.ORF01781	304 aa	oxidoreductase, aldo/keto reductase family
515.ORF01782	671 aa	ATP-dependent DNA helicase RecG
515.ORF01783	512 aa	N-acetylmuramoyl-L-alanine amidase, family 4
CJB111 [1590282-1598278]		
CJB111.ORF01637	93 aa	asparaginase family protein
CJB111.ORF01638	78 aa	asparaginase family protein
CJB111.ORF01639	137 aa	asparaginase family protein
CJB111.ORF01640	292 aa	shikimate 5-dehydrogenase
CJB111.ORF01641	304 aa	oxidoreductase, aldo/keto reductase family
CJB111.ORF01642	671 aa	ATP-dependent DNA helicase RecG
CJB111.ORF01643	86 aa	N-acetylmuramoyl-L-alanine amidase domain protein
CJB111.ORFA01600	30 aa	conserved hypothetical protein
CJB111.ORF01644	317 aa	immunogenic secreted protein, putative
COH1 [1664831-1672900]		
COH1.ORF01806	297 aa	asparaginase family protein
COH1.ORF01807	292 aa	shikimate 5-dehydrogenase
COH1.ORF01808	304 aa	oxidoreductase, aldo/keto reductase family
COH1.ORF01809	671 aa	ATP-dependent DNA helicase RecG
COH1.ORF01810	512 aa	N-acetylmuramoyl-L-alanine amidase, family 4
H36B [1659913-1667982]		
H36B.ORF01804	297 aa	asparaginase family protein
H36B.ORF01805	292 aa	shikimate 5-dehydrogenase
H36B.ORF01806	304 aa	oxidoreductase, aldo/keto reductase family
H36B.ORF01807	671 aa	ATP-dependent DNA helicase RecG
H36B.ORF01808	512 aa	N-acetylmuramoyl-L-alanine amidase, family 4
REGION 1.20 [1 sequence(s)]:		
2603V/R [1832899-1867259]		
SAG1835	134 aa	conserved hypothetical protein
SAG1836	61 aa	conserved hypothetical protein
SAG1837	468 aa	prophage LambdaSa2, lysin, putative
SAG1838	109 aa	prophage LambdaSa2, holin, putative
SAG1839	136 aa	conserved hypothetical protein
SAG1840	112 aa	hypothetical protein
SAG1841	76 aa	conserved domain protein
SAG1842	1224 aa	prophage LambdaSa2, PblB, putative
SAG1843	240 aa	conserved hypothetical protein
SAG1844	911 aa	conserved hypothetical protein
SAG1845	42 aa	hypothetical protein

SAG1846	158 aa	hypothetical protein
SAG1847	227 aa	conserved hypothetical protein
SAG1848	114 aa	conserved hypothetical protein
SAG1849	115 aa	hypothetical protein
SAG1850	101 aa	hypothetical protein
SAG1851	111 aa	conserved domain protein
SAG1852	420 aa	conserved domain protein
SAG1853	180 aa	prophage LambdaSa2, protease, putative
SAG1854	380 aa	conserved hypothetical protein
SAG1855	570 aa	prophage LambdaSa2, terminase large subunit, putative
SAG1856	161 aa	hypothetical protein
SAG1857	119 aa	prophage LambdaSa2, HNH endonuclease family protein
SAG1858	95 aa	hypothetical protein
SAG1859	180 aa	prophage LambdaSa2, site-specific recombinase, phage integrase family
SAG1860	154 aa	conserved hypothetical protein
SAG1861	119 aa	prophage LambdaSa2, transcriptional regulator, Cro/CI family
SAG1862	86 aa	hypothetical protein
SAG1863	138 aa	prophage LambdaSa2, single-strand binding protein
SAG1864	68 aa	hypothetical protein
SAG1865	74 aa	conserved hypothetical protein
SAG1866	109 aa	conserved hypothetical protein
SAG1867	163 aa	conserved hypothetical protein
SAG1868	134 aa	hypothetical protein
SAG1869	437 aa	prophage LambdaSa2, type II DNA modification methyltransferase, putative
SAG1870	273 aa	prophage LambdaSa2, DNA replication protein DnaC, putative
SAG1871	248 aa	prophage LambdaSa2, bacteriophage replication protein/hypothetical protein, truncation/fusion
SAG1872	200 aa	hypothetical protein
SAG1873	443 aa	prophage LambdaSa2, replicative DNA helicase
SAG1874	87 aa	hypothetical protein
SAG1875	94 aa	conserved hypothetical protein
SAG1876	176 aa	prophage LambdaSa2, HNH endonuclease family protein
SAG1877	236 aa	prophage LambdaSa2, antirepressor protein, putative
SAG1878	102 aa	conserved domain protein
SAG1879	156 aa	hypothetical protein
SAG1880	54 aa	hypothetical protein
SAG1881	51 aa	hypothetical protein
SAG1882	120 aa	prophage LambdaSa2, repressor protein, putative
SAG1883	128 aa	conserved hypothetical protein
SAG1884	134 aa	hypothetical protein
SAG1885	356 aa	prophage LambdaSa2, site-specific recombinase, phage integrase family
SAG1886	32 aa	hypothetical protein

REGION 1.21 [6 sequence(s)]:

2603V/R [1879464-1887918]

SAG1898	271 aa	PTS system, IID component
SAG1899	288 aa	PTS system, IIC component
SAG1900	164 aa	PTS system, IIB component
SAG1901	398 aa	glucuronyl hydrolase
SAG1902	144 aa	PTS system, IIA component
SAG1903	34 aa	hypothetical protein
SAG1904	270 aa	oxidoreductase, short-chain dehydrogenase/reductase family
SAG1905	212 aa	conserved hypothetical protein
SAG1906	335 aa	carbohydrate kinase, PfkB family
SAG1907	212 aa	2-dehydro-3-deoxyphosphogluconate aldolase/4-hydroxy-2-oxoglutarate

aldolase

NEM316 [1953707-1961808]

gbs1886	271 aa	PTS system, IID component
gbs1887	288 aa	PTS system, IIC component
gbs1888	164 aa	PTS system, IIB component
gbs1889	398 aa	unsaturated glucuronyl hydrolase
gbs1890	144 aa	PTS system
gbs1891	270 aa	gluconate 5-dehydrogenase
gbs1892	212 aa	sugar-phosphate isomerase
gbs1893	335 aa	2-dehydro-3-deoxygluconokinase
gbs1894	212 aa	4-hydroxy-2-oxoglutarate aldolase

515 [1777377-1785446]

515.ORF01949	271 aa	PTS system, IID component
515.ORF01950	288 aa	PTS system, IIC component
515.ORF01951	164 aa	PTS system, IIB component
515.ORF01952	398 aa	glucuronyl hydrolase
515.ORF01954	54 aa	PTS system, IIA component
515.ORF01955	240 aa	oxidoreductase, short-chain dehydrogenase/reductase family
515.ORF01956	212 aa	conserved hypothetical protein
515.ORF01957	335 aa	carbohydrate kinase, PfkB family
515.ORF01959	212 aa	2-dehydro-3-deoxyphosphogluconate aldolase/4-hydroxy-2-

oxoglutarate aldolase

CJB111 [1777345-1784725]

CJB111.ORF01831	271 aa	PTS system, IID component
CJB111.ORF01832	288 aa	PTS system, IIC component
CJB111.ORF01833	164 aa	PTS system, IIB component
CJB111.ORF01834	398 aa	glucuronyl hydrolase
CJB111.ORF01835	135 aa	PTS system, IIA component
CJB111.ORF01836	270 aa	oxidoreductase, short-chain dehydrogenase/reductase family
CJB111.ORF01837	213 aa	conserved hypothetical protein

CJB111.ORF01838	335 aa	carbohydrate kinase, PfkB family
CJB111.ORF01839	212 aa	2-dehydro-3-deoxyphosphogluconate aldolase/4-hydroxy-2-oxoglutarate aldolase
COH1 [1840727-1848775]		
COH1.ORF01993	271 aa	PTS system, IID component
COH1.ORF01994	288 aa	PTS system, IIC component
COH1.ORF01995	164 aa	PTS system, IIB component
COH1.ORF01996	398 aa	glucuronyl hydrolase
COH1.ORF01998	106 aa	PTS system, IIA component
COH1.ORF01999	240 aa	oxidoreductase, short-chain dehydrogenase/reductase family
COH1.ORF02000	212 aa	conserved hypothetical protein
COH1.ORF02001	335 aa	carbohydrate kinase, PfkB family
COH1.ORF02003	212 aa	2-dehydro-3-deoxyphosphogluconate aldolase/4-hydroxy-2-oxoglutarate aldolase
18RS21 [1627906-1636125]		
18RS21.ORF01702	271 aa	PTS system, IID component
18RS21.ORF01703	288 aa	PTS system, IIC component
18RS21.ORF01704	164 aa	PTS system, IIB component
18RS21.ORF01705	398 aa	unsaturated glucuronyl hydrolase
18RS21.ORF01706	106 aa	PTS system, IIA component
18RS21.ORF01707	270 aa	gluconate 5-dehydrogenase
18RS21.ORF01708	212 aa	sugar-phosphate isomerase
18RS21.ORF01709	335 aa	2-dehydro-3-deoxygluconokinase
18RS21.ORF01710	212 aa	4-hydroxy-2-oxoglutarate aldolase

REGION 1.22 [3 sequence(s)]:

2603V/R [1961881-2005812]

SAG1979	253 aa	membrane protein, putative
SAG1980	300 aa	ABC transporter, ATP-binding protein
SAG1981	68 aa	hypothetical protein
SAG1982	359 aa	transcriptional regulator, Cro/CI family
SAG1983	105 aa	conserved hypothetical protein
SAG1984	188 aa	conserved hypothetical protein TIGR00730
SAG1985	51 aa	hypothetical protein
SAG1986	375 aa	site-specific recombinase, phage integrase family
SAG1987	61 aa	conserved hypothetical protein
SAG1988	342 aa	conserved hypothetical protein
SAG1989	139 aa	hypothetical protein
SAG1990	127 aa	hypothetical protein
SAG1991	204 aa	transcriptional regulator, Cro/CI family
SAG1992	518 aa	protein of unknown function
SAG1993	373 aa	site-specific recombinase, phage integrase family
SAG1994	108 aa	conserved hypothetical protein

SAG1995	210 aa	hypothetical protein
SAG1996	263 aa	cell wall surface anchor family protein, putative
SAG1997	182 aa	hypothetical protein
SAG1998	457 aa	hypothetical protein
SAG1999	47 aa	hypothetical protein
SAG2000	666 aa	membrane protein, putative
SAG2001	756 aa	conjugal transfer protein, interruption-C
SAG2002	129 aa	IS1381, transposase OrfB
SAG2003	127 aa	IS1381, transposase OrfA
SAG2004	67 aa	conjugal transfer protein, interruption-N
SAG2005	136 aa	conserved hypothetical protein
SAG2006	88 aa	conserved hypothetical protein
SAG2007	317 aa	conserved hypothetical protein
SAG2008	84 aa	conserved hypothetical protein
SAG2009	88 aa	conserved hypothetical protein
SAG2010	157 aa	hypothetical protein
SAG2011	160 aa	conserved hypothetical protein
SAG2012	90 aa	hypothetical protein
SAG2013	189 aa	hypothetical protein
SAG2014	449 aa	hypothetical protein
SAG2015	99 aa	transcriptional regulator, Cro/CI family
SAG2016	125 aa	hypothetical protein
SAG2017	429 aa	transcriptional regulator, Cro/CI family
SAG2018	553 aa	FtsK/SpoIIIE family protein
SAG2019	153 aa	hypothetical protein
SAG2020	98 aa	hypothetical protein
SAG2021	826 aa	cell wall surface anchor family protein
SAG2022	417 aa	transposase, ISL3 family
SAG2023	546 aa	mercuric reductase
SAG2024	130 aa	mercuric resistance operon regulatory protein MerR
SAG2025	522 aa	Mn ²⁺ /Fe ²⁺ transporter, NRAMP family
SAG2026	240 aa	membrane protein, putative
SAG2027	205 aa	ABC transporter, ATP-binding protein
SAG2028	36 aa	conserved hypothetical protein

515 [1860750-1907868]

515.ORF02036	373 aa	site-specific recombinase, phage integrase family
515.ORF02037	108 aa	Domain of unknown function (DUF771) superfamily
515.ORF02038	210 aa	conserved hypothetical protein
515.ORF02039	180 aa	Unknown
515.ORF02040	53 aa	cell wall surface anchor family protein, putative
515.ORF02041	438 aa	conserved hypothetical protein
515.ORF02042	289 aa	DNA adenine methylase, putative
515.ORF02043	259 aa	cell wall surface anchor signal protein

515.ORF02045	182 aa	conserved hypothetical protein
515.ORF02046	457 aa	CHAP domain family
515.ORF02047	666 aa	membrane protein, putative
515.ORF02048	833 aa	conjugal transfer protein, interruption-C
515.ORF02049	124 aa	conserved hypothetical protein
515.ORF02050	88 aa	conserved hypothetical protein
515.ORF02051	317 aa	conserved hypothetical protein
515.ORF02052	84 aa	conserved hypothetical protein
515.ORF02053	88 aa	Uncharacterized ACR, COG2161 subfamily
515.ORF02054	157 aa	conserved hypothetical protein
515.ORF02055	161 aa	conserved hypothetical protein
515.ORF02056	90 aa	conserved hypothetical protein
515.ORF02057	117 aa	transcriptional regulator, Cro/CI family
515.ORF02058	76 aa	transcriptional regulator, Cro/CI family
515.ORF02059	125 aa	conserved hypothetical protein
515.ORF02060	410 aa	transcriptional regulator, Cro/CI family
515.ORF02061	553 aa	FtsK/SpoIIIE family protein
515.ORF02062	153 aa	conserved hypothetical protein
515.ORF02063	98 aa	conserved hypothetical protein
515.ORF02064	863 aa	cell wall surface anchor family protein
515.ORF02065	753 aa	Unknown
515.ORF02066	87 aa	conserved hypothetical protein
515.ORF02067	153 aa	Unknown
515.ORF02068	103 aa	conserved hypothetical protein
515.ORF02069	143 aa	transcriptional regulator, Cro/CI family
515.ORF02070	238 aa	FtsK/SpoIIIE family protein
515.ORF02071	297 aa	FtsK/SpoIIIE family protein
515.ORF02072	279 aa	FtsK/SpoIIIE family protein
515.ORF02073	250 aa	FtsK/SpoIIIE family protein
515.ORF02074	72 aa	transcriptional regulator, Cro/CI family
515.ORF02075	104 aa	transcriptional regulator, Cro/CI family
515.ORF02076	50 aa	conserved hypothetical protein
515.ORF02077	112 aa	transcriptional regulator, Cro/CI family
515.ORF02078	140 aa	Unknown
515.ORF02079	122 aa	lipoprotein, putative
515.ORF02080	112 aa	Unknown
515.ORF02081	97 aa	DNA-damage-inducible protein J, putative
515.ORF02082	252 aa	CAMP factor
515.ORF02083	435 aa	transposase, ISL3 family
515.ORF02084	546 aa	carbamoyl-phosphate synthase, large subunit
515.ORF02085	130 aa	mercuric resistance operon regulatory protein MerR
515.ORF02086	522 aa	Mn ²⁺ /Fe ²⁺ transporter, NRAMP family
515.ORF02087	240 aa	membrane protein, putative

515.ORF02088	205 aa	ABC transporter, ATP-binding protein
515.ORF02089	36 aa	conserved hypothetical protein
18RS21 [1712379-1746497]		
18RS21.ORF01792	373 aa	site-specific recombinase, phage integrase family
18RS21.ORF01793	108 aa	Domain of unknown function (DUF771) superfamily
18RS21.ORF01794	210 aa	conserved hypothetical protein
18RS21.ORF01795	263 aa	cell surface protein A
18RS21.ORF01796	65 aa	conserved hypothetical protein
18RS21.ORF01797	121 aa	CHAP domain superfamily
18RS21.ORF01798	423 aa	CHAP domain family
18RS21.ORF01799	357 aa	membrane protein, putative
18RS21.ORF01800	473 aa	conjugal transfer protein, interruption-C
18RS21.ORF01801	215 aa	conjugal transfer protein, interruption-C
18RS21.ORF01802	136 aa	conserved hypothetical protein
18RS21.ORF01803	88 aa	conserved hypothetical protein
18RS21.ORF01804	306 aa	conserved hypothetical protein
18RS21.ORF01805	175 aa	conserved hypothetical protein
18RS21.ORF01806	449 aa	Transporter
18RS21.ORF01807	99 aa	transcriptional regulator, Cro/CI family
18RS21.ORF01808	125 aa	conserved hypothetical protein
18RS21.ORF01809	410 aa	transcriptional regulator, Cro/CI family
18RS21.ORF01810	379 aa	site-specific recombinase, phage integrase family
18RS21.ORF01811	67 aa	conserved hypothetical protein
18RS21.ORF01812	330 aa	replication protein
18RS21.ORF01813	60 aa	hypothetical protein
18RS21.ORF01814	97 aa	transcription regulator
18RS21.ORF01815	406 aa	mercuric reductase
18RS21.ORF01816	553 aa	FtsK/SpoIIIE family protein
18RS21.ORF01817	85 aa	Macrophage colony stimulating factor I receptor precursor (CSF-1-R)
(EC 2.7.1.112) (Fms proto-oncogene) (c-fms)		
18RS21.ORF01818	70 aa	conserved hypothetical protein
18RS21.ORF01819	98 aa	conserved hypothetical protein
18RS21.ORF01820	835 aa	cell wall surface anchor family protein
18RS21.ORF01821	417 aa	transposase, ISL3 family
18RS21.ORF01822	546 aa	mercuric reductase
18RS21.ORF01823	130 aa	Hg(II)-responsive transcriptional regulator
18RS21.ORF01824	90 aa	Mn ²⁺ /Fe ²⁺ transporter, NRAMP family
18RS21.ORF01825	522 aa	Mn ²⁺ /Fe ²⁺ transporter, NRAMP family
18RS21.ORF01826	240 aa	membrane protein, putative
18RS21.ORF01827	205 aa	ABC transporter (ATP-binding protein) homolog yydI

REGION 1.23 [7 sequence(s)]:

2603V/R [2062261-2069087]

SAG2080	286 aa	glyoxalase family protein
SAG2081	243 aa	conserved hypothetical protein
SAG2082	205 aa	anaerobic ribonucleoside-triphosphate reductase activating protein
SAG2083	163 aa	acetyltransferase, GNAT family
SAG2084	310 aa	virulence factor MviM, putative
SAG2085	47 aa	conserved hypothetical protein
SAG2086	723 aa	anaerobic ribonucleoside-triphosphate reductase
NEM316 [2108986-2115812]		
gbs2035	286 aa	glyoxalase family protein
gbs2036	230 aa	Hypothetical UPF0246 protein gbs2036
gbs2037	205 aa	anaerobic ribonucleotide triphosphate reductase activator protein
gbs2038	163 aa	acetyltransferase, GNAT family
gbs2039	310 aa	oxidoreductase ysjB
gbs2040	47 aa	conserved hypothetical protein
gbs2041	723 aa	anaerobic ribonucleoside-triphosphate reductase
A909 [2013670-2020495]		
A909.ORF00115	286 aa	glyoxalase family protein
A909.ORF00114	243 aa	conserved hypothetical protein
A909.ORF00113	205 aa	anaerobic ribonucleoside-triphosphate reductase activating protein
A909.ORF00112	163 aa	acetyltransferase, GNAT family
A909.ORF00111	310 aa	oxidoreductase, Gfo/Idh/MocA family
A909.ORF00110	47 aa	conserved hypothetical protein
A909.ORF00109	723 aa	anaerobic ribonucleoside-triphosphate reductase
515 [1965559-1972385]		
515.ORF02143	286 aa	glyoxalase family protein
515.ORF02144	230 aa	Protein of unknown function (DUF328) superfamily
515.ORF02145	205 aa	anaerobic ribonucleoside-triphosphate reductase activating protein
515.ORF02146	163 aa	acetyltransferase, GNAT family
515.ORF02147	310 aa	virulence factor MviM, putative
515.ORF02148	47 aa	conserved hypothetical protein
515.ORF02149	723 aa	anaerobic ribonucleoside-triphosphate reductase
CJB111 [1924379-1931204]		
CJB111.ORF01986	286 aa	glyoxalase family protein
CJB111.ORF01987	230 aa	Unknown
CJB111.ORF01988	205 aa	anaerobic ribonucleoside-triphosphate reductase activating protein
CJB111.ORF01989	163 aa	acetyltransferase, GNAT family
CJB111.ORF01990	310 aa	virulence factor MviM, putative
CJB111.ORF01991	47 aa	conserved hypothetical protein
CJB111.ORF01992	723 aa	anaerobic ribonucleoside-triphosphate reductase
COH1 [2045624-2052562]		
COH1.ORF02229	286 aa	glyoxalase family protein
COH1.ORF02230	230 aa	Unknown
COH1.ORF02231	205 aa	anaerobic ribonucleoside-triphosphate reductase activating protein

COH1.ORF02232	163 aa	acetyltransferase, GNAT family
COH1.ORF02233	310 aa	virulence factor MviM, putative
COH1.ORF02234	47 aa	conserved hypothetical protein
COH1.ORF02235	648 aa	anaerobic ribonucleoside-triphosphate reductase
COH1.ORF02236	96 aa	anaerobic ribonucleoside-triphosphate reductase

H36B [1979166-1985991]

H36B.ORF02128	286 aa	glyoxalase family protein
H36B.ORF02129	230 aa	Unknown
H36B.ORF02130	205 aa	anaerobic ribonucleoside-triphosphate reductase activating protein
H36B.ORF02131	163 aa	acetyltransferase, GNAT family
H36B.ORF02132	310 aa	virulence factor MviM, putative
H36B.ORF02133	47 aa	conserved hypothetical protein
H36B.ORF02134	723 aa	anaerobic ribonucleoside-triphosphate reductase

REGION 1.24 [1 sequence(s)]:

2603V/R [2090618-2100040]

SAG2109	60 aa	ribosomal protein L32
SAG2110	49 aa	ribosomal protein L33
SAG2111	173 aa	conserved hypothetical protein
SAG2112	494 aa	site-specific recombinase, phage integrase family
SAG2113	82 aa	conserved hypothetical protein
SAG2114	342 aa	conserved hypothetical protein
SAG2115	143 aa	hypothetical protein
SAG2116	151 aa	conserved hypothetical protein
SAG2117	71 aa	hypothetical protein
SAG2118	306 aa	transcriptional regulator, Cro/CI family
SAG2119	373 aa	conserved domain protein
SAG2120	269 aa	hypothetical protein

REGION 2.1 [1 sequence(s)]:

NEM316 [251357-264482]

gbs0236	260 aa	conserved hypothetical protein
gbs0237	377 aa	integrase homolog ydcL
gbs0238	68 aa	conserved hypothetical protein
gbs0239	262 aa	Rep protein
gbs0240	104 aa	conserved hypothetical protein
gbs0241	452 aa	FtsK/SpoIIIE family subfamily, putative
gbs0242	141 aa	conserved hypothetical protein
gbs0243	93 aa	conserved hypothetical protein
gbs0244	152 aa	conserved hypothetical protein

REGION 2.2 [3 sequence(s)]:

NEM316 [385777-432905]

gbs0361	62 aa	conserved hypothetical protein
gbs0362	164 aa	conserved hypothetical protein
gbs0363	109 aa	conserved hypothetical protein
gbs0364	30 aa	conserved hypothetical protein
gbs0365	39 aa	conserved hypothetical protein
gbs0366	75 aa	conserved hypothetical protein
gbs0367	497 aa	repE protein
gbs0369	67 aa	conserved hypothetical protein
gbs0370	137 aa	conserved hypothetical protein
gbs0371	148 aa	conserved hypothetical protein
gbs0372	149 aa	conserved hypothetical protein
gbs0373	136 aa	conserved hypothetical protein
gbs0374	56 aa	conserved hypothetical protein
gbs0375	82 aa	conserved hypothetical protein
gbs0376	318 aa	conserved hypothetical protein
gbs0377	334 aa	conserved hypothetical protein
gbs0378	282 aa	conserved hypothetical protein
gbs0379	91 aa	Myosin II heavy chain, non muscle
gbs0380	105 aa	conserved hypothetical protein
gbs0381	115 aa	conserved hypothetical protein
gbs0382	266 aa	prophage Lp1 protein 65
gbs0383	152 aa	conserved hypothetical protein
gbs0384	788 aa	conserved hypothetical protein
gbs0385	85 aa	conserved hypothetical protein
gbs0386	1576 aa	conserved hypothetical protein
gbs0387	582 aa	DNA topoisomerase III topB
gbs0388	639 aa	negative regulator of genetic competence ClpC/MecB
gbs0389	115 aa	conserved hypothetical protein
gbs0390	360 aa	conserved hypothetical protein
gbs0391	753 aa	Gram positive anchor domain protein
gbs0392	240 aa	surface protein PrgC
gbs0393	933 aa	cell wall surface anchor family protein
gbs0394	143 aa	EF0030
gbs0395	85 aa	conserved hypothetical protein
gbs0396	1049 aa	pXO2-16
gbs0397	160 aa	lipoprotein, putative
gbs0398	700 aa	membrane protein, putative
gbs0399	93 aa	DNA ligase (Polydeoxyribonucleotide synthase [NAD ⁺])
gbs0400	101 aa	conserved hypothetical protein
gbs0401	215 aa	conserved hypothetical protein
gbs0402	649 aa	conserved hypothetical protein
gbs0403	85 aa	conserved hypothetical protein
gbs0404	445 aa	EF0011

gbs0405	194 aa	conserved hypothetical protein
gbs0406	272 aa	ParA
gbs0407	92 aa	conserved hypothetical protein
gbs0408	127 aa	replication protein
gbs0409	103 aa	conserved hypothetical protein
gbs0410	442 aa	conserved hypothetical protein
NEM316 [711626-759043]		
gbs0692	62 aa	conserved hypothetical protein
gbs0693	164 aa	conserved hypothetical protein
gbs0694	109 aa	conserved hypothetical protein
gbs0695	30 aa	conserved hypothetical protein
gbs0696	39 aa	conserved hypothetical protein
gbs0697	75 aa	conserved hypothetical protein
gbs0698	497 aa	repE protein
gbs0699	67 aa	conserved hypothetical protein
gbs0700	137 aa	conserved hypothetical protein
gbs0701	148 aa	conserved hypothetical protein
gbs0702	149 aa	conserved hypothetical protein
gbs0703	136 aa	conserved hypothetical protein
gbs0704	56 aa	conserved hypothetical protein
gbs0705	82 aa	conserved hypothetical protein
gbs0706	318 aa	conserved hypothetical protein
gbs0707	334 aa	conserved hypothetical protein
gbs0708	282 aa	conserved hypothetical protein
gbs0709	91 aa	Myosin II heavy chain, non muscle
gbs0710	105 aa	conserved hypothetical protein
gbs0711	115 aa	conserved hypothetical protein
gbs0712	266 aa	prophage Lp1 protein 65
gbs0713	152 aa	conserved hypothetical protein
gbs0714	788 aa	conserved hypothetical protein
gbs0715	85 aa	conserved hypothetical protein
gbs0716	1576 aa	conserved hypothetical protein
gbs0717	582 aa	DNA topoisomerase III topB
gbs0718	639 aa	negative regulator of genetic competence ClpC/MecB
gbs0719	115 aa	conserved hypothetical protein
gbs0720	360 aa	conserved hypothetical protein
gbs0721	753 aa	Gram positive anchor domain protein
gbs0722	240 aa	surface protein PrgC
gbs0723	933 aa	cell wall surface anchor family protein
gbs0724	143 aa	EF0030
gbs0725	85 aa	conserved hypothetical protein
gbs0726	1049 aa	pXO2-16
gbs0727	160 aa	lipoprotein, putative

gbs0728	700 aa	membrane protein, putative
gbs0729	93 aa	DNA ligase (Polydeoxyribonucleotide synthase [NAD+])
gbs0730	101 aa	conserved hypothetical protein
gbs0731	215 aa	conserved hypothetical protein
gbs0732	649 aa	conserved hypothetical protein
gbs0733	85 aa	conserved hypothetical protein
gbs0734	445 aa	EF0011
gbs0735	194 aa	conserved hypothetical protein
gbs0736	272 aa	ParA
gbs0737	92 aa	conserved hypothetical protein
gbs0738	127 aa	replication protein
gbs0739	103 aa	conserved hypothetical protein
gbs0740	442 aa	conserved hypothetical protein

NEM316 [1012958-1060101]

gbs0969	442 aa	conserved hypothetical protein
gbs0970	103 aa	conserved hypothetical protein
gbs0971	127 aa	replication protein
gbs0972	92 aa	conserved hypothetical protein
gbs0973	272 aa	ParA
gbs0974	194 aa	conserved hypothetical protein
gbs0975	445 aa	EF0011
gbs0976	85 aa	conserved hypothetical protein
gbs0977	649 aa	conserved hypothetical protein
gbs0978	215 aa	conserved hypothetical protein
gbs0979	101 aa	conserved hypothetical protein
gbs0980	93 aa	DNA ligase (Polydeoxyribonucleotide synthase [NAD+])
gbs0981	700 aa	membrane protein, putative
gbs0982	160 aa	lipoprotein, putative
gbs0983	1049 aa	pXO2-16
gbs0984	85 aa	conserved hypothetical protein
gbs0985	143 aa	EF0030
gbs0986	933 aa	cell wall surface anchor family protein
gbs0987	240 aa	surface protein PrgC
gbs0988	753 aa	Gram positive anchor domain protein
gbs0989	360 aa	conserved hypothetical protein
gbs0990	115 aa	conserved hypothetical protein
gbs0991	639 aa	negative regulator of genetic competence ClpC/MecB
gbs0992	582 aa	DNA topoisomerase III topB
gbs0993	1576 aa	conserved hypothetical protein
gbs0994	85 aa	conserved hypothetical protein
gbs0995	788 aa	conserved hypothetical protein
gbs0996	152 aa	conserved hypothetical protein
gbs0997	266 aa	prophage Lp1 protein 65

gbs0998	115 aa	conserved hypothetical protein
gbs0999	105 aa	conserved hypothetical protein
gbs1000	91 aa	Myosin II heavy chain, non muscle
gbs1001	282 aa	conserved hypothetical protein
gbs1002	334 aa	conserved hypothetical protein
gbs1003	318 aa	conserved hypothetical protein
gbs1004	82 aa	conserved hypothetical protein
gbs1005	56 aa	conserved hypothetical protein
gbs1006	136 aa	conserved hypothetical protein
gbs1007	149 aa	conserved hypothetical protein
gbs1008	148 aa	conserved hypothetical protein
gbs1009	137 aa	conserved hypothetical protein
gbs0368	67 aa	conserved hypothetical protein
gbs1010	497 aa	repE protein
gbs1011	75 aa	conserved hypothetical protein
gbs1012	39 aa	conserved hypothetical protein
gbs1013	30 aa	conserved hypothetical protein
gbs1014	109 aa	conserved hypothetical protein
gbs1015	164 aa	conserved hypothetical protein
gbs1016	62 aa	conserved hypothetical protein

REGION 2.3 [1 sequence(s)]:

NEM316 [500392-510252]

gbs0471	97 aa	EF0032
gbs0472	112 aa	conserved hypothetical protein
gbs0473	118 aa	lipoprotein, putative
gbs0474	140 aa	Domain of unknown function (DUF955) superfamily
gbs0475	150 aa	immunity repressor protein
gbs0476	156 aa	conserved hypothetical protein
gbs0477	126 aa	conserved hypothetical protein
gbs0478	185 aa	conserved hypothetical protein
gbs0479	253 aa	cell surface protein A
gbs0480	180 aa	conserved hypothetical protein
gbs0481	108 aa	Domain of unknown function (DUF771) superfamily
gbs0482	144 aa	site-specific recombinase, phage integrase family
gbs0484	101 aa	conserved protein
gbs0485	112 aa	conserved protein
gbs0486	254 aa	methyltransferase

REGION 2.4 [1 sequence(s)]:

NEM316 [1163291-1197444]

gbs1118	397 aa	conserved hypothetical protein
gbs1119	99 aa	conserved hypothetical protein

gbs1120	415 aa	transferase
gbs1121	543 aa	relaxase
gbs1122	124 aa	conserved hypothetical protein
gbs1123	187 aa	conserved hypothetical protein
gbs1125	99 aa	conserved hypothetical protein
gbs1126	1078 aa	conserved hypothetical protein
gbs1127	121 aa	conserved hypothetical protein
gbs1128	681 aa	TraG family protein
gbs1129	163 aa	conserved hypothetical protein
gbs1130	224 aa	conserved hypothetical protein
gbs1131	90 aa	conserved hypothetical protein
gbs1132	201 aa	conserved hypothetical protein
gbs1133	896 aa	Tn5252, Orf28
gbs1134	186 aa	conserved hypothetical protein
gbs1135	783 aa	Tn5252, Orf26
gbs1136	119 aa	conserved hypothetical protein
gbs1137	152 aa	conserved hypothetical protein
gbs1138	75 aa	conserved hypothetical protein
gbs1139	165 aa	conserved hypothetical protein
gbs1140	250 aa	membrane protein, putative
gbs1141	161 aa	conserved hypothetical protein
gbs1142	75 aa	conserved hypothetical protein
gbs1143	932 aa	cell wall surface anchor family protein
gbs1144	236 aa	surface protein PrgC
gbs1145	743 aa	LPXTG-motif cell wall anchor domain protein
gbs1146	99 aa	conserved hypothetical protein
gbs1147	65 aa	transcriptional regulator, Cro/CI family
gbs1148	61 aa	conserved hypothetical protein
gbs1149	341 aa	IFN-response binding factor 1 (IREBF-1)
gbs1150	54 aa	conserved hypothetical protein
gbs1151	147 aa	conserved hypothetical protein
gbs1152	85 aa	EF0029
gbs1153	123 aa	conserved hypothetical protein

REGION 2.5 [1 sequence(s)]:

NEM316 [1255493-1262954]

gbs1217	51 aa	conserved hypothetical protein
gbs1218	143 aa	ATP synthase A chain subunit 6
gbs1219	48 aa	conserved hypothetical protein
gbs1220	144 aa	conserved hypothetical protein
gbs1221	262 aa	UmuD MucA homolog
gbs1222	96 aa	conserved hypothetical protein
gbs1223	321 aa	conserved hypothetical protein

gbs1224 358 aa integrase
gbs1225 466 aa 30S ribosomal protein S1

REGION 2.6 [1 sequence(s)]:

NEM316 [1361643-1424899]

gbs1314 393 aa site-specific recombinase, phage integrase family
gbs1315 77 aa conserved hypothetical protein
gbs1316 223 aa Plasmid replication protein
gbs1320 167 aa conserved hypothetical protein
gbs1321 104 aa conserved hypothetical protein
gbs1322 401 aa conserved hypothetical protein
gbs1323 163 aa conserved hypothetical protein
gbs1324 1203 aa type IIS restriction enzyme R and M protein
gbs1325 399 aa site-specific recombinase, phage integrase family
gbs1326 82 aa conserved hypothetical protein
gbs1327 73 aa transcriptional regulator, Cro/CI family
gbs1328 297 aa LacX protein, plasmid
gbs1329 468 aa 6-phospho-beta-galactosidase
gbs1330 568 aa PTS system, lactose-specific IIBC component (EIIBC-LAC) (Lactose-permease IIBC component) (Phosphotransferase enzyme II, BC component)(EC 2.7.1.69) (EII-LAC)
gbs1331 105 aa PTS system, lactose-specific IIA component
gbs1332 277 aa antiterminator protein
gbs1333 326 aa tagatose 1,6-diphosphate aldolase
gbs1334 303 aa tagatose-6-phosphate kinase
gbs1335 171 aa galactose-6-phosphate isomerase, LacB subunit
gbs1336 141 aa galactose-6-phosphate isomerase, LacA subunit
gbs1337 251 aa Lactose phosphotransferase system repressor
gbs1338 625 aa Tn5252, relaxase
gbs1339 121 aa Tn5252, Orf 9 protein
gbs1340 137 aa Tn5252, Orf 9 protein
gbs1341 672 aa conserved hypothetical protein
gbs1342 746 aa conserved hypothetical protein
gbs1343 256 aa Zeta toxin
gbs1344 158 aa Bacillus phage phi-105 immunity repressor protein homolog lin1762
gbs1345 96 aa conserved hypothetical protein
gbs1346 129 aa conserved hypothetical protein
gbs1347 76 aa conserved hypothetical protein
gbs1348 361 aa pXO2-78
gbs1349 212 aa conserved hypothetical protein
gbs1350 99 aa conserved hypothetical protein
gbs1351 99 aa conserved hypothetical protein
gbs1352 2014 aa SNF2 family protein
gbs1353 197 aa SNF2 family protein

gbs1354	183 aa	conserved hypothetical protein
gbs1355	63 aa	Calcium-binding acidic-repeat protein precursor (ARP)
gbs1356	1595 aa	agglutinin receptor
gbs1357	196 aa	abortive infection protein AbiGI
gbs1358	282 aa	abortive infection protein AbiGII
gbs1359	931 aa	Tn5252, Orf28
gbs1360	774 aa	Tn5252, Orf26
gbs1361	117 aa	conserved hypothetical protein
gbs1362	284 aa	Tn5252, Orf23
gbs1363	80 aa	conserved hypothetical protein
gbs1364	605 aa	TraG family protein
gbs1365	162 aa	conserved hypothetical protein
gbs1366	193 aa	CAAX amino terminal protease family family
gbs1367	77 aa	conserved hypothetical protein
gbs1368	128 aa	conserved hypothetical protein
gbs1369	148 aa	conserved hypothetical protein
gbs1370	450 aa	C-5 cytosine-specific DNA methylase
gbs1372	271 aa	IFN-response binding factor 1 (IREBF-1)
gbs1373	57 aa	conserved hypothetical protein
gbs1374	121 aa	ribosomal protein L7/L12
gbs1375	166 aa	50S ribosomal protein

REGION 2.7 [2 sequence(s)]:

NEM316 [1798480-1808451]

gbs1740	568 aa	ABC transporter, ATP-binding/permease protein
gbs1741	585 aa	ABC transporter, ATP-binding/permease protein
gbs1742	459 aa	ABC transporter, ATP-binding protein
gbs1743	237 aa	conserved hypothetical protein
gbs1744	198 aa	conserved hypothetical protein
gbs1745	143 aa	conserved hypothetical protein
gbs1746	51 aa	conserved hypothetical protein
gbs1748	271 aa	2,3-dihydroxybenzoate-AMP ligase
gbs1749	124 aa	iron-dependent transcription repressor CAC1469

515 [1629883-1639853]

515.ORF01801	43 aa	conserved hypothetical protein
515.ORF01802	568 aa	Unknown
515.ORF01803	300 aa	Unknown
515.ORF01804	293 aa	Unknown
515.ORF01805	459 aa	ABC transporter, ATP-binding protein
515.ORF01806	237 aa	Unknown
515.ORF01807	198 aa	Unknown
515.ORF01808	51 aa	conserved hypothetical protein
515.ORF01809	147 aa	2,3-dihydroxybenzoate-AMP ligase

515.ORF01810 271 aa yersiniabactin synthetase, salicylate ligase component
 515.ORF01811 124 aa iron-dependent repressor, putative

REGION 2.8 [3 sequence(s)]:

NEM316 [2036175-2052498]

gbs1965 101 aa conserved hypothetical protein
 gbs1966 133 aa conserved hypothetical protein
 gbs1967 402 aa conserved hypothetical protein
 gbs1968 110 aa conserved hypothetical protein
 gbs1970 48 aa conserved hypothetical protein
 gbs1972 164 aa transcriptional regulator, Cro/CI family
 gbs1973 450 aa conserved hypothetical protein
 gbs1974 363 aa conserved hypothetical protein
 gbs1975 314 aa conserved hypothetical protein
 gbs1976 109 aa conserved hypothetical protein
 gbs1978 42 aa conserved hypothetical protein
 gbs1979 96 aa a small heat shock protein of Clostridium acetobutylicum homolog

lmo0056

gbs1980 124 aa Protein of unknown function (DUF1310) subfamily
 gbs1981 242 aa conserved hypothetical protein
 gbs1982 84 aa EF0032
 gbs1983 101 aa conserved hypothetical protein
 gbs1984 132 aa conserved hypothetical protein
 gbs1985 240 aa membrane protein, putative
 gbs1986 205 aa ABC transporter (ATP-binding protein) homolog yydI

A909 [1938736-1957697]

A909.ORF00196 369 aa hypothetical protein
 A909.ORF00195 69 aa hypothetical protein
 A909.ORF00194 46 aa hypothetical protein
 A909.ORF00193 376 aa site-specific recombinase, phage integrase family
 A909.ORF00192 61 aa conserved hypothetical protein
 A909.ORF00191 342 aa replication initiation factor family protein
 A909.ORF00190 139 aa conserved domain protein
 A909.ORF00189 57 aa hypothetical protein
 A909.ORF00188 164 aa transcriptional regulator, putative
 A909.ORF00187 316 aa conserved hypothetical protein
 A909.ORF00186 196 aa DJ-1/PfpI family protein
 A909.ORF00185 0 aa conserved domain protein, authentic frameshift
 A909.ORF00183 128 aa conserved hypothetical protein
 A909.ORF00182 190 aa conserved domain protein
 A909.ORF00181 110 aa hypothetical protein
 A909.ORF00180 42 aa hypothetical protein
 A909.ORF00179 96 aa conserved hypothetical protein

A909.ORF00178	124 aa	conserved hypothetical protein
A909.ORF00177	41 aa	hypothetical protein
A909.ORF00176	127 aa	conserved hypothetical protein
A909.ORF00175	34 aa	hypothetical protein
A909.ORF00174	114 aa	hypothetical protein
A909.ORF00173	102 aa	hypothetical protein
A909.ORF02073	67 aa	hypothetical protein
A909.ORF00172	133 aa	hypothetical protein
A909.ORF00171	240 aa	membrane protein, putative
A909.ORF00170	205 aa	ABC transporter, ATP-binding protein

CJB111 [1861144-1869248]

CJB111.ORF01919	101 aa	Unknown
CJB111.ORF01920	133 aa	Unknown
CJB111.ORF01921	330 aa	Unknown
CJB111.ORF01922	71 aa	Unknown
CJB111.ORF01923	110 aa	Unknown
CJB111.ORFA01870	48 aa	hypothetical protein
CJB111.ORF01924	42 aa	Unknown
CJB111.ORF01925	34 aa	hypothetical protein
CJB111.ORF01926	69 aa	Unknown
CJB111.ORF01927	127 aa	protein of unknown function
CJB111.ORF01928	34 aa	hypothetical protein
CJB111.ORF01929	242 aa	Unknown
CJB111.ORF01930	39 aa	hypothetical protein
CJB111.ORF01931	84 aa	DNA-damage-inducible protein J, putative
CJB111.ORF01932	127 aa	degenerate transposase (orf1) [imported]

REGION 2.9 [6 sequence(s)]:

NEM316 [2137909-2151330]

gbs2064	204 aa	cadmium resistance protein NMB1955
gbs2065	112 aa	CadX
gbs2066	471 aa	conserved hypothetical protein
gbs2067	149 aa	conserved hypothetical protein
gbs2068	106 aa	conserved hypothetical protein
gbs2069	366 aa	FtsK/SpoIIIE family subfamily, putative
gbs2070	201 aa	conserved hypothetical protein
gbs2071	201 aa	Plasmid replication protein
gbs2072	82 aa	prophage ps1 protein 10
gbs2073	421 aa	prophage ps1 protein 23, integrase
gbs2074	331 aa	conserved hypothetical protein
gbs2076	353 aa	conserved hypothetical protein
gbs2077	127 aa	conserved hypothetical protein

A909 [2042593-2052556]

A909.ORF00084	402 aa	IS10R, transposase
A909.ORF00083	204 aa	cadmium resistance protein CadD
A909.ORF00082	112 aa	cadmium resistance accessory protein CadX
A909.ORF00081	471 aa	conserved domain protein
A909.ORF00080	149 aa	conserved domain protein
A909.ORF00079	68 aa	hypothetical protein
A909.ORF00078	366 aa	FtsK/SpoIIIE family protein
A909.ORF00077	201 aa	conserved hypothetical protein
A909.ORF00076	201 aa	plasmid replication protein
A909.ORF00075	421 aa	site-specific recombinase, phage integrase family
515 [1976774-1986364]		
515.ORF02157	258 aa	serine protease, subtilase family
515.ORF02158	151 aa	penicillin-binding protein 2A
515.ORF02159	457 aa	Unknown
515.ORF02160	149 aa	conserved hypothetical protein
515.ORF02161	106 aa	Unknown
515.ORF02162	366 aa	Unknown
515.ORF02163	201 aa	conserved hypothetical protein
515.ORF02164	201 aa	Plasmid replication protein
515.ORF02165	82 aa	conserved hypothetical protein
515.ORF02166	421 aa	integrase/recombinase, phage integrase family [imported], putative
CJB111 [1953207-1962543]		
CJB111.ORF02019	204 aa	cadmium resistance protein
CJB111.ORF02020	112 aa	cadmium efflux system accessory protein, putative
CJB111.ORF02021	471 aa	Unknown
CJB111.ORF02022	149 aa	conserved hypothetical protein
CJB111.ORF02023	106 aa	Unknown
CJB111.ORF02024	366 aa	Unknown
CJB111.ORF02025	228 aa	conserved hypothetical protein
CJB111.ORF02026	201 aa	Plasmid replication protein
CJB111.ORF02027	82 aa	conserved hypothetical protein
CJB111.ORF02028	83 aa	prophage ps1 protein 23, integrase [imported]
CJB111.ORF02029	283 aa	integrase/recombinase, phage integrase family [imported], putative
CJB111.ORF02030	129 aa	Transposase (IS4 family)
CJB111.ORF02031	161 aa	degenerate transposase (orf1) [imported]
COH1 [2074499-2082980]		
COH1.ORF02262	204 aa	cadmium resistance protein
COH1.ORF02263	112 aa	cadmium efflux system accessory protein, putative
COH1.ORF02264	471 aa	Unknown
COH1.ORF02265	149 aa	conserved hypothetical protein
COH1.ORF02266	106 aa	Unknown
COH1.ORF02267	366 aa	Unknown
COH1.ORF02268	201 aa	conserved hypothetical protein

COH1.ORF02269	201 aa	Plasmid replication protein
COH1.ORF02270	82 aa	conserved hypothetical protein
COH1.ORF02271	421 aa	integrase/recombinase, phage integrase family [imported], putative
H36B [2031170-2039653]		
H36B.ORF02190	204 aa	cadmium resistance protein
H36B.ORF02191	112 aa	cadmium efflux system accessory protein, putative
H36B.ORF02192	471 aa	Unknown
H36B.ORFA02119	43 aa	hypothetical protein
H36B.ORF02193	149 aa	conserved hypothetical protein
H36B.ORF02194	106 aa	Unknown
H36B.ORF02195	366 aa	Unknown
H36B.ORF02196	201 aa	conserved hypothetical protein
H36B.ORF02197	201 aa	Plasmid replication protein
H36B.ORF02198	82 aa	conserved hypothetical protein
H36B.ORF02199	421 aa	integrase/recombinase, phage integrase family [imported], putative

REGION 3.1 [1 sequence(s)]:

A909 [143616-152999]

A909.ORF01931	340 aa	ISSag3, transposase
A909.ORF01930	72 aa	hypothetical protein
A909.ORF01929	1164 aa	IgA-binding beta antigen
A909.ORF01927	175 aa	isoprenylcysteine carboxyl methyltransferase (ICMT) family protein
A909.ORF01926	446 aa	sensor histidine kinase
A909.ORF01925	217 aa	DNA-binding response regulator
A909.ORF01924	129 aa	IS1381, transposase orfB
A909.ORF01923	127 aa	IS1381, transposase orfA

REGION 3.2 [1 sequence(s)]:

A909 [462318-485250]

A909.ORF01629	0 aa	site-specific recombinase, phage integrase family, degenerate
A909.ORF01628	101 aa	conserved hypothetical protein
A909.ORF01627	112 aa	conserved hypothetical protein
A909.ORF01626	254 aa	conserved hypothetical protein
A909.ORF01625	686 aa	PTS system IIA domain protein
A909.ORF01624	149 aa	PTS system, galactitol-specific IIA component, putative
A909.ORF01623	92 aa	PTS system, galactitol-specific IIB component, putative
A909.ORF01622	445 aa	PTS system, galactitol-specific IIC component, putative
A909.ORF01621	276 aa	rhamnulose-1-phosphate aldolase
A909.ORF01620	154 aa	PTS system, galactitol-specific IIA component, putative
A909.ORF01619	443 aa	PTS system, galactitol-specific IIC component
A909.ORF01618	94 aa	PTS system, galactitol-specific IIB component, putative
A909.ORF01617	276 aa	transcriptional regulator, AraC family
A909.ORF01616	425 aa	sugar ABC transporter, sugar-binding protein, putative

A909.ORF01615	296 aa	sugar ABC transporter, permease protein, putative
A909.ORF01614	277 aa	ABC transporter, permease protein
A909.ORF01613	733 aa	alpha-galactosidase, putative
A909.ORF01612	0 aa	galactokinase, authentic point mutation
A909.ORF01610	493 aa	galactose-1-phosphate uridylyltransferase
A909.ORF01609	331 aa	UDP-glucose 4-epimerase
A909.ORF01608	289 aa	aldose 1-epimerase, interruption-N
A909.ORF01607	127 aa	IS1381, transposase orfA
A909.ORF01606	129 aa	IS1381, transposase orfB
A909.ORF01605	64 aa	aldose 1-epimerase, interruption-C

REGION 3.3 [1 sequence(s)]:

A909 [548498-586484]

A909.ORF01541	91 aa	DNA-binding protein HU
A909.ORF01540	380 aa	prophage LambdaSa03, site-specific recombinase, phage integrase family
A909.ORF01539	69 aa	conserved hypothetical protein
A909.ORF01538	126 aa	conserved hypothetical protein
A909.ORF01537	119 aa	prophage LambdaSa03, transcriptional regulator, Cro/CI family
A909.ORF01536	72 aa	prophage LambdaSa03, transcriptional regulator, Cro/CI family
A909.ORF01535	110 aa	conserved hypothetical protein
A909.ORF01534	111 aa	hypothetical protein
A909.ORF01533	49 aa	conserved hypothetical protein
A909.ORF01532	96 aa	conserved hypothetical protein
A909.ORF01531	227 aa	conserved hypothetical protein TIGR01618
A909.ORF01530	454 aa	prophage LambdaSa03, helicase, putative
A909.ORF01529	160 aa	conserved hypothetical protein
A909.ORF01527	517 aa	conserved hypothetical protein/bacteriophage resistance protein
A909.ORF01526	289 aa	conserved hypothetical protein
A909.ORF01525	93 aa	conserved hypothetical protein
A909.ORF02151	98 aa	conserved hypothetical protein
A909.ORF01524	54 aa	hypothetical protein
A909.ORF01523	47 aa	hypothetical protein
A909.ORF01522	170 aa	conserved hypothetical protein
A909.ORF01521	99 aa	hypothetical protein
A909.ORF01520	64 aa	hypothetical protein
A909.ORF01519	88 aa	conserved hypothetical protein
A909.ORF02145	142 aa	conserved hypothetical protein
A909.ORF01518	124 aa	prophage LambdaSa03, HNH endonuclease family protein
A909.ORF01517	118 aa	conserved hypothetical protein
A909.ORF01516	422 aa	conserved hypothetical protein
A909.ORF01515	406 aa	conserved hypothetical protein
A909.ORF01514	62 aa	hypothetical protein

A909.ORF01513	471 aa	prophage LambdaSa03, terminase, large subunit, putative
A909.ORF01512	154 aa	conserved hypothetical protein
A909.ORF01511	300 aa	prophage LambdaSa03, structural protein, putative
A909.ORF01510	71 aa	conserved hypothetical protein
A909.ORF01509	143 aa	conserved hypothetical protein
A909.ORF01508	112 aa	conserved hypothetical protein
A909.ORF01507	111 aa	conserved hypothetical protein
A909.ORF01506	185 aa	prophage LambdaSa03, structural protein, putative
A909.ORF01505	81 aa	conserved hypothetical protein
A909.ORF01503	123 aa	conserved hypothetical protein
A909.ORF01502	670 aa	prophage LambdaSa03, pblA protein, internal deletion
A909.ORF01501	510 aa	prophage LambdaSa03, tail component, putative
A909.ORF01500	1373 aa	prophage LambdaSa03, minor structural protein, putative
A909.ORF01499	667 aa	prophage LambdaSa03, minor structural protein, putative
A909.ORF01498	130 aa	conserved hypothetical protein
A909.ORF01497	42 aa	conserved hypothetical protein
A909.ORF01496	100 aa	conserved hypothetical protein
A909.ORF01495	75 aa	prophage LambdaSa03, holin, phi LC3 family
A909.ORF01494	443 aa	prophage LambdaSa03, peptidoglycan endolysin
A909.ORF01493	67 aa	conserved hypothetical protein
A909.ORF01492	59 aa	conserved hypothetical protein

REGION 3.4 [1 sequence(s)]:

A909 [652861-711447]

A909.ORF01427	172 aa	conserved hypothetical protein
A909.ORF01426	32 aa	hypothetical protein
A909.ORF01425	176 aa	transcriptional regulator, TetR family
A909.ORF01424	1774 aa	collagen-like surface protein, putative
A909.ORF01423	622 aa	conserved hypothetical protein
A909.ORF01422	189 aa	conserved hypothetical protein
A909.ORF01421	651 aa	prophage LambdaSa04, DNA polymerase
A909.ORF01420	54 aa	conserved hypothetical protein
A909.ORF01419	187 aa	conserved hypothetical protein
A909.ORF01418	373 aa	conserved hypothetical protein
A909.ORF01417	107 aa	conserved hypothetical protein
A909.ORF01416	761 aa	prophage LambdaSa04, DNA primase, P4 family
A909.ORF01415	34 aa	hypothetical protein
A909.ORF01414	93 aa	conserved hypothetical protein
A909.ORF01413	458 aa	prophage LambdaSa04, helicase, SNF2 family
A909.ORF01412	165 aa	conserved hypothetical protein
A909.ORF01411	0 aa	conserved hypothetical protein, authentic point mutation
A909.ORF01410	345 aa	prophage LambdaSa04, S-adenosylmethionine synthetase
A909.ORF01409	121 aa	prophage LambdaSa04, HNH endonuclease family protein

A909.ORF01408	412 aa	prophage LambdaSa04, DNA methylase
A909.ORF01407	417 aa	prophage LambdaSa04, methyltransferase, C-5 cytosine-specific family
A909.ORF01406	149 aa	conserved domain protein
A909.ORF01405	137 aa	prophage LambdaSa04, terminase, small subunit, P27 family
A909.ORF01404	530 aa	prophage LambdaSa04, terminase, large subunit
A909.ORF01403	100 aa	prophage LambdaSa04, RelB antitoxin family protein
A909.ORF01402	101 aa	prophage LambdaSa04, RelE/ParE family protein
A909.ORF01401	90 aa	conserved hypothetical protein
A909.ORF01400	429 aa	prophage LambdaSa04, portal protein, HK97 family
A909.ORF01399	232 aa	prophage LambdaSa04, ClpP endopeptidase (S14) family, non-peptidase homologue, putative
A909.ORF01398	402 aa	prophage LambdaSa04, major capsid protein, HK97 family
A909.ORF01397	85 aa	conserved hypothetical protein TIGR01560
A909.ORF01396	112 aa	prophage LambdaSa04, head-tail adaptor, putative
A909.ORF01395	122 aa	conserved hypothetical protein
A909.ORF01394	108 aa	conserved hypothetical protein
A909.ORF01393	189 aa	prophage LambdaSa04, major tail protein, phi13 family
A909.ORF02161	139 aa	conserved hypothetical protein
A909.ORF01392	31 aa	conserved hypothetical protein
A909.ORF01391	1039 aa	prophage LambdaSa04, tail tape measure protein, TP901 family
A909.ORF01390	241 aa	prophage LambdaSa04, tail protein, putative
A909.ORF01389	971 aa	prophage LambdaSa04, minor structural protein
A909.ORF01388	618 aa	prophage LambdaSa04, minor structural protein, putative
A909.ORF01387	132 aa	prophage LambdaSa04, holin
A909.ORF01386	336 aa	prophage LambdaSa04, mannosyl-glycoprotein endo-beta-N-acetylglucosamidase family protein
A909.ORF01385	146 aa	prophage LambdaSa04, LysM domain protein
A909.ORF01384	413 aa	prophage LambdaSa04, site-specific recombinase, resolvase family
A909.ORF01383	448 aa	prophage LambdaSa04, site-specific recombinase, resolvase family
A909.ORF01382	257 aa	hypothetical protein
A909.ORF01381	501 aa	serine/threonine protein kinase, putative
A909.ORF01380	70 aa	conserved domain protein
A909.ORF01379	245 aa	HAD-superfamily phosphatase, subfamily IIIB
A909.ORF01378	172 aa	conserved hypothetical protein
A909.ORF01377	78 aa	hypothetical protein
A909.ORF01376	110 aa	cell wall surface anchor family protein, truncation
A909.ORF01375	249 aa	ISSag5, transposase orfB
A909.ORF01374	91 aa	ISSag5, transposase orfA
A909.ORF01373	115 aa	chaperone protein HslO, putative
A909.ORF01372	402 aa	transcriptional regulator, AraC family

REGION 3.5 [1 sequence(s)]:

A909 [1303948-1319058]

A909.ORF00818	96 aa	ISSag4, transposase orfA
A909.ORF00817	253 aa	ISSag4, transposase orfB
A909.ORF00816	604 aa	exonuclease, DNA polymerase III, epsilon subunit family
A909.ORF00815	411 aa	hypothetical protein
A909.ORF00814	393 aa	site-specific recombinase, phage integrase family
A909.ORF00813	188 aa	plasmid replication protein
A909.ORF02181	0 aa	conserved hypothetical protein, degenerate
A909.ORF00812	0 aa	conserved hypothetical protein, authentic point mutation
A909.ORF00810	104 aa	hypothetical protein
A909.ORF00809	401 aa	conserved domain protein
A909.ORF00808	163 aa	hypothetical protein
A909.ORF00807	1203 aa	type IIG restriction enzyme and methyltransferase

REGION 3.6 [2 sequence(s)]:

A909 [1746807-1764491]

A909.ORF00380	526 aa	type I restriction-modification system, M subunit
A909.ORF00379	590 aa	conserved domain protein
A909.ORF00378	661 aa	transketolase
A909.ORF00377	214 aa	transaldolase, putative
A909.ORF00376	229 aa	D-allulose-6-phosphate 3-epimerase
A909.ORF00375	367 aa	PTS system, fructose-specific, IIC component
A909.ORF00374	149 aa	PTS system, fructose-specific, IIA component
A909.ORF00373	103 aa	PTS system, fructose-specific, IIB component
A909.ORF00372	629 aa	PRD domain/PTS system IIA domain protein
A909.ORF00371	0 aa	conserved domain protein, authentic frameshift
A909.ORF00370	0 aa	oxidoreductase, short chain dehydrogenase/reductase family, degenerate
A909.ORF00369	0 aa	oxidoreductase, aldo/keto reductase family, authentic frameshift
A909.ORF00367	176 aa	conserved hypothetical protein
A909.ORF00366	263 aa	phenazine biosynthesis protein, PhzF family
A909.ORF00365	136 aa	acetyltransferase, GNAT family, FRAMESHIFT
A909.ORF00364	32 aa	hypothetical protein

CJB111 [1658722-1676270]

CJB111.ORF01706	526 aa	type I restriction-modification system, M subunit
CJB111.ORF01707	590 aa	conserved hypothetical protein
CJB111.ORF01709	661 aa	transketolase
CJB111.ORF01710	214 aa	transaldolase, putative
CJB111.ORF01711	229 aa	ribulose-phosphate 3-epimerase
CJB111.ORF01712	367 aa	PTS system, IIC component [imported]
CJB111.ORF01713	149 aa	PTS system, IIA component [imported]
CJB111.ORF01714	103 aa	PTS system, IIB component [imported]
CJB111.ORF01715	629 aa	MW0309, putative
CJB111.ORF01716	75 aa	transcription regulator, putative

CJB111.ORF01717	149 aa	probable bud operon transcriptional regulator , fragment
CJB111.ORF01718	116 aa	oxidoreductase, short chain dehydrogenase/reductase family
CJB111.ORF01719	245 aa	oxidoreductase, aldo/keto reductase family
CJB111.ORF01720	82 aa	conserved hypothetical protein
CJB111.ORF01721	176 aa	Glutamate-rich protein grpB
CJB111.ORF01722	230 aa	phenazine biosynthesis protein PhzF family
CJB111.ORF01723	136 aa	acetyltransferase, GNAT family family
CJB111.ORFA01679	32 aa	hypothetical protein

REGION 3.7 [4 sequence(s)]:

A909 [2069793-2086270]

A909.ORF00060	179 aa	prophage Sa05, transcriptional regulator, putative
A909.ORF00059	98 aa	conserved hypothetical protein
A909.ORF00058	207 aa	hypothetical protein
A909.ORF00056	168 aa	conserved hypothetical protein
A909.ORF00055	36 aa	hypothetical protein
A909.ORF00054	128 aa	prophage Sa05, transcriptional regulator, ArpU family
A909.ORF00053	120 aa	conserved hypothetical protein
A909.ORF02193	162 aa	conserved hypothetical protein
A909.ORF00052	181 aa	conserved hypothetical protein
A909.ORF00051	480 aa	prophage Sa05, DNA primase, P4 family
A909.ORF00050	285 aa	prophage Sa05, DNA replication protein, putative
A909.ORF00049	109 aa	conserved hypothetical protein
A909.ORF00048	110 aa	conserved hypothetical protein
A909.ORF00047	189 aa	hypothetical protein
A909.ORF00046	57 aa	prophage Sa05, transcriptional regulator, CopG family
A909.ORF00045	212 aa	prophage Sa05, BRO domain protein
A909.ORF00044	200 aa	prophage Sa05, BRO domain protein
A909.ORF00043	204 aa	prophage Sa05, DNA-binding protein
A909.ORF00042	34 aa	hypothetical protein
A909.ORF00041	321 aa	conserved domain protein
A909.ORF00040	388 aa	prophage Sa05, site-specific recombinase, phage integrase family

CJB111 [1979919-1995368]

CJB111.ORF02049	179 aa	transcriptional regulator, TetR family, putative
CJB111.ORF02050	98 aa	conserved hypothetical protein
CJB111.ORF02051	115 aa	conserved hypothetical protein
CJB111.ORF02052	95 aa	Unknown, putative
CJB111.ORFA01995	123 aa	Phage encoded transcriptional regulator, ArpU family
CJB111.ORF02053	39 aa	conserved hypothetical protein
CJB111.ORF02054	162 aa	conserved hypothetical protein
CJB111.ORF02055	185 aa	conserved hypothetical protein
CJB111.ORF02056	464 aa	virulence-associated protein E
CJB111.ORF02057	285 aa	DNA primase domain protein

CJB111.ORF02058	90 aa	conserved hypothetical protein
CJB111.ORF02059	63 aa	conserved hypothetical protein
CJB111.ORF02060	73 aa	conserved hypothetical protein
CJB111.ORF02061	110 aa	conserved hypothetical protein
CJB111.ORF02062	150 aa	hypothetical protein
CJB111.ORF02063	66 aa	conserved hypothetical protein
CJB111.ORF02064	212 aa	BRO family, N-terminal domain protein
CJB111.ORF02065	200 aa	BRO family, N-terminal domain protein
CJB111.ORF02066	61 aa	repressor-related protein
CJB111.ORF02067	195 aa	transcriptional regulator, Cro/CI family, putative
CJB111.ORF02068	385 aa	ebhA protein, putative
CJB111.ORF02069	56 aa	hypothetical protein
CJB111.ORF02070	394 aa	integrase/recombinase, phage integrase family [imported]
COH1 [2103650-2118703]		
COH1.ORF02295	168 aa	transcriptional regulator, TetR family, putative
COH1.ORF02296	98 aa	conserved hypothetical protein
COH1.ORF02297	31 aa	hypothetical protein
COH1.ORF02298	207 aa	hypothetical protein
COH1.ORF02299	91 aa	conserved hypothetical protein
COH1.ORF02301	36 aa	hypothetical protein
COH1.ORFA02210	126 aa	Phage encoded transcriptional regulator, ArpU family
COH1.ORF02302	120 aa	conserved hypothetical protein
COH1.ORF02303	59 aa	hypothetical protein
COH1.ORF02304	162 aa	conserved hypothetical protein
COH1.ORF02305	201 aa	conserved hypothetical protein
COH1.ORF02306	273 aa	DnaD and phage-associated domain protein
COH1.ORF02307	55 aa	hypothetical protein
COH1.ORF02308	113 aa	conserved hypothetical protein
COH1.ORF02309	120 aa	conserved hypothetical protein
COH1.ORF02310	64 aa	conserved hypothetical protein
COH1.ORF02311	110 aa	conserved hypothetical protein
COH1.ORF02312	150 aa	hypothetical protein
COH1.ORF02313	66 aa	conserved hypothetical protein
COH1.ORF02314	212 aa	BRO family, N-terminal domain protein
COH1.ORF02315	255 aa	Unknown
COH1.ORF02316	50 aa	conserved hypothetical protein
COH1.ORF02317	57 aa	hypothetical protein
COH1.ORF02318	34 aa	conserved hypothetical protein
COH1.ORF02319	80 aa	hypothetical protein
COH1.ORF02320	113 aa	conserved hypothetical protein
COH1.ORF02321	321 aa	conserved hypothetical protein
COH1.ORF02322	390 aa	integrase/recombinase, phage integrase family [imported]

H36B [2057031-2071241]

H36B.ORF02216	179 aa	transcriptional regulator, TetR family, putative
H36B.ORF02217	83 aa	conserved hypothetical protein
H36B.ORF02218	230 aa	Gp21 protein
H36B.ORF02219	75 aa	hypothetical protein
H36B.ORF02220	52 aa	hypothetical protein
H36B.ORF02221	61 aa	hypothetical protein
H36B.ORFA02146	123 aa	Phage encoded transcriptional regulator, ArpU family
H36B.ORF02222	120 aa	conserved hypothetical protein
H36B.ORF02223	185 aa	conserved hypothetical protein
H36B.ORF02224	273 aa	DnaD and phage-associated domain protein
H36B.ORF02225	55 aa	hypothetical protein
H36B.ORF02226	113 aa	hyp, putative
H36B.ORF02227	120 aa	conserved hypothetical protein
H36B.ORF02228	63 aa	conserved hypothetical protein
H36B.ORF02229	110 aa	conserved hypothetical protein
H36B.ORF02230	103 aa	hypothetical protein
H36B.ORF02231	78 aa	membrane protein, putative
H36B.ORF02232	113 aa	membrane protein, putative
H36B.ORF02233	206 aa	BRO family, N-terminal domain protein
H36B.ORF02234	204 aa	Helix-turn-helix domain protein
H36B.ORF02235	34 aa	conserved hypothetical protein
H36B.ORF02236	321 aa	conserved hypothetical protein
H36B.ORF02237	390 aa	integrase/recombinase, phage integrase family [imported]

REGION 4.1 [1 sequence(s)]:

515 [53005-63274]

515.ORF00052	85 aa	Unknown
515.ORF00053	367 aa	Unknown
515.ORF00054	432 aa	adenylosuccinate lyase
515.ORF00055	300 aa	transcriptional regulator, Cro/CI family
515.ORF00056	318 aa	Holliday junction DNA helicase RuvB
515.ORF00057	145 aa	phosphotyrosine protein phosphatase, low molecular weight
515.ORF00058	277 aa	sugar ABC transporter, sugar-binding protein
515.ORF00059	178 aa	sugar ABC transporter, sugar-binding protein
515.ORF00060	225 aa	sugar ABC transporter, sugar-binding protein
515.ORF00061	50 aa	sugar ABC transporter, permease protein
515.ORF00062	228 aa	sugar ABC transporter, permease protein
515.ORF00063	128 aa	MORN motif family protein

REGION 4.2 [1 sequence(s)]:

515 [226384-240579]

515.ORF00256	284 aa	protein gp49 [Bacteriophage A118] homolog lmo2317 [imported]
515.ORF00257	96 aa	conserved hypothetical protein

515.ORF00258	121 aa	Tn5252, Orf 9 protein [imported]
515.ORF00259	118 aa	Tn5252, Orf 9 protein [imported]
515.ORF00260	774 aa	type I restriction-modification system, R subunit
515.ORF00261	487 aa	N-6 DNA Methylase family
515.ORF00262	192 aa	type I restriction-modification system, S subunit
515.ORF00263	523 aa	putative helicase
515.ORF00264	447 aa	hypothetical protein
515.ORF00265	96 aa	Unknown
515.ORF00266	135 aa	Unknown
515.ORF00267	195 aa	Unknown
515.ORF00268	55 aa	conserved hypothetical protein
515.ORF00269	81 aa	conserved hypothetical protein
515.ORF00270	128 aa	Unknown
515.ORF00271	93 aa	Unknown
515.ORF00272	32 aa	conserved hypothetical protein

REGION 4.3 [2 sequence(s)]:

515 [449812-457176]

515.ORF00509	234 aa	Fic protein family family
515.ORF00510	56 aa	conserved hypothetical protein
515.ORF00511	698 aa	ATP-dependent RNA helicase SrmB, putative
515.ORF00512	216 aa	CRISPR-associated protein, CT1134 family
515.ORF00513	190 aa	oxidoreductase, Gfo/Idh/MocA family
515.ORF00514	300 aa	magnesium transporter, CorA family
515.ORF00515	354 aa	Unknown

CJB111 [452163-457290]

CJB111.ORF00469	309 aa	Unknown
CJB111.ORF00470	319 aa	oxidoreductase, Gfo/Idh/MocA family
CJB111.ORF00471	300 aa	magnesium transporter, CorA family
CJB111.ORF00472	354 aa	Unknown
CJB111.ORF00473	57 aa	aspartate--ammonia ligase

REGION 4.4 [2 sequence(s)]:

515 [1250101-1257453]

515.ORF01378	96 aa	ISSdy1, transposase OrfA
515.ORF01379	247 aa	ISSdy1, transposase OrfB
515.ORF01380	604 aa	Unknown
515.ORF01381	411 aa	Unknown
515.ORF01382	121 aa	ribosomal protein L7/L12
515.ORF01383	166 aa	ribosomal protein L10
515.ORF01385	156 aa	ATP-dependent Clp protease, ATP-binding subunit
515.ORF01386	80 aa	conserved hypothetical protein

CJB111 [1231555-1237140]

CJB111.ORF01259	96 aa	ISSdy1, transposase OrfA
CJB111.ORF01260	237 aa	ISSdy1, transposase OrfB
CJB111.ORF01261	604 aa	Unknown
CJB111.ORF01262	334 aa	Unknown

REGION 4.5 [1 sequence(s)]:

515 [2047004-2108009]

515.ORF02225	453 aa	chromosomal replication initiator protein DnaA
515.ORF02226	378 aa	DNA polymerase III, beta subunit
515.ORF02227	116 aa	diacylglycerol kinase catalytic domain protein
515.ORF02228	65 aa	amino acid ABC transporter, permease protein
515.ORF02229	76 aa	conserved hypothetical protein
515.ORF02230	60 aa	Unknown
515.ORF02231	112 aa	cadmium efflux system accessory protein, putative
515.ORF02232	204 aa	cadmium resistance protein
515.ORF02233	49 aa	ribosomal protein L33
515.ORF02234	60 aa	ribosomal protein L32
515.ORFA02144	32 aa	histidyl-tRNA synthetase
515.ORFA02146	54 aa	DNA primase
515.ORF02235	497 aa	Type I restriction modification DNA specificity domain protein
515.ORF02236	58 aa	type I restriction enzyme [imported]
515.ORF02237	285 aa	major facilitator family protein
515.ORF02238	239 aa	ribosomal small subunit pseudouridine synthase A
515.ORF02239	146 aa	transcriptional regulator, MarR family
515.ORF02240	605 aa	ABC transporter, ATP-binding/permease protein
515.ORF02241	584 aa	ABC transporter, ATP-binding/permease protein
515.ORF02242	208 aa	GTP pyrophosphokinase family protein
515.ORF02243	226 aa	DNA-binding response regulator
515.ORF02244	46 aa	hypothetical phage protein-related protein
515.ORF02245	125 aa	hypothetical phage protein
515.ORF02246	83 aa	voltage-gated chloride channel family protein
515.ORF02247	127 aa	type I restriction enzyme S protein (hsdS)
515.ORF02248	477 aa	ATP-dependent DNA helicase recG, putative
515.ORF02249	111 aa	transcriptional regulator, PadR family domain protein
515.ORF02250	189 aa	conserved hypothetical protein
515.ORF02251	100 aa	conserved hypothetical protein
515.ORF02252	79 aa	conserved hypothetical protein
515.ORF02253	392 aa	Type I restriction modification DNA specificity domain protein
515.ORF02254	265 aa	integrase/recombinase, phage integrase family [imported]
515.ORF02255	283 aa	Unknown
515.ORFA02168	44 aa	cppA protein
515.ORF02256	36 aa	methionyl-tRNA synthetase
515.ORF02257	180 aa	c protein alpha-antigen precursor

515.ORF02258	379 aa	c protein alpha-antigen precursor
515.ORF02259	282 aa	Type I restriction modification DNA specificity domain protein
515.ORFA02174	65 aa	seryl-tRNA synthetase
515.ORF02260	140 aa	Unknown
515.ORF02261	69 aa	Unknown
515.ORF02262	294 aa	C protein alpha antigen
515.ORFA02177	90 aa	LPXTG-motif cell wall anchor domain protein
515.ORF02263	117 aa	ABC transporter, permease protein, putative
515.ORFA02179	54 aa	ribose operon repressor RbsR
515.ORFA02180	48 aa	Binding-protein-dependent transport systems inner membrane component domain protein
515.ORF02264	90 aa	uracil permease
515.ORF02265	53 aa	phosphoribosylaminoimidazolecarboxamide formyltransferase/IMP cyclohydrolase
515.ORF02266	33 aa	c protein alpha-antigen precursor
515.ORF02267	200 aa	c protein alpha-antigen precursor
515.ORFA02185	62 aa	hypothetical protein
515.ORF02268	78 aa	HD domain protein
515.ORF02269	37 aa	PTS system, IIC component, putative
515.ORFA02189	41 aa	hypothetical protein
515.ORF02270	88 aa	HD domain protein
515.ORF02271	164 aa	sensor histidine kinase
515.ORF02272	280 aa	ATP-dependent RNA helicase, DEAD/DEAH box family
515.ORF02273	269 aa	c protein alpha-antigen precursor
515.ORF02276	234 aa	hypothetical protein
515.ORF02277	48 aa	xanthine permease
515.ORF02278	264 aa	c protein alpha-antigen precursor
515.ORF02279	66 aa	hydrolase, haloacid dehalogenase-like family
515.ORF02280	194 aa	c protein alpha-antigen precursor
515.ORF02281	258 aa	amidase family protein
515.ORF02282	417 aa	5'-nucleotidase family protein
515.ORF02283	33 aa	hypothetical protein
515.ORF02284	86 aa	hypothetical protein
515.ORF02285	219 aa	c protein alpha-antigen precursor
515.ORF02286	57 aa	GTP-binding protein, GTP1/Obg family
515.ORFA02206	38 aa	stage V sporulation protein B
515.ORF02287	100 aa	large conductance mechanosensitive channel protein
515.ORF02288	224 aa	DNA primase
515.ORF02289	192 aa	c protein alpha-antigen precursor
515.ORF02290	266 aa	c protein alpha-antigen precursor
515.ORF02291	194 aa	glycosyl transferase, group 2 family protein
515.ORF02292	104 aa	conserved hypothetical protein
515.ORF02293	195 aa	c protein alpha-antigen precursor

515.ORFA02213	52 aa	uncharacterized conserved protein CAC1439
515.ORF02294	62 aa	cell division protein DivIVA [imported]
515.ORFA02215	30 aa	hypothetical protein
515.ORF02295	126 aa	peptidase, M20/M25/M40 family
515.ORF02296	58 aa	oxidoreductase, aldo/keto reductase family
515.ORF02297	40 aa	O-sialoglycoprotein endopeptidase family protein
515.ORF02298	46 aa	Unknown
515.ORF02299	44 aa	Unknown
515.ORF02300	56 aa	peptide chain release factor 1
515.ORFA02223	37 aa	phosphopentomutase
515.ORF02301	161 aa	RNA methyltransferase, TrmA family
515.ORF02302	146 aa	ABC transporter, permease protein, putative
515.ORFA02225	37 aa	hypothetical protein
515.ORF02303	57 aa	DNA-3-methyladenine glycosylase I
515.ORFA02228	31 aa	conserved hypothetical protein
515.ORF02306	49 aa	FtsK/SpoIIIE family protein
515.ORFA02230	57 aa	C3-degrading proteinase
515.ORF02307	77 aa	unnamed protein product
515.ORF02308	150 aa	ATP-dependent DNA helicase recG, putative
515.ORFA02233	30 aa	hypothetical protein
515.ORF02309	197 aa	polyribonucleotide nucleotidyltransferase
515.ORFA02236	34 aa	hypothetical protein
515.ORF02310	268 aa	prophage LambdaSa1, N-acetylmuramoyl-L-alanine amidase, family 4
515.ORF02311	174 aa	essential recombination function protein
515.ORF02312	48 aa	conserved hypothetical protein

REGION 5.1 [2 sequence(s)]:

CJB111 [228054-235974]

CJB111.ORF00247	450 aa	aspartate kinase family protein
CJB111.ORF00248	220 aa	hydrolase, haloacid dehalogenase-like family

COH1 [341611-352205]

COH1.ORF00377	450 aa	aspartate kinase family protein
COH1.ORF00378	216 aa	hydrolase, haloacid dehalogenase-like family
COH1.ORF00379	100 aa	enoyl-CoA hydratase/isomerase family protein
COH1.ORF00380	67 aa	Stp1
COH1.ORF00381	162 aa	serine/threonine protein kinase
COH1.ORF00382	68 aa	conserved hypothetical protein
COH1.ORF00383	109 aa	sensor histidine kinase, putative
COH1.ORF00384	39 aa	sensor histidine kinase, putative
COH1.ORF00385	236 aa	sensor histidine kinase, putative

REGION 5.2 [1 sequence(s)]:

CJB111 [545119-553178]

CJB111.ORF00567	335 aa	ribosomal protein S1
CJB111.ORF00568	263 aa	prophage LambdaSa2, site-specific recombinase, phage integrase family
CJB111.ORF00569	208 aa	prophage pi3 protein 59 [imported]
CJB111.ORF00570	52 aa	repressor protein, putative
CJB111.ORF00571	55 aa	repressor protein, putative
CJB111.ORF00572	91 aa	Unknown
CJB111.ORF00573	47 aa	chorismate mutase, putative
CJB111.ORF00574	398 aa	voltage-gated chloride channel family protein
CJB111.ORF00575	115 aa	ribosomal protein L19
CJB111.ORF00577	169 aa	prophage LambdaSa2, site-specific recombinase, phage integrase family

REGION 5.3 [1 sequence(s)]:

CJB111 [577660-633597]

CJB111.ORF00604	172 aa	conserved hypothetical protein
CJB111.ORF00605	405 aa	transposase
CJB111.ORF00606	67 aa	conserved hypothetical protein
CJB111.ORF00607	140 aa	conserved hypothetical protein
CJB111.ORF00608	117 aa	Tn916, transcriptional regulator, putative
CJB111.ORF00609	639 aa	tetracycline resistance protein (tetM)
CJB111.ORF00610	304 aa	conserved hypothetical protein
CJB111.ORF00611	333 aa	lipoprotein, NLP/P60 family
CJB111.ORF00612	175 aa	conserved hypothetical protein
CJB111.ORF00613	725 aa	membrane protein, putative
CJB111.ORF00614	815 aa	ATP/GTP-binding protein, putative
CJB111.ORF00615	168 aa	conserved hypothetical protein
CJB111.ORF00616	165 aa	conserved hypothetical protein
CJB111.ORF00617	73 aa	conserved hypothetical protein
CJB111.ORF00618	401 aa	transcriptional regulator, Cro/CI family
CJB111.ORF00619	461 aa	FtsK/SpoIIIE family protein
CJB111.ORF00620	128 aa	conserved hypothetical protein
CJB111.ORF00621	104 aa	conserved hypothetical protein
CJB111.ORF00622	32 aa	transposase, IS256 family
CJB111.ORF00623	198 aa	transcriptional regulator, TetR family, putative
CJB111.ORF00624	1583 aa	reticulocyte binding protein
CJB111.ORF00625	45 aa	3-phosphoshikimate 1-carboxyvinyltransferase
CJB111.ORF00626	238 aa	phage terminase, large subunit, putative
CJB111.ORF00627	85 aa	hypothetical protein
CJB111.ORF00628	123 aa	Doc protein
CJB111.ORF00629	108 aa	hypothetical protein
CJB111.ORF00630	358 aa	phage portal protein, HK97 family
CJB111.ORF00631	71 aa	hypothetical protein

CJB111.ORF00632	232 aa	ClpP protease family protein
CJB111.ORF00633	402 aa	phage major capsid protein, HK97 family
CJB111.ORF00634	85 aa	hypothetical phage protein, putative
CJB111.ORF00635	122 aa	prophage pi2 protein 37 [imported]
CJB111.ORF00636	108 aa	prophage pi2 protein 38 [imported], putative
CJB111.ORF00637	189 aa	prophage pi2 protein 39 [imported]
CJB111.ORF00638	139 aa	conserved hypothetical protein
CJB111.ORF00639	31 aa	hypothetical protein
CJB111.ORF00640	1039 aa	tail tape measure protein
CJB111.ORF00642	241 aa	conserved hypothetical protein
CJB111.ORF00643	971 aa	prophage LambdaSa2, PblB, putative
CJB111.ORF00645	618 aa	prophage LambdaSa1, minor structural protein, putative
CJB111.ORFA00621	94 aa	hypothetical protein
CJB111.ORF00646	132 aa	holin, putative
CJB111.ORF00647	466 aa	N-acetylmuramoyl-L-alanine amidase, family 4
CJB111.ORF00648	35 aa	conserved hypothetical protein
CJB111.ORF00649	413 aa	site-specific recombinase, resolvase family, putative
CJB111.ORFA00625	66 aa	hypothetical protein
CJB111.ORF00650	448 aa	site-specific recombinase, resolvase family, putative
CJB111.ORF00651	257 aa	hypothetical protein
CJB111.ORF00652	501 aa	Protein kinase domain protein
CJB111.ORF00653	70 aa	Unknown-related protein
CJB111.ORF00654	245 aa	HAD superfamily (subfamily IIIB) phosphatase, TIGR01672
CJB111.ORF00655	172 aa	Unknown
CJB111.ORF00656	78 aa	conserved hypothetical protein
CJB111.ORF00657	110 aa	cell wall surface anchor family protein, truncation
CJB111.ORF00658	273 aa	transposase OrfB, IS3 family, truncation
CJB111.ORF00659	116 aa	probable transposase TnpA
CJB111.ORF00660	49 aa	Tn5252, Orf 10 protein [imported]
CJB111.ORF00661	53 aa	chaperonin, 33 kDa
CJB111.ORF00662	115 aa	chaperonin, 33 kDa
CJB111.ORF00663	402 aa	transcriptional regulator, AraC family

REGION 5.4 [1 sequence(s)]:

CJB111 [2037780-2118007]

CJB111.ORF02115	453 aa	chromosomal replication initiator protein DnaA
CJB111.ORF02116	378 aa	DNA polymerase III, beta subunit
CJB111.ORF02117	111 aa	diacylglycerol kinase catalytic domain protein, putative
CJB111.ORF02118	197 aa	diacylglycerol kinase catalytic domain protein, putative
CJB111.ORF02119	112 aa	conserved hypothetical protein
CJB111.ORF02120	127 aa	Helix-turn-helix domain protein
CJB111.ORF02121	63 aa	hypothetical protein
CJB111.ORF02122	74 aa	hypothetical protein

CJB111.ORF02123	101 aa	modification methylase LlaFI
CJB111.ORF02124	36 aa	conserved hypothetical protein
CJB111.ORF02125	30 aa	conserved hypothetical protein
CJB111.ORF02126	406 aa	site-specific recombinase, phage integrase family, putative
CJB111.ORF02127	91 aa	conserved hypothetical protein
CJB111.ORF02128	248 aa	Rep protein
CJB111.ORF02129	263 aa	FtsK/SpoIIIE family protein, putative
CJB111.ORF02130	99 aa	hypothetical protein
CJB111.ORF02131	307 aa	phage terminase, large subunit, putative
CJB111.ORF02132	157 aa	phage terminase, small subunit, putative
CJB111.ORF02133	149 aa	hypothetical protein
CJB111.ORF02134	394 aa	C-5 cytosine-specific DNA methylase
CJB111.ORF02135	418 aa	prophage LambdaW4, DNA methylase
CJB111.ORFA02078	62 aa	Phage endonuclease
CJB111.ORF02136	345 aa	S-adenosylmethionine synthetase
CJB111.ORF02137	64 aa	conserved hypothetical protein
CJB111.ORF02138	169 aa	hypothetical protein
CJB111.ORF02139	458 aa	SNF2 domain protein
CJB111.ORF02140	109 aa	P44
CJB111.ORF02141	759 aa	bacteriophage protein, putative
CJB111.ORF02142	60 aa	hypothetical protein
CJB111.ORF02143	107 aa	hypothetical protein
CJB111.ORF02144	373 aa	phi APSE P51-like protein
CJB111.ORF02145	187 aa	phage protein
CJB111.ORF02146	54 aa	hypothetical protein
CJB111.ORF02147	651 aa	DNA polymerase, putative
CJB111.ORF02149	189 aa	hypothetical protein
CJB111.ORF02148	45 aa	hypothetical protein
CJB111.ORF02150	44 aa	hypothetical protein
CJB111.ORF02151	622 aa	conserved hypothetical protein
CJB111.ORF02152	76 aa	peptidase, M20/M25/M40 family [imported], putative
CJB111.ORF02153	333 aa	peptidase, M20/M25/M40 family [imported]
CJB111.ORF02154	247 aa	surface protein Rib
CJB111.ORF02155	188 aa	ribosomal protein L10
CJB111.ORF02156	58 aa	50S ribosomal protein L7/112 , fragment-related protein
CJB111.ORF02157	1203 aa	reticulocyte binding protein
CJB111.ORF02158	163 aa	Unknown
CJB111.ORF02159	401 aa	conserved hypothetical protein
CJB111.ORF02160	104 aa	Unknown
CJB111.ORF02161	167 aa	Unknown
CJB111.ORF02162	169 aa	FtsK/SpoIIIE family protein, putative
CJB111.ORF02163	101 aa	conserved hypothetical protein
CJB111.ORF02165	329 aa	surface protein Rib

CJB111.ORF02166	55 aa	tail tape meausure protein
CJB111.ORF02167	72 aa	phosphoribosylaminoimidazole carboxylase, catalytic subunit
CJB111.ORF02168	368 aa	site-specific recombinase, phage integrase family
CJB111.ORF02169	77 aa	Unknown-related protein
CJB111.ORF02170	207 aa	Plasmid replication protein
CJB111.ORFA02111	31 aa	hypothetical protein
CJB111.ORF02171	251 aa	surface protein Rib
CJB111.ORFA02113	125 aa	hypothetical protein
CJB111.ORF02172	216 aa	surface protein Rib
CJB111.ORF02173	0 aa	surface protein Rib
CJB111.ORF02174	42 aa	cation uptake protein, Trk family
CJB111.ORF02175	134 aa	polysaccharide biosynthesis protein CpsM
CJB111.ORF02176	99 aa	IS1381, transposase OrfB [imported]
CJB111.ORF02177	408 aa	site-specific recombinase, phage integrase family
CJB111.ORF02178	272 aa	hypothetical protein
CJB111.ORF02179	469 aa	hypothetical protein
CJB111.ORF02180	145 aa	conserved hypothetical protein
CJB111.ORF02181	220 aa	hypothetical protein
CJB111.ORF02182	40 aa	Unknown
CJB111.ORF02183	77 aa	Unknown-related protein
CJB111.ORF02184	117 aa	amino acid ABC transporter, amino acid-binding protein
CJB111.ORF02186	184 aa	surface protein Rib
CJB111.ORFA02127	198 aa	hypothetical protein
CJB111.ORF02187	197 aa	surface protein Rib
CJB111.ORF02188	58 aa	pyridine nucleotide-disulphide oxidoreductase family protein
CJB111.ORF02189	107 aa	surface protein Rib
CJB111.ORF02190	176 aa	translation initiation factor IF-3
CJB111.ORF02191	77 aa	surface protein Rib
CJB111.ORF02192	36 aa	alpha-like protein 3
CJB111.ORF02193	50 aa	voltage-gated chloride channel family protein
CJB111.ORF02194	62 aa	surface protein Rib
CJB111.ORF02195	171 aa	surface protein Rib
CJB111.ORF02196	55 aa	DNA-directed RNA polymerase, beta subunit
CJB111.ORF02197	165 aa	surface protein Rib
CJB111.ORFA02141	54 aa	conserved hypothetical protein
CJB111.ORF02200	193 aa	rib protein
CJB111.ORF02198	175 aa	surface protein Rib
CJB111.ORF02204	199 aa	hypothetical protein
CJB111.ORFA02145	199 aa	hypothetical protein
CJB111.ORFA02146	246 aa	hypothetical protein
CJB111.ORF02205	262 aa	surface protein Rib
CJB111.ORFA02148	31 aa	hypothetical protein
CJB111.ORF02207	230 aa	surface protein Rib

CJB111.ORF02208	61 aa	surface protein Rib
CJB111.ORF02209	59 aa	surface protein Rib
CJB111.ORF02210	209 aa	surface protein Rib
CJB111.ORF02211	221 aa	Leucine Rich Repeat domain protein
CJB111.ORF02212	56 aa	hypothetical protein
CJB111.ORF02213	248 aa	surface protein Rib
CJB111.ORF02214	185 aa	lemA protein
CJB111.ORF02216	124 aa	degenerate transposase (orf1) [imported]-related protein
CJB111.ORF02217	138 aa	IS1381, transposase OrfA/OrfB, truncation
CJB111.ORF02218	255 aa	surface protein Rib
CJB111.ORF02219	289 aa	rib protein
CJB111.ORF02220	78 aa	rib protein
CJB111.ORF02221	125 aa	surface protein Rib
CJB111.ORF02222	244 aa	surface protein Rib
CJB111.ORF02223	35 aa	hypothetical protein
CJB111.ORF02224	94 aa	polyribonucleotide nucleotidyltransferase
CJB111.ORF02225	123 aa	rib protein
CJB111.ORF02226	262 aa	surface protein Rib

REGION 6.1 [1 sequence(s)]:

COH1 [0-17139]

COH1.ORF00001	225 aa	protein of unknown function
COH1.ORF00002	249 aa	MesJ/Ycf62 family protein
COH1.ORF00003	60 aa	hypoxanthine-guanine phosphoribosyltransferase
COH1.ORF00004	43 aa	hypothetical protein
COH1.ORF00005	116 aa	hypoxanthine-guanine phosphoribosyltransferase
COH1.ORF00006	74 aa	cell division protein FtsH
COH1.ORF00007	58 aa	cell division protein FtsH [imported]
COH1.ORF00008	183 aa	cell division protein FtsH
COH1.ORF00009	229 aa	type III restriction system methylase
COH1.ORF00010	1456 aa	reticulocyte binding protein
COH1.ORF00011	30 aa	type II restriction endonuclease, putative
COH1.ORF00012	585 aa	conserved hypothetical protein
COH1.ORF00013	664 aa	conserved hypothetical protein
COH1.ORF00014	477 aa	ATP-dependent DNA helicase recG

REGION 6.2 [1 sequence(s)]:

COH1 [226148-234496]

COH1.ORF00245	161 aa	glutamyl-aminopeptidase
COH1.ORF00246	94 aa	glutamyl-aminopeptidase
COH1.ORF00247	208 aa	tRNA binding domain protein
COH1.ORFA00238	67 aa	Predicted S-adenosylmethionine-dependent methyltransferase
COH1.ORF00248	167 aa	tRNA binding domain protein

COH1.ORF00249	89 aa	conserved hypothetical protein
COH1.ORF00250	351 aa	oligopeptide ABC transporter, oligopeptide-binding protein
COH1.ORF00251	131 aa	oligopeptide ABC transporter, oligopeptide-binding protein
COH1.ORF00252	36 aa	oligopeptide ABC transporter, oligopeptide-binding protein
COH1.ORF00253	190 aa	oligopeptide ABC transporter, permease protein
COH1.ORF00254	0 aa	oligopeptide ABC transporter, permease protein
COH1.ORF00255	34 aa	oligopeptide ABC transporter, permease protein
COH1.ORF00256	138 aa	peptide ABC transporter, ATP-binding protein
COH1.ORF00257	257 aa	peptide ABC transporter, ATP-binding protein

REGION 6.3 [1 sequence(s)]:

COH1 [300911-306701]

COH1.ORFA00320	50 aa	Hypothetical UPF0291 protein
COH1.ORFA00321	30 aa	hypothetical protein
COH1.ORF00333	148 aa	glycerol uptake facilitator protein
COH1.ORF00334	115 aa	oxidoreductase, pyridine nucleotide-disulfide family
COH1.ORF00335	252 aa	Unknown
COH1.ORF00336	42 aa	PTS system, IIBC components
COH1.ORF00337	304 aa	PTS system, IIBC components
COH1.ORF00338	254 aa	penicillin-binding protein 2X
COH1.ORF00339	159 aa	aminopeptidase C

REGION 6.4 [1 sequence(s)]:

COH1 [536688-545262]

COH1.ORF00584	76 aa	conserved hypothetical protein
COH1.ORF00585	77 aa	Unknown
COH1.ORFA00564	77 aa	conserved hypothetical protein
COH1.ORFA00565	76 aa	hypothetical protein
COH1.ORF00586	331 aa	ABC transporter, ATP-binding/permease protein
COH1.ORF00587	192 aa	ABC transporter, ATP-binding/permease protein
COH1.ORF00588	75 aa	anthranilate synthase component II
COH1.ORF00589	307 aa	UDP-N-acetylmuramoylalanine--D-glutamate ligase
COH1.ORF00590	218 aa	UDP-N-acetylmuramoylalanine--D-glutamate ligase
COH1.ORF00591	196 aa	isoleucyl-tRNA synthetase
COH1.ORF00592	250 aa	isoleucyl-tRNA synthetase
COH1.ORF00593	219 aa	isoleucyl-tRNA synthetase
COH1.ORF00594	127 aa	isoleucyl-tRNA synthetase
COH1.ORFA00575	47 aa	conserved hypothetical protein

REGION 6.5 [1 sequence(s)]:

COH1 [1280188-1295761]

COH1.ORF01374	89 aa	conserved hypothetical protein
COH1.ORF01375	86 aa	conserved hypothetical protein

COH1.ORF01376	113 aa	conserved hypothetical protein
COH1.ORF01377	55 aa	transposase OrfA, IS3 family
COH1.ORF01378	37 aa	ISSdy1, transposase OrfB
COH1.ORF01379	411 aa	Unknown
COH1.ORF01380	400 aa	site-specific recombinase, phage integrase family
COH1.ORF01381	99 aa	Unknown-related protein
COH1.ORF01383	289 aa	hypothetical protein
COH1.ORF01382	48 aa	hypothetical protein
COH1.ORF01384	481 aa	hypothetical protein
COH1.ORF01385	141 aa	conserved hypothetical protein
COH1.ORF01386	248 aa	hypothetical protein
COH1.ORF01387	398 aa	putative serine/threonine protein kinase
COH1.ORF01388	269 aa	type II restriction enzyme eco47ii
COH1.ORF01389	333 aa	C-5 cytosine-specific DNA methylase
COH1.ORFA01341	33 aa	hypothetical protein
COH1.ORF01391	150 aa	conserved hypothetical protein
COH1.ORF01390	121 aa	ribosomal protein L7/L12
COH1.ORF01392	166 aa	ribosomal protein L10
COH1.ORF01394	306 aa	ATP-dependent Clp protease, ATP-binding subunit

REGION 6.6 [1 sequence(s)]:

COH1 [1932369-1983223]

COH1.ORF02099	56 aa	hypothetical protein
COH1.ORF02100	373 aa	site-specific recombinase, phage integrase family
COH1.ORF02101	108 aa	Domain of unknown function (DUF771) superfamily
COH1.ORF02102	210 aa	conserved hypothetical protein
COH1.ORF02103	263 aa	surface protein PrgC
COH1.ORF02105	113 aa	conserved hypothetical protein
COH1.ORF02106	209 aa	phosphate ABC transporter, permease protein
COH1.ORF02107	72 aa	phosphate ABC transporter, permease protein
COH1.ORF02108	251 aa	probable hemolysin precursor
COH1.ORF02109	129 aa	transcriptional regulator, MerR family
COH1.ORFA02026	129 aa	transcription regulator, MerR family , putative
COH1.ORF02110	86 aa	acetyltransferase, GNAT family
COH1.ORF02111	182 aa	conserved hypothetical protein
COH1.ORF02112	457 aa	CHAP domain family
COH1.ORF02113	666 aa	membrane protein, putative
COH1.ORF02114	756 aa	conjugal transfer protein, interruption-C
COH1.ORF02115	66 aa	conjugal transfer protein, interruption-N-related protein
COH1.ORF02116	87 aa	conserved hypothetical protein
COH1.ORF02117	88 aa	conserved hypothetical protein
COH1.ORF02118	317 aa	conserved hypothetical protein
COH1.ORF02119	74 aa	conserved hypothetical protein

COH1.ORF02120	90 aa	Uncharacterized ACR, COG2161 subfamily
COH1.ORF02121	136 aa	conserved hypothetical protein
COH1.ORF02122	116 aa	conserved hypothetical protein
COH1.ORF02123	90 aa	conserved hypothetical protein
COH1.ORF02124	267 aa	conserved hypothetical protein
COH1.ORFA02042	62 aa	transcriptional regulator, Cro/CI family
COH1.ORF02125	278 aa	conserved hypothetical protein
COH1.ORF02126	99 aa	transcriptional regulator, Cro/CI family
COH1.ORF02127	125 aa	conserved hypothetical protein
COH1.ORF02128	410 aa	transcriptional regulator, Cro/CI family
COH1.ORF02129	553 aa	FtsK/SpoIIIE family protein
COH1.ORF02130	153 aa	conserved hypothetical protein
COH1.ORF02131	98 aa	conserved hypothetical protein
COH1.ORF02132	863 aa	cell wall surface anchor family protein
COH1.ORF02133	753 aa	Unknown
COH1.ORF02134	87 aa	conserved hypothetical protein
COH1.ORF02135	153 aa	Unknown
COH1.ORF02136	103 aa	conserved hypothetical protein
COH1.ORF02137	143 aa	transcriptional regulator, Cro/CI family
COH1.ORF02138	104 aa	transcriptional regulator, Cro/CI family
COH1.ORF02139	50 aa	hypothetical protein
COH1.ORF02140	112 aa	transcriptional regulator, Cro/CI family
COH1.ORF02141	140 aa	Unknown
COH1.ORF02142	122 aa	lipoprotein, putative
COH1.ORF02143	112 aa	Unknown
COH1.ORF02144	97 aa	DNA-damage-inducible protein J, putative
COH1.ORF02145	252 aa	CAMP factor
COH1.ORF02146	435 aa	transposase, ISL3 family
COH1.ORF02147	546 aa	carbamoyl-phosphate synthase, large subunit
COH1.ORF02148	130 aa	mercuric resistance operon regulatory protein MerR
COH1.ORF02149	522 aa	Mn ²⁺ /Fe ²⁺ transporter, NRAMP family
COH1.ORF02150	240 aa	membrane protein, putative
COH1.ORF02151	205 aa	ABC transporter, ATP-binding protein
COH1.ORF02152	52 aa	conserved hypothetical protein
COH1.ORF02153	249 aa	Sterol-regulatory element binding protein (SREBP) site 2 protease family
COH1.ORF02154	315 aa	radical SAM domain protein protein
COH1.ORF02155	101 aa	Unknown
COH1.ORF02156	133 aa	Unknown
COH1.ORF02157	405 aa	Unknown
COH1.ORF02158	128 aa	protein of unknown function, putative
COH1.ORF02159	169 aa	Unknown
COH1.ORF02160	110 aa	Unknown

COH1.ORF02161 117 aa Unknown

REGION 6.7 [1 sequence(s)]:

COH1 [2135577-2235585]

COH1.ORF02341 414 aa Peptidase M16 inactive domain family
 COH1.ORF02342 197 aa magnesium transporter, CorA family
 COH1.ORF02343 319 aa oxidoreductase, Gfo/Idh/MocA family
 COH1.ORF02344 473 aa ATP-dependent RNA helicase SrmB, putative
 COH1.ORF02345 259 aa conserved hypothetical protein
 COH1.ORF02346 147 aa valyl-tRNA synthetase
 COH1.ORF02347 207 aa NOL1/NOP2/sun family protein
 COH1.ORF02348 300 aa rib protein
 COH1.ORF02349 280 aa rib protein
 COH1.ORF02350 91 aa hypothetical protein
 COH1.ORF02351 1385 aa reticulocyte binding protein
 COH1.ORF02352 353 aa LPXTG-motif cell wall anchor domain protein
 COH1.ORF02353 174 aa MutT/nudix family protein [imported]
 COH1.ORF02354 264 aa IS861, transposase OrfB
 COH1.ORF02355 172 aa transcriptional regulator, GntR family/potassium uptake protein,

TrkA family

COH1.ORF02356 203 aa Unknown
 COH1.ORF02357 66 aa Unknown
 COH1.ORFA02262 50 aa L-serine dehydratase, iron-sulfur-dependent, alpha subunit
 COH1.ORF02358 110 aa Tn5252, Orf 9 protein [imported]
 COH1.ORF02359 119 aa Tn5252, Orf 9 protein
 COH1.ORF02360 279 aa protein gp49 [Bacteriophage A118] homolog lmo2317 [imported]
 COH1.ORF02361 93 aa conserved hypothetical protein
 COH1.ORF02362 172 aa transcriptional regulator, Cro/CI family, putative
 COH1.ORF02363 266 aa site-specific recombinase, phage integrase family
 COH1.ORF02364 39 aa glycosyl transferase, group 1 family protein
 COH1.ORF02365 89 aa sugar transporter, putative
 COH1.ORFA02270 51 aa alkylphosphonate utilization operon protein PhnA
 COH1.ORF02366 154 aa transposase, IS30 family, putative, truncation
 COH1.ORF02367 47 aa ribosomal protein S5
 COH1.ORF02368 109 aa amino acid ABC transporter, ATP-binding protein
 COH1.ORF02369 46 aa pullulanase, putative
 COH1.ORF02370 74 aa conserved hypothetical protein
 COH1.ORF02371 396 aa ABC transporter, ATP-binding protein
 COH1.ORF02372 32 aa hypothetical protein
 COH1.ORF02373 56 aa xylulose-5-phosphate/fructose-6-phosphate phosphoketolase
 COH1.ORF02374 226 aa rib protein
 COH1.ORF02375 245 aa Putative transposable element
 COH1.ORF02376 51 aa acetolactate synthase, catabolic

COH1.ORF02377	66 aa	NifR3/Smm1 family protein
COH1.ORFA02281	30 aa	hypothetical protein
COH1.ORF02378	383 aa	threonine synthase
COH1.ORFA02283	39 aa	threonine synthase (EC 4.2.3.1)
COH1.ORFA02284	49 aa	hypothetical protein
COH1.ORF02379	76 aa	conserved hypothetical protein
COH1.ORF02380	36 aa	hypothetical protein
COH1.ORF02381	56 aa	oxidoreductase, short chain dehydrogenase/reductase family
COH1.ORF02382	142 aa	oxidoreductase, short chain dehydrogenase/reductase family
COH1.ORF02383	110 aa	transposase, IS30 family, putative, truncation
COH1.ORF02384	226 aa	transposase, IS30 family, putative, truncation
COH1.ORF02385	62 aa	membrane protein, putative
COH1.ORF02386	68 aa	conserved hypothetical protein
COH1.ORFA02292	57 aa	recA protein
COH1.ORF02387	281 aa	rib protein
COH1.ORF02388	73 aa	DegV family protein
COH1.ORF02389	69 aa	cold shock protein, CSD family-related protein
COH1.ORF02390	51 aa	hypothetical protein
COH1.ORF02391	180 aa	Putative TNP-like transposable element
COH1.ORF02392	252 aa	branched-chain amino acid transport system II carrier protein
COH1.ORF02393	168 aa	IS861, transposase OrfB
COH1.ORF02394	32 aa	large conductance mechanosensitive channel protein
COH1.ORFA02302	41 aa	peptide methionine sulfoxide reductase
COH1.ORF02395	54 aa	peptide methionine sulfoxide reductase
COH1.ORF02396	204 aa	rib protein
COH1.ORF02398	218 aa	rib protein
COH1.ORF02399	125 aa	permease, putative
COH1.ORF02400	54 aa	amidophosphoribosyltransferase
COH1.ORF02401	117 aa	unnamed protein product
COH1.ORF02402	207 aa	Unknown
COH1.ORF02403	70 aa	cell wall surface anchor family protein
COH1.ORF02404	240 aa	phosphoribosylformylglycinamide synthase, putative
COH1.ORF02405	77 aa	sensor histidine kinase
COH1.ORF02406	99 aa	cylB protein
COH1.ORF02407	55 aa	DNA-directed RNA polymerase beta' subunit
COH1.ORF02408	220 aa	Unknown protein
COH1.ORF02409	266 aa	phosphoribosylformylglycinamide synthase I
COH1.ORF02410	156 aa	transcriptional regulator, Cro/CI family
COH1.ORF02411	206 aa	BRO family, N-terminal domain protein
COH1.ORF02412	70 aa	conserved hypothetical protein
COH1.ORF02413	54 aa	cytochrome d oxidase, subunit I
COH1.ORF02414	75 aa	glycerol dehydrogenase
COH1.ORF02415	53 aa	oxidoreductase, aldo/keto reductase family

COH1.ORFA02324	62 aa	GMP synthase
COH1.ORF02416	73 aa	oxidoreductase, FMN-binding
COH1.ORF02417	267 aa	rib protein
COH1.ORFA02327	30 aa	alpha-like protein 3
COH1.ORF02418	50 aa	cylJ protein
COH1.ORF02419	52 aa	cylI protein
COH1.ORFA02329	32 aa	hypothetical protein
COH1.ORF02420	50 aa	peptidase, M20/M25/M40 family
COH1.ORF02421	60 aa	protein of unknown function
COH1.ORF02422	74 aa	sortase family protein
COH1.ORF02423	31 aa	hypothetical protein
COH1.ORFA02334	49 aa	Glycerol dehydrogenase
COH1.ORF02424	106 aa	mercuric resistance operon regulatory protein MerR
COH1.ORF02425	66 aa	conserved hypothetical protein
COH1.ORF02426	200 aa	transposase, IS30 family, putative, truncation
COH1.ORF02427	213 aa	transcriptional regulator, Cro/CI family
COH1.ORFA02338	62 aa	transposase, IS30 family, putative, truncation
COH1.ORF02428	402 aa	phosphoribosylformylglycinamide synthase, putative
COH1.ORFA02340	56 aa	signal recognition particle protein
COH1.ORF02429	237 aa	rib protein
COH1.ORF02430	269 aa	surface protein Rib
COH1.ORF02431	170 aa	rib protein
COH1.ORF02432	335 aa	rib protein
COH1.ORF02433	212 aa	rib protein
COH1.ORFA02346	123 aa	isochorismatase family protein
COH1.ORF02434	54 aa	conserved hypothetical protein
COH1.ORF02435	253 aa	Unknown
COH1.ORF02436	162 aa	phosphoribosylamine--glycine ligase
COH1.ORF02437	72 aa	conserved hypothetical protein
COH1.ORF02438	51 aa	D-mannonate oxidoreductase
COH1.ORF02439	155 aa	putative fimbria-associated protein
COH1.ORF02440	209 aa	ornithine carbamoyltransferase
COH1.ORFA02354	63 aa	Actin
COH1.ORF02442	84 aa	capsule biosynthesis protein CapA,
COH1.ORF02444	66 aa	amidophosphoribosyltransferase
COH1.ORF02445	90 aa	sugar ABC transporter, sugar-binding protein
COH1.ORF02446	143 aa	N-acetylmannosamine-6-phosphate epimerase, putative
COH1.ORF02447	240 aa	preprotein translocase SecY family protein [imported]
COH1.ORF02448	225 aa	membrane protein, putative
COH1.ORF02449	294 aa	rib protein
COH1.ORFA02362	47 aa	Single-strand binding protein 1 (SSB 1) (Helix-destabilizing protein1)
COH1.ORF02450	79 aa	ribosomal protein S18
COH1.ORF02451	169 aa	pullulanase, putative

COH1.ORF02452	158 aa	sensor histidine kinase
COH1.ORF02453	50 aa	glycosyl hydrolase, family 3
COH1.ORF02454	71 aa	competence protein F
COH1.ORF02455	326 aa	hypothetical protein
COH1.ORF02456	318 aa	site-specific recombinase, phage integrase family
COH1.ORF02457	328 aa	rib protein
COH1.ORF02458	263 aa	Unknown
COH1.ORF02459	118 aa	restriction endonuclease related protein
COH1.ORF02460	77 aa	restriction endonuclease related protein
COH1.ORF02461	30 aa	type II restriction endonuclease, putative
COH1.ORF02462	54 aa	conserved hypothetical protein
COH1.ORF02463	290 aa	unnamed protein product
COH1.ORFA02375	46 aa	conserved hypothetical protein
COH1.ORF02464	107 aa	amino acid ABC transporter, ATP-binding protein
COH1.ORF02466	338 aa	DNA polymerase III, alpha subunit, Gram-positive type
COH1.ORF02467	308 aa	rib protein
COH1.ORF02468	333 aa	conserved hypothetical protein
COH1.ORF02469	267 aa	phosphoribosylamine--glycine ligase
COH1.ORF02470	101 aa	ribosomal protein S1
COH1.ORF02471	37 aa	hypothetical protein
COH1.ORF02472	60 aa	transport ATP-binding protein coma
COH1.ORF02473	177 aa	ABC transporter, ATP-binding protein
COH1.ORF02474	133 aa	ABC transporter, substrate-binding protein

REGION 7.1 [1 sequence(s)]:

H36B [0-12658]

H36B.ORF00001	304 aa	oligopeptide ABC transporter, permease protein
H36B.ORF00002	343 aa	oligopeptide ABC transporter, permease protein
H36B.ORF00003	348 aa	oligopeptide ABC transporter, ATP-binding protein
H36B.ORF00004	310 aa	oligopeptide ABC transporter, ATP-binding protein

REGION 7.2 [1 sequence(s)]:

H36B [50290-55433]

H36B.ORF00041	62 aa	MORN motif family protein
H36B.ORFA00041	53 aa	hypothetical protein
H36B.ORF00042	95 aa	phosphoribosylaminoimidazole-succinocarboxamide synthase
H36B.ORF00043	111 aa	phosphoribosylaminoimidazole-succinocarboxamide synthase
H36B.ORF00044	61 aa	phosphoribosylformylglycinamide synthase, putative
H36B.ORF00045	112 aa	Phosphoribosylglycinamide synthetase, ATP-grasp (A) domain
H36B.ORF00046	63 aa	phosphoribosylamine--glycine ligase

REGION 7.3 [1 sequence(s)]:

H36B [226513-232564]

H36B.ORF00246	143 aa	alpha amylase family protein
H36B.ORF00247	229 aa	polyribonucleotide nucleotidyltransferase
H36B.ORF00248	178 aa	RNA methyltransferase, TrmH family, group 3

REGION 7.4 [1 sequence(s)]:

H36B [427585-461812]

H36B.ORFA00453	31 aa	C protein alpha-antigen precursor
H36B.ORF00471	218 aa	serine protease, subtilase family
H36B.ORF00472	48 aa	protease, putative
H36B.ORF00473	137 aa	glycosyl transferase, group 2 family protein
H36B.ORF00474	34 aa	hypothetical protein
H36B.ORF00475	223 aa	c protein alpha-antigen precursor
H36B.ORF00476	108 aa	site-specific recombinase, phage integrase family, truncation
H36B.ORF00477	45 aa	site-specific recombinase, phage integrase family, truncation
H36B.ORF00478	101 aa	Unknown
H36B.ORF00479	112 aa	Unknown
H36B.ORF00480	254 aa	methyltransferase
H36B.ORF00481	686 aa	MW0309, putative
H36B.ORF00482	149 aa	MW, putative
H36B.ORF00483	92 aa	GatB
H36B.ORF00484	386 aa	PTS system, IIC component, putative
H36B.ORF00485	39 aa	hypothetical protein
H36B.ORF00487	276 aa	rhamnulose-1-phosphate aldolase
H36B.ORF00488	154 aa	MW
H36B.ORF00489	443 aa	PTS system component
H36B.ORF00490	94 aa	galactitol PTS, EIIB
H36B.ORF00491	276 aa	msm operon regulatory protein [imported], putative
H36B.ORF00492	425 aa	sugar ABC transporter, sugar-binding protein, putative
H36B.ORF00493	296 aa	ABC transporter, permease protein
H36B.ORF00494	277 aa	sugar ABC transporter, permease protein
H36B.ORF00495	733 aa	alpha-galactosidase
H36B.ORF00496	390 aa	galactokinase
H36B.ORF00497	494 aa	galactose-1-phosphate uridylyltransferase
H36B.ORF00498	331 aa	UDP-glucose 4-epimerase
H36B.ORF00499	230 aa	aldose 1-epimerase
H36B.ORF00500	64 aa	aldose 1-epimerase
H36B.ORF00501	84 aa	conserved hypothetical protein
H36B.ORF00502	103 aa	Unknown
H36B.ORF00503	192 aa	acetyltransferase, GNAT family
H36B.ORF00504	216 aa	hypothetical protein
H36B.ORF00505	883 aa	valyl-tRNA synthetase
H36B.ORF00506	319 aa	oxidoreductase, Gfo/Idh/MocA family
H36B.ORF00507	55 aa	magnesium transporter, CorA family

H36B.ORF00508	218 aa	magnesium transporter, CorA family
H36B.ORF00509	317 aa	transposase, Mutator family
H36B.ORF00510	350 aa	Protein of unknown function (DUF419) family

REGION 7.5 [1 sequence(s)]:

H36B [515790-558957]

H36B.ORF00575	91 aa	DNA-binding protein HU
H36B.ORF00576	380 aa	integrase-like protein
H36B.ORF00577	183 aa	conserved hypothetical protein
H36B.ORF00578	128 aa	conserved hypothetical protein
H36B.ORF00579	139 aa	transcriptional regulator, Cro/CI family
H36B.ORF00580	81 aa	hypothetical protein
H36B.ORF00581	262 aa	hypothetical protein
H36B.ORF00582	63 aa	conserved hypothetical protein
H36B.ORF00583	103 aa	prophage ps2 protein 07, excisionase [imported]
H36B.ORF00584	49 aa	conserved hypothetical protein
H36B.ORF00585	75 aa	conserved hypothetical protein
H36B.ORF00586	79 aa	hypothetical protein
H36B.ORFA00560	42 aa	hypothetical protein
H36B.ORF00588	439 aa	chromosome segregation protein, putative
H36B.ORF00589	357 aa	conserved hypothetical protein
H36B.ORF00590	201 aa	conserved hypothetical protein
H36B.ORF00591	202 aa	conserved hypothetical protein
H36B.ORF00592	530 aa	helicase, putative
H36B.ORF00593	65 aa	conserved hypothetical protein
H36B.ORF00594	83 aa	hypothetical protein
H36B.ORF00595	765 aa	conserved hypothetical protein
H36B.ORF00596	93 aa	RNA polymerase sigma factor
H36B.ORF00597	135 aa	Endodeoxyribonuclease RusA superfamily
H36B.ORF00598	71 aa	conserved hypothetical protein
H36B.ORF00599	104 aa	hypothetical protein
H36B.ORF00600	110 aa	conserved hypothetical protein
H36B.ORF00601	137 aa	putative transcriptional activator - phage associated
H36B.ORF00602	143 aa	terminase small subunit
H36B.ORF00603	426 aa	phage terminase, large subunit, PBSX family
H36B.ORF00604	509 aa	phage portal protein, SPP1 family
H36B.ORF00605	480 aa	phage putative head morphogenesis protein, SPP1 gp7 family domain protein
H36B.ORF00606	67 aa	conserved hypothetical protein
H36B.ORF00607	189 aa	conserved hypothetical protein
H36B.ORF00608	298 aa	conserved hypothetical protein
H36B.ORF00609	118 aa	conserved hypothetical protein
H36B.ORF00610	108 aa	phage protein, HK97 gp10 family

H36B.ORF00611	119 aa	conserved hypothetical protein
H36B.ORF00612	210 aa	conserved hypothetical protein
H36B.ORF00613	151 aa	conserved hypothetical protein
H36B.ORF00614	76 aa	conserved hypothetical protein
H36B.ORF00616	1408 aa	reticulocyte binding protein
H36B.ORFA00587	67 aa	hypothetical protein
H36B.ORF00617	280 aa	conserved hypothetical protein
H36B.ORF00618	1134 aa	reticulocyte binding protein
H36B.ORFA00591	35 aa	hypothetical protein
H36B.ORF00619	817 aa	prophage LambdaSa1, N-acetylmuramoyl-L-alanine amidase, family 4
H36B.ORF00620	50 aa	hypothetical phage protein-related protein
H36B.ORF00621	138 aa	conserved hypothetical protein
H36B.ORF00622	74 aa	hypothetical protein
H36B.ORF00623	98 aa	conserved hypothetical protein
H36B.ORF00624	111 aa	phage holin, LL-H family
H36B.ORF00625	248 aa	endolysin domain protein
H36B.ORF00626	37 aa	hypothetical protein
H36B.ORF00627	83 aa	conserved hypothetical protein
H36B.ORF00628	69 aa	cI-like repressor
H36B.ORF00629	274 aa	hypothetical protein
H36B.ORF00630	181 aa	pyrogenic exotoxin C precursor, phage associated, putative
H36B.ORF00631	58 aa	putative exotoxin precursor
H36B.ORF00632	59 aa	conserved hypothetical protein

REGION 7.6 [1 sequence(s)]:

H36B [608015-616671]

H36B.ORF00687	38 aa	A/G-specific adenine glycosylase
H36B.ORF00688	95 aa	ribosomal protein S6
H36B.ORF00689	163 aa	single-strand binding protein
H36B.ORF00690	439 aa	prophage LambdaSa1, reverse transcriptase/maturase family protein
H36B.ORF00691	79 aa	ribosomal protein S18
H36B.ORF00692	314 aa	magnesium transporter, CorA family
H36B.ORF00693	223 aa	conserved hypothetical protein
H36B.ORF00694	226 aa	excinuclease ABC, A subunit
H36B.ORF00695	175 aa	sensor histidine kinase VncS
H36B.ORF00696	186 aa	transposase OrfB, IS3 family, truncation
H36B.ORF00697	66 aa	CsbD-like superfamily

REGION 7.7 [1 sequence(s)]:

H36B [1133255-1140047]

H36B.ORF01241	91 aa	Unknown
H36B.ORF01242	55 aa	repressor protein, putative
H36B.ORF01243	52 aa	repressor protein, putative

H36B.ORF01244	208 aa	prophage pi3 protein 59 [imported]
H36B.ORF01245	263 aa	prophage LambdaSa2, site-specific recombinase, phage integrase family
H36B.ORF01246	358 aa	ribosomal protein S1
H36B.ORFA01211	32 aa	hypothetical protein
H36B.ORF01247	76 aa	conserved hypothetical protein
H36B.ORF01248	89 aa	branched-chain amino acid aminotransferase
H36B.ORF01249	232 aa	branched-chain amino acid aminotransferase

REGION 7.8 [1 sequence(s)]:

H36B [1910893-1923194]

H36B.ORF02058	169 aa	Unknown
H36B.ORF02059	92 aa	conserved hypothetical protein
H36B.ORF02060	128 aa	protein of unknown function, putative
H36B.ORF02061	190 aa	Unknown
H36B.ORF02062	110 aa	Unknown
H36B.ORF02063	42 aa	Unknown
H36B.ORF02064	96 aa	Unknown
H36B.ORF02065	48 aa	hypothetical protein
H36B.ORF02066	102 aa	response regulator
H36B.ORF02067	171 aa	sugar ABC transporter, ATP-binding protein
H36B.ORF02068	181 aa	GTP pyrophosphokinase family protein
H36B.ORF02069	46 aa	Holliday junction DNA helicase RuvA
H36B.ORF02070	129 aa	Transposase (IS4 family)
H36B.ORF02071	127 aa	degenerate transposase (orf1) [imported]
H36B.ORF02072	45 aa	hypothetical protein
H36B.ORF02073	205 aa	ABC transporter, ATP-binding protein
H36B.ORF02074	36 aa	conserved hypothetical protein
H36B.ORF02075	204 aa	ABC transporter, ATP-binding protein
H36B.ORFA02003	28 aa	hypothetical protein
H36B.ORFA02004	47 aa	conserved hypothetical protein

REGION 7.9 [1 sequence(s)]:

H36B [1990820-1998923]

H36B.ORF02142	419 aa	competence/damage-inducible protein CinA
H36B.ORF02143	112 aa	DNA-3-methyladenine glycosylase I
H36B.ORF02144	127 aa	degenerate transposase (orf1) [imported]
H36B.ORF02145	129 aa	Transposase (IS4 family)
H36B.ORF02146	217 aa	response regulator [imported]
H36B.ORF02147	423 aa	sensor histidine kinase [imported]
H36B.ORF02148	211 aa	Isoprenylcysteine carboxyl methyltransferase (ICMT) family family
H36B.ORF02149	308 aa	iga fc receptor precursor
H36B.ORF02150	58 aa	DNA mismatch repair protein HexA

H36B.ORF02151	141 aa	DNA mismatch repair protein HexA
H36B.ORF02152	113 aa	histidyl-tRNA synthetase
H36B.ORF02153	60 aa	ribosomal protein L32

REGION 7.10 [1 sequence(s)]:

H36B [2131055-2229117]

H36B.ORF02300	137 aa	ABC transporter, ATP-binding protein
H36B.ORF02301	290 aa	transketolase
H36B.ORF02302	214 aa	transaldolase, putative
H36B.ORF02303	229 aa	ribulose-phosphate 3-epimerase
H36B.ORF02304	367 aa	PTS system, IIC component [imported]
H36B.ORF02305	149 aa	PTS system, IIA component [imported]
H36B.ORF02306	103 aa	PTS system, IIB component [imported]
H36B.ORF02307	629 aa	MW0309, putative
H36B.ORF02308	102 aa	transcription regulator, putative
H36B.ORF02309	149 aa	probable bud operon transcriptional regulator , fragment
H36B.ORF02310	116 aa	oxidoreductase, short chain dehydrogenase/reductase family
H36B.ORF02311	245 aa	oxidoreductase, aldo/keto reductase family
H36B.ORF02312	48 aa	conserved hypothetical protein
H36B.ORF02313	176 aa	Glutamate-rich protein grpB
H36B.ORF02314	230 aa	phenazine biosynthesis protein PhzF family
H36B.ORF02315	116 aa	acetyltransferase, GNAT family family
H36B.ORF02316	69 aa	conserved hypothetical protein
H36B.ORF02317	124 aa	protein of unknown function
H36B.ORF02318	41 aa	hypothetical protein
H36B.ORF02319	127 aa	protein of unknown function
H36B.ORF02320	34 aa	hypothetical protein
H36B.ORF02321	114 aa	Unknown
H36B.ORF02322	102 aa	Unknown
H36B.ORF02323	84 aa	DNA-damage-inducible protein J, putative
H36B.ORFA02244	48 aa	conserved hypothetical protein
H36B.ORF02324	79 aa	Unknown
H36B.ORF02325	133 aa	Unknown
H36B.ORF02326	261 aa	c protein alpha-antigen precursor
H36B.ORF02327	258 aa	prophage LambdaSa1, N-acetylmuramoyl-L-alanine amidase, family 4
H36B.ORF02328	47 aa	c protein alpha-antigen precursor
H36B.ORF02329	396 aa	Unknown
H36B.ORF02330	124 aa	exonuclease, putative
H36B.ORF02331	171 aa	Unknown
H36B.ORF02332	263 aa	fibrinogen-binding protein
H36B.ORF02333	341 aa	aspartate-semialdehyde dehydrogenase
H36B.ORF02334	112 aa	Unknown
H36B.ORF02335	172 aa	Unknown

H36B.ORF02336	393 aa	site-specific recombinase, phage integrase family
H36B.ORF02337	77 aa	Unknown-related protein
H36B.ORF02338	207 aa	Plasmid replication protein
H36B.ORF02339	56 aa	phosphoribosylaminoimidazolecarboxamide formyltransferase/IMP cyclohydrolase
H36B.ORFA02259	52 aa	hypothetical protein
H36B.ORFA02261	80 aa	hypothetical protein
H36B.ORFA02260	47 aa	permease
H36B.ORF02340	212 aa	BRO family, N-terminal domain protein
H36B.ORF02341	57 aa	conserved hypothetical protein
H36B.ORFA02264	50 aa	hypothetical protein
H36B.ORF02342	154 aa	c protein alpha-antigen precursor
H36B.ORF02343	50 aa	c protein alpha-antigen precursor
H36B.ORF02344	148 aa	amidase family protein
H36B.ORF02345	236 aa	c protein alpha-antigen precursor
H36B.ORF02346	176 aa	translation initiation factor IF-3
H36B.ORF02347	66 aa	ribosomal protein L35
H36B.ORF02348	119 aa	ribosomal protein L20
H36B.ORF02350	91 aa	DNA polymerase I
H36B.ORF02349	86 aa	CoA-binding domain protein
H36B.ORFA02274	44 aa	hypothetical protein
H36B.ORF02352	264 aa	DNA polymerase delta large chain
H36B.ORF02356	97 aa	cell wall surface anchor family protein
H36B.ORF02367	209 aa	GDP dissociation inhibitor isoform 1; GDI-1
H36B.ORFA02288	48 aa	diarrheal toxin
H36B.ORF02357	166 aa	c protein alpha-antigen precursor
H36B.ORF02363	298 aa	sensor histidine kinase BlpH, probable [imported]
H36B.ORFA02283	33 aa	conserved hypothetical protein
H36B.ORF02364	153 aa	Unknown
H36B.ORF02365	39 aa	phosphoribosylformylglycinamide synthase, putative
H36B.ORF02366	236 aa	condensin subunit
H36B.ORF02359	46 aa	SNF2 family protein
H36B.ORF02361	224 aa	putative nucleoporin
H36B.ORF02358	79 aa	oligopeptide ABC transporter, ATP-binding protein
H36B.ORF02362	207 aa	FtsK/SpoIIIE family protein
H36B.ORFA02296	55 aa	conserved protein
H36B.ORF02369	101 aa	Unknown
H36B.ORF02371	170 aa	modulator of drug activity (mda66)
H36B.ORF02377	77 aa	hypothetical protein
H36B.ORF02378	115 aa	type IIS restriction enzyme R and M protein (ECO57IR), putative
H36B.ORFA02310	139 aa	undecaprenol kinase
H36B.ORFA02312	30 aa	threonine-tRNA ligase Cj0206
H36B.ORF02383	109 aa	conserved hypothetical protein

H36B.ORFA02316	35 aa	conserved hypothetical protein
H36B.ORF02384	101 aa	Na ⁺ /H ⁺ exchanger family protein
H36B.ORFA02318	35 aa	hypothetical protein
H36B.ORFA02319	37 aa	ABC transporter, ATP-binding protein
H36B.ORF02385	60 aa	lipoprotein, putative
H36B.ORF02386	81 aa	serine O-acetyltransferase
H36B.ORF02387	72 aa	hypothetical protein
H36B.ORF02388	84 aa	hypothetical protein
H36B.ORF02389	48 aa	hypothetical protein
H36B.ORF02391	71 aa	ABC transporter, ATP-binding protein
H36B.ORF02392	67 aa	membrane protein, putative
H36B.ORFA02327	41 aa	hypothetical protein
H36B.ORF02393	159 aa	conserved hypothetical protein
H36B.ORF02394	212 aa	aminotransferase, class I
H36B.ORFA02330	201 aa	hypothetical protein
H36B.ORFA02333	45 aa	conserved hypothetical protein
H36B.ORF02396	168 aa	hypothetical protein
H36B.ORF02398	64 aa	conserved hypothetical protein
H36B.ORF02397	79 aa	hypothetical protein
H36B.ORF02401	115 aa	cell division protein FtsH
H36B.ORF02402	175 aa	endopeptidase O
H36B.ORF02403	35 aa	conserved hypothetical protein
H36B.ORFA02338	74 aa	F27J15.23
H36B.ORFA02341	41 aa	hypothetical protein
H36B.ORF02405	37 aa	phosphoribosylamine--glycine ligase
H36B.ORFA02342	51 aa	Tn5252, Orf23
H36B.ORF02406	72 aa	ABC transporter, ATP-binding/permease protein
H36B.ORF02407	97 aa	RNA methyltransferase, TrmH family, group 3
H36B.ORFA02345	41 aa	conserved hypothetical protein
H36B.ORF02408	56 aa	GTP-binding protein
H36B.ORF02409	62 aa	GTP-binding protein
H36B.ORFA02348	47 aa	conserved hypothetical protein
H36B.ORF02415	42 aa	conserved hypothetical protein
H36B.ORFA02356	65 aa	Oxidoreductase NAD-binding domain protein
H36B.ORF02413	48 aa	ABC transporter, ATP-binding protein
H36B.ORF02414	38 aa	IS1381, transposase OrfA [imported]
H36B.ORF02422	102 aa	membrane protein, putative
H36B.ORF02417	116 aa	c protein alpha-antigen precursor
H36B.ORF02416	257 aa	ammonium transporter family protein
H36B.ORF02421	60 aa	transcription-repair coupling factor
H36B.ORFA02367	50 aa	transcriptiorepair coupling factor mfd
H36B.ORF02419	133 aa	chromosome segregation SMC protein
H36B.ORF02420	40 aa	hypothetical protein

H36B.ORF02418	114 aa	c protein alpha-antigen precursor
H36B.ORFA02366	47 aa	ABC transporter permease protein
H36B.ORFA02352	52 aa	sugar ABC transporter, permease protein
H36B.ORF02411	236 aa	iga fc receptor precursor
H36B.ORFA02350	49 aa	type I restriction-modification system, M subunit
H36B.ORF02412	287 aa	c protein alpha-antigen precursor
H36B.ORFA02360	44 aa	hypothetical protein
H36B.ORFA02361	48 aa	hypothetical protein
H36B.ORFA02351	46 aa	conserved hypothetical protein
H36B.ORF02423	181 aa	hypothetical protein
H36B.ORF02424	190 aa	surface protein Rib
H36B.ORF02426	43 aa	Stp1
H36B.ORFA02372	73 aa	conserved hypothetical protein
H36B.ORF02427	53 aa	virulence factor MviM, putative
H36B.ORFA02375	88 aa	hydrogen peroxide-inducible protein hic-5
H36B.ORF02428	46 aa	T3B23.2/T3B23.2
H36B.ORF02429	122 aa	AT3g55020/T15C9_20
H36B.ORFA02377	46 aa	conserved hypothetical protein
H36B.ORF02430	157 aa	C protein alpha antigen
H36B.ORFA02379	43 aa	conserved hypothetical protein
H36B.ORFA02380	57 aa	amino acid ABC transporter, ATP-binding protein
H36B.ORFA02381	41 aa	endolysin
H36B.ORF02432	118 aa	conserved hypothetical protein
H36B.ORFA02383	47 aa	Resolvase
H36B.ORF02433	62 aa	methyltransferase (ssoIM)
H36B.ORF02434	137 aa	hypothetical protein
H36B.ORF02435	112 aa	ribonuclease G
H36B.ORF02436	55 aa	Fe-S oxidoreductases family 2
H36B.ORF02437	38 aa	hypothetical protein
H36B.ORF02438	51 aa	hypothetical protein
H36B.ORF02440	207 aa	mercuric reductase
H36B.ORF02444	189 aa	transposon tn1546 resolvase
H36B.ORF02445	48 aa	hypothetical protein
H36B.ORF02446	169 aa	tRNA delta(2)-isopentenylpyrophosphate transferase
H36B.ORF02447	253 aa	hypothetical protein
H36B.ORF02448	257 aa	hypothetical protein
H36B.ORF02449	263 aa	transposase, Tn3 family, putative
H36B.ORF02454	187 aa	transposase, IS4 family, putative
H36B.ORF02455	78 aa	hypothetical protein
H36B.ORF02456	203 aa	resolvase
H36B.ORF02457	218 aa	c protein alpha-antigen precursor

REGION 8.1 [1 sequence(s)]:

18RS21 [25397-35846]

18RS21.ORF00023 112 aa PcsB protein
 18RS21.ORF00024 31 aa PcsB protein

REGION 8.2 [1 sequence(s)]:

18RS21 [1873333-2164750]

18RS21.ORF01961 134 aa aspartate kinase family protein
 18RS21.ORF01962 48 aa exodeoxyribonuclease VII, small subunit
 18RS21.ORF01963 154 aa exodeoxyribonuclease VII, large subunit
 18RS21.ORF01964 63 aa 82 kDa heat shock protein HSP82
 18RS21.ORF01965 227 aa phage nucleotide-binding protein
 18RS21.ORF01966 454 aa 51.5 kDa protein
 18RS21.ORF01967 160 aa 18K protein GP18C
 18RS21.ORF01968 517 aa bacteriophage resistance protein
 18RS21.ORF01969 289 aa hypothetical phage protein
 18RS21.ORF01970 93 aa gp106
 18RS21.ORF01971 52 aa hypothetical protein
 18RS21.ORF01972 127 aa phage conserved hypothetical protein TIGR01671
 18RS21.ORF01973 112 aa hypothetical protein
 18RS21.ORF01974 313 aa ABC transporter, permease protein SP1919
 18RS21.ORF01975 167 aa phosphoribosylaminoimidazole carboxylase, ATPase subunit
 18RS21.ORF01976 41 aa conserved hypothetical protein
 18RS21.ORF01977 52 aa immunoreactive protein Se23.5
 18RS21.ORF01978 149 aa sugar ABC transporter, ATP-binding protein SP0846
 18RS21.ORF01979 188 aa ABC transporter, permease protein
 18RS21.ORF01980 255 aa tagatose-6-phosphate kinase
 18RS21.ORF01981 319 aa pli0047
 18RS21.ORF01982 281 aa phosphoribosylformylglycinamide cyclo-ligase
 18RS21.ORF01983 63 aa amidophosphoribosyltransferase
 18RS21.ORF01984 41 aa hypothetical protein
 18RS21.ORF01985 214 aa D-xylulose 5-phosphate/D-fructose 6-phosphate phosphoketolase
 18RS21.ORF01987 51 aa xylulose-5-phosphate/fructose-6-phosphate phosphoketolase
 18RS21.ORF01986 278 aa polysaccharide deacetylase family protein
 18RS21.ORF01988 64 aa amino acid ABC transporter, ATP-binding protein
 18RS21.ORF01989 129 aa iron compound ABC transporter, ATP-binding protein
 18RS21.ORF01990 210 aa iron compound ABC transporter, substrate-binding protein
 18RS21.ORF01991 71 aa transcriptional regulator, Cro/CI family
 18RS21.ORF01992 74 aa conserved hypothetical protein
 18RS21.ORF01993 96 aa hypothetical phage protein
 18RS21.ORF01994 44 aa conserved hypothetical protein
 18RS21.ORF01995 125 aa conserved hypothetical protein
 18RS21.ORF01996 175 aa conserved hypothetical protein
 18RS21.ORF01997 53 aa hypothetical protein

18RS21.ORF01998	131 aa	hypothetical phage protein
18RS21.ORF01999	63 aa	transcription regulator
18RS21.ORF02000	224 aa	hypothetical protein
18RS21.ORF02001	52 aa	conserved hypothetical protein
18RS21.ORF02003	65 aa	hypothetical protein
18RS21.ORF02002	42 aa	hypothetical protein
18RS21.ORF02004	30 aa	DNA gyrase, A subunit
18RS21.ORF02005	252 aa	DNA gyrase, A subunit
18RS21.ORF02006	248 aa	biotin--acetyl-CoA-carboxylase ligase
18RS21.ORF02007	38 aa	conserved hypothetical protein
18RS21.ORF02008	222 aa	conserved hypothetical protein TIGR00046
18RS21.ORF02009	287 aa	amidophosphoribosyltransferase
18RS21.ORF02010	182 aa	transcription regulator
18RS21.ORF02011	98 aa	conserved hypothetical protein
18RS21.ORF02012	32 aa	hypothetical protein
18RS21.ORF02013	136 aa	conserved hypothetical protein
18RS21.ORF02014	151 aa	GtrA family protein
18RS21.ORF02015	166 aa	50S ribosomal protein
18RS21.ORF02016	30 aa	hypothetical protein
18RS21.ORF02017	40 aa	branched-chain amino acid aminotransferase
18RS21.ORF02018	76 aa	conserved hypothetical protein
18RS21.ORF02019	466 aa	30S ribosomal protein S1
18RS21.ORF02020	358 aa	integrase
18RS21.ORF02021	228 aa	conserved hypothetical protein
18RS21.ORF02022	62 aa	conserved hypothetical protein
18RS21.ORF02023	36 aa	hypothetical protein
18RS21.ORF02024	548 aa	putative phage-related tail protein
18RS21.ORF02025	110 aa	cysteinyl-tRNA synthetase
18RS21.ORF02026	137 aa	glutamine ABC transporter ATP-binding protein glnQ
18RS21.ORF02027	113 aa	amino acid ABC transporter, amino acid-binding/permease protein
18RS21.ORF02028	213 aa	ribokinase
18RS21.ORF02029	171 aa	endoribonuclease L-PSP family protein
18RS21.ORF02030	129 aa	methyl-accepting chemotaxis protein
18RS21.ORF02031	279 aa	amidophosphoribosyltransferase
18RS21.ORF02032	286 aa	phosphoglucomutase
18RS21.ORF02033	111 aa	polyprenyl synthetase family protein
18RS21.ORF02034	93 aa	ABC transporter, ATP-binding protein CydC
18RS21.ORF02035	122 aa	acetyltransferase, GNAT family family
18RS21.ORF02036	182 aa	transcriptional regulator, MerR family
18RS21.ORF02037	223 aa	exodeoxyribonuclease VII, large subunit
18RS21.ORF02038	43 aa	protein of unknown function
18RS21.ORF02039	59 aa	Oligopeptide transport ATP-binding protein oppF
18RS21.ORF02040	66 aa	CsbD-like family

18RS21.ORF02041	298 aa	ATPase, histidine kinase-, DNA gyrase B-, and HSP90-like domain protein protein
18RS21.ORF02042	43 aa	hypothetical protein
18RS21.ORF02043	447 aa	49.7 kDa protein
18RS21.ORF02044	75 aa	holin, phage phi LC3 family
18RS21.ORF02045	42 aa	conserved hypothetical protein
18RS21.ORF02046	130 aa	conserved hypothetical protein
18RS21.ORF02047	674 aa	prophage LambdaSa1, minor structural protein, putative
18RS21.ORF02048	1275 aa	prophage LambdaSa1, N-acetylmuramoyl-L-alanine amidase, family
4		
18RS21.ORF02049	502 aa	prophage LambdaSa1, minor structural protein, putative
18RS21.ORF02050	415 aa	putative tail protein, phage associated
18RS21.ORF02051	160 aa	Oligopeptide transport ATP-binding protein oppF
18RS21.ORF02052	180 aa	cI repressor
18RS21.ORF02053	86 aa	H ⁺ -transporting ATP synthase a chain
18RS21.ORF02054	150 aa	ATP synthase F0, B subunit
18RS21.ORF02055	253 aa	Arginyl-tRNA synthetase (Arginine--tRNA ligase) (ArgRS)
18RS21.ORF02056	31 aa	hypothetical protein
18RS21.ORF02057	63 aa	Oligopeptide transport ATP-binding protein oppF
18RS21.ORF02058	390 aa	mercury(II) reductase [similarity]
18RS21.ORF02059	130 aa	Hg(II)-responsive transcriptional regulator
18RS21.ORF02060	30 aa	conserved hypothetical protein
18RS21.ORF02061	97 aa	transcription regulator
18RS21.ORF02062	45 aa	HAM1 protein homolog
18RS21.ORF02063	151 aa	HAM1 protein homolog
18RS21.ORF02064	109 aa	Glutamate racemase
18RS21.ORF02065	326 aa	exonuclease RexB
18RS21.ORF02066	318 aa	putative tail protein, phage associated
18RS21.ORF02067	201 aa	enoyl-acyl carrier protein(ACP) reductase.
18RS21.ORF02068	38 aa	enoyl-(acyl-carrier-protein) reductase
18RS21.ORF02069	96 aa	conserved hypothetical protein
18RS21.ORF02070	162 aa	conserved hypothetical protein
18RS21.ORF02071	39 aa	conserved hypothetical protein
18RS21.ORF02072	123 aa	gp31
18RS21.ORF02073	204 aa	conserved hypothetical protein
18RS21.ORF02074	62 aa	heavy-metal transporting P-type ATPase CAC3655
18RS21.ORF02075	55 aa	copper-translocating P-type ATPase
18RS21.ORF02076	171 aa	transcriptional repressor CopY
18RS21.ORF02078	106 aa	transketolase
18RS21.ORF02077	151 aa	transketolase
18RS21.ORF02079	40 aa	hypothetical protein
18RS21.ORF02080	89 aa	conserved hypothetical protein
18RS21.ORF02081	142 aa	Phenylalanyl-tRNA synthetase beta chain(Phenylalanine--tRNA

ligase beta chain) (PheRS)

18RS21.ORF02082	238 aa	conserved hypothetical protein
18RS21.ORF02083	150 aa	B. subtilis YabF protein homolog lin0226
18RS21.ORF02084	30 aa	B. subtilis YabF protein homolog lin0226
18RS21.ORF02085	111 aa	Aspartyl/glutamyl-tRNA(Asn/Gln) amidotransferase subunit B(EC 6.3.5.-) (Asp/Glu-ADT subunit B)
18RS21.ORF02086	35 aa	Glutamyl-tRNA(Gln) amidotransferase subunit A (Glu-ADTsubunit A)
18RS21.ORF02087	204 aa	CAAX amino terminal protease family family
18RS21.ORF02088	30 aa	hypothetical protein
18RS21.ORF02089	148 aa	transcriptional repressor CopY
18RS21.ORF02090	124 aa	copper-translocating P-type ATPase
18RS21.ORF02091	144 aa	gp31
18RS21.ORF02092	88 aa	conserved hypothetical protein
18RS21.ORF02093	140 aa	conserved hypothetical protein
18RS21.ORF02094	112 aa	hypothetical protein
18RS21.ORF02095	59 aa	phage protein homolog lin0091

REGION 8.3 [1 sequence(s)]:

18RS21 [2173883-2212314]

18RS21.ORF02106	79 aa	cI repressor
18RS21.ORF02107	40 aa	hypothetical protein
18RS21.ORF02108	112 aa	amino acid ABC transporter, ATP-binding protein
18RS21.ORF02109	87 aa	DNA polymerase III gamma/tau subunits
18RS21.ORF02110	180 aa	putative major tail protein
18RS21.ORF02111	100 aa	conserved hypothetical protein
18RS21.ORF02112	770 aa	putative tail protein, phage associated
18RS21.ORF02113	35 aa	conserved hypothetical protein
18RS21.ORF02114	100 aa	conserved hypothetical protein
18RS21.ORF02115	201 aa	putative major tail protein
18RS21.ORF02116	126 aa	conserved hypothetical protein
18RS21.ORF02117	123 aa	conserved hypothetical protein
18RS21.ORF02118	49 aa	conserved hypothetical protein
18RS21.ORF02119	97 aa	conserved hypothetical protein
18RS21.ORF02120	386 aa	77ORF006
18RS21.ORF02121	243 aa	phage protein
18RS21.ORF02122	382 aa	phage portal protein, HK97 family
18RS21.ORF02123	499 aa	phage terminase, large subunit, putative
18RS21.ORF02124	118 aa	conserved hypothetical protein
18RS21.ORF02125	73 aa	77ORF040
18RS21.ORF02126	113 aa	hypothetical phage protein-related protein
18RS21.ORF02127	125 aa	hypothetical phage protein
18RS21.ORF02128	71 aa	gp31

18RS21.ORF02129	140 aa	integral membrane protein
18RS21.ORF02130	327 aa	inosine-uridine preferring nucleoside hydrolase
18RS21.ORF02131	37 aa	hypothetical protein
18RS21.ORF02132	464 aa	prophage Lp3 protein 8, helicase
18RS21.ORF02133	285 aa	DNA primase domain protein
18RS21.ORF02134	90 aa	prophage ps1 protein 10
18RS21.ORF02135	63 aa	conserved hypothetical protein
18RS21.ORF02136	110 aa	conserved hypothetical protein
18RS21.ORF02137	150 aa	hypothetical protein
18RS21.ORF02138	212 aa	BRO family, N-terminal domain protein
18RS21.ORF02139	200 aa	BRO family, N-terminal domain protein
18RS21.ORF02140	46 aa	transcription regulator, probable
18RS21.ORF02141	41 aa	UDP-N-acetylglucosamine 1-carboxyvinyltransferase
18RS21.ORF02142	223 aa	thiamine-phosphate pyrophosphorylase
18RS21.ORF02143	219 aa	hydroxyethylthiazole kinase
18RS21.ORF02144	36 aa	hypothetical protein
18RS21.ORF02145	388 aa	Integrase core domain protein
18RS21.ORF02146	384 aa	seryl-tRNA synthetase

The gene content of the 69 genomic islands larger than 5 kb that differ between strains (as determined in Fig. 1) is listed. The entire content of each island in each strain appears even if the genomic island varies in size from strain to strain. ORF length and annotation are also reported.