

Supplemental Table of Mutations

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This file contains the mutations found by BreSeq for all samples. In order to make the tables fit better, we have abbreviated the sample names. L1 = Low 1, L2 = Low 2, LM 1 = LoMid 1, and so on. t1 are samples from day 24, and t2 are sample from day 41. Anc1, Anc2, and Anc3 are sequenced samples of the ancestral strain NS001 Δ *cat*, and AncAgg is a Breseq analysis of these three samples aggregated together to improve coverage.

The first table of SNP mutations has eight columns: the chromosome position of the mutation in the reference sequence of NS001 Δ *cat*, the reference nucleotide, the mutation nucleotide, the local sequence for five base pairs in both direction from the mutation (which is surround by curly brackets), the name of the gene if the mutation is inside a gene, the reference amino acid if the mutation is inside a gene, the new amino acid post-mutation, and the samples the mutation was found in.

The second table of deletion mutations has five columns: the chromosome position of the deletion in the reference sequence, the number of basepairs deleted, the local sequence for five base pairs in both directions from the first base pair with the deleted basepairs struck through, the name of the gene if the mutation is inside a gene or the names of the two genes the mutation is between with a / between the two names, and the samples the mutation was found in.

The third table of insertion mutations has five columns: the chromosome position of the start of the insertion in the reference sequence, the newly inserted sequence, the local sequence for five base pairs in each direction around the insertion with the insertion in curly braces, the name of the gene the insertion is in if it is inside a gene or the name of the two genes the mutation is between with a / between the two names, and the samples the mutation was found in.

The fourth table of mobile element mutations has seven columns: the position of the mutation, the name of the mobile element, the strand of the mobile element insertion, the size of any duplications of sequence of the target site next to the mobile element insertion, the repeat size of the mobile element, the gene, and the samples the mutation was found in.

Table 1: SNP Mutations

position	ref	new	local sequence	gene	ref AA	new AA	samples
629	T	C	GGAAT{C}TGCCC	thrA	F	S	L1t1
4859	A	G	TCGGC{G}CCGCG	thrC	T	A	H3t1, H3t2, LM1t1, M2t1, M2t2
6573	G	A	CTGGC{A}ACCGA	yaaJ	R	C	HM1t1
15292	C	G	CTGAC{G}CGCTA	dnaJ	T	T	LM1t2
18711	A	T	GGGAG{T}GAAAT	None	N/A	N/A	M3t2
19166	A	G	TTCTG{G}CTGTC	nhaR	D	G	M4t1
21797	G	A	TTGGC{A}CTGGT	ribF	A	T	L3t2
26063	C	T	TGATT{T}AGTAC	fkpB	Q	*	LM1t1
31829	A	G	GAACG{G}CATCA	carB	D	G	M2t1
36745	C	T	GGGAG{T}GGGCG	caiC	P	P	LM4t2
42773	A	G	TTCCG{G}CCTTT	fixA	D	G	H3t1
45350	T	C	ACCTG{C}TCACC	fixC	F	L	L4t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
49349	T	C	GGGCG{C}CTGGC	kefC	R	R	LM1t1, LM1t2
52263	G	A	CGTTC{A}CCGAC	rsmA	G	G	HM3t1
61485	T	A	ACCAA{A}ACGCT	rapA	I	F	H1t2
67199	G	A	GGCGG{A}CAGGA	araA	A	V	L3t1
74995	T	C	CCCGG{C}GTACT	thiB	T	T	H4t2
82631	T	C	CCTGG{C}GTATA	leuA	H	R	HM2t1
85118	T	C	TGGTG{C}CGCAA	leuO	S	P	HM1t2
92156	G	A	GAAGT{A}AACAA	ftsI	L	L	H2t1
94425	A	G	GAAGA{G}CCGCG	murE	E	E	H1t2
95476	C	T	GCTGC{T}GTTGC	murF	P	L	L2t1, L2t2, L4t1, L4t2, LM4t1, LM4t2, M2t1, M2t2
95700	C	T	AAATG{T}CGGGC	murF	P	S	H3t1, H3t2
96361	G	A	AAAGT{A}GTGCG	mraY	V	V	M3t1
96791	T	C	AGGTC{C}TTATG	mraY	F	L	M2t1
100018	A	G	CATGA{G}CAAAA	murG	E	E	HM4t1, HM4t2
102236	A	G	ACATG{G}CTGAT	murC—ddlB	D—T	G—A	AncAgg, Anc1, Anc2, Anc3, H1t1, H1t2, HM2t1, HM2t2, HM3t2, HM4t1, HM4t2, L1t1, L2t1, L2t2, L3t1, L4t1, L4t2, LM1t1, LM1t2, LM2t1, LM3t1, LM3t2, LM4t1, LM4t2, M1t1, M2t1, M3t1
102650	C	T	GTTTG{T}CGGTT	ddlB	P	S	M2t1
105395	C	T	TGGTG{T}GCGAG	ftsZ	R	C	H1t1
118166	A	G	GCTGA{G}CGCAG	nadC	R	R	HM3t1
135682	G	A	TAACG{A}CATTT	speE	C	C	LM2t1
136141	T	C	TCGAT{C}TCCAC	speE	E	E	HM2t1
138095	C	T	CCTGC{T}TGCGT	cueO	P	L	M2t1, M2t2
148930	A	T	ATGTG{T}CCGCC	panB	G	G	HM2t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
150262	A	G	CTACA{G}CTTTT	yadC	V	A	H1t2
152255	G	A	TAGAT{A}AAATT	yadM	F	F	AncAgg
155269	T	C	CACTG{C}ACCGG	htrE	Y	C	AncAgg, Anc1, Anc2, Anc3, H1t2, H3t1, H4t1, H4t2, HM1t1, HM1t2, L1t1, L1t2, L2t2, L4t1, L4t2, LM3t1, LM4t1, LM4t2, M2t1, M2t2
156328	T	C	AGTGT{C}AGTTT	yadN	N	D	M3t1
158657	T	C	GGGCG{C}CTTCT	pcnB	D	G	H2t1, H2t2
159546	A	T	TGATC{T}TCAAC	gluQ	D	E	H4t2
160510	A	G	CATTC{G}TATAC	dksA	M	T	H2t2
164919	G	A	AACGC{A}GCTGG	mrcB	G	S	H1t1, H1t2
170054	C	T	CGCAG{T}AGCTT	fhuC	Q	*	L1t1
175451	G	A	GGGGC{A}CTGGA	clcA	A	A	L1t1, L1t2
177066	G	A	CAGCC{A}AATCA	yadS	R	W	M3t1
181258	T	C	GGCTA{C}GCCGT	degP	Y	Y	M4t1
201161	A	G	CCAGG{G}CGATC	lpxD	D	G	H3t1
201924	A	G	GCTGC{G}CTGGT	lpxD	A	A	HM2t2
203414	G	A	TGGGG{A}CCGGT	lpxB	A	T	HM1t1
206265	T	A	CTCGA{A}CCGCT	dnaE	D	E	H3t2
207479	C	T	GGCGG{T}GGTAA	dnaE	A	V	L2t1
210135	A	T	GGCAT{T}TGGGC	ldcC	M	L	LM2t1
212693	T	C	CAATG{C}GAAAC	tilS	C	C	L2t2
218194	G	A	TGTAC{A}GCGCG	proS	A	A	Anc3
220015	A	G	GTATG{G}TCAAA	None	N/A	N/A	H2t1
226241	A	G	AAAGA{G}CCCCG	rrlH	None	None	HM2t1
226391	A	G	GGGAA{G}CCGAG	rrlH	None	None	HM4t2
229616	T	C	GCTAC{C}AACCA	dkgB	T	T	HM3t2
250760	A	G	TGGGG{G}TAAAG	lafU	None	None	H4t2
253477	A	G	ATGGT{G}CATGG	ykfJ	None	None	LM2t2
254821	G	A	ACAAG{A}CCAGA	pepD	A	V	LM2t1
260633	A	G	CGGAC{G}CCACT	proB	H	R	M1t1, M1t2
279321	C	T	ATTGA{T}AGATT	None	N/A	N/A	Anc3
281212	G	A	TAAAC{A}GGTTC	None	N/A	N/A	L4t1
282458	G	A	AGGAC{A}ACGCG	yagF	D	N	Anc1
284193	T	C	CCCGC{C}GACGC	yagF	L	P	HM4t2
288512	G	A	AACGC{A}CAGCG	None	N/A	N/A	M4t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
297632	A	G	GTCAA{G}CCACG	paoD	F	L	H1t1
301997	T	A	TACGA{A}GCAAA	None	N/A	N/A	M2t2
302668	G	T	TCATG{T}GACTG	yagU	G	*	M1t1
304450	A	G	CGCTG{G}CTTCG	ecpD	V	A	H3t1
321059	G	A	TCACC{A}GCTGG	ykgE	P	P	LM2t1
327888	A	G	CTCGA{G}GGTGC	betB	F	L	AncAgg, Anc1, Anc2, Anc3, H3t1, H3t2, HM3t1, HM3t2, L2t1, L4t1, LM1t1, M3t1
328154	C	T	AGATT{T}GACAG	betI	S	S	HM2t1
332952	T	C	TAAAA{C}CTGGC	yahB	I	V	H3t2
337087	A	G	ATGGA{G}AAACA	yahF	E	E	L4t2
339066	T	C	ATTTG{C}CACCA	yahH	V	A	HM2t2
339072	T	C	CACCA{C}TGCCG	yahH	I	T	HM2t2
339089	A	G	GCGTG{G}ACGCC	yahH	N	D	HM2t2
339687	G	A	TAACC{A}GCTGG	yahI	R	Q	LM3t1
339961	C	T	ATTGG{T}GCGGG	yahI	G	G	H1t1, H1t2, L1t1, L1t2
340875	A	G	GTCGA{G}AGGCA	yahJ	K	R	HM4t2
342821	C	T	AGTTT{T}GATTT	yahK	F	F	H1t2
345537	T	C	ATCCA{C}AAATA	yahN	M	V	H3t2
347948	A	G	CACTG{G}CTAAA	prpB	T	A	LM1t1, LM1t2
348897	G	C	AGACG{C}ATGGC	None	N/A	N/A	HM3t1
349427	G	A	CATCT{A}CTGAT	prpC	L	L	M2t1
361925	A	G	ACATG{G}TGCCG	lacY	I	T	LM4t1
369167	A	G	CGGTA{G}TTGGC	mhpA	I	V	L1t2
371579	A	G	TTGGG{G}CGTTA	mhpD	T	A	LM1t2
372230	T	C	GCATC{C}GGAGA	mhpF	L	P	HM1t1
372488	T	C	GGTGG{C}TAACC	mhpF	V	A	LM1t2
374364	C	T	GGATG{T}GGCGT	None	N/A	N/A	H1t1
374392	G	A	TACGG{A}TGGCG	None	N/A	N/A	L2t2
375693	C	T	ATCCG{T}GCAAC	mhpT	R	R	LM3t1
385498	G	A	CTGAC{A}CTGGA	tauB	T	T	HM2t2
385882	A	G	TTATT{G}CTCGA	tauB	L	L	HM2t1
387912	A	G	GGGTT{G}GGGTG	None	N/A	N/A	LM4t2
392619	T	A	TTATC{A}ACGTA	yaiT	None	None	H3t1
392709	A	G	GCGGT{G}ACACC	yaiT	None	None	M1t2
401034	G	A	AGCCC{A}GACAC	phoA	R	Q	M1t2
403028	C	T	CCGGG{T}TGCGC	dgcC	L	L	H1t1
409266	T	A	GTCGT{A}AAATT	None	N/A	N/A	H1t2
409298	C	T	GTCGG{T}GGCCT	None	N/A	N/A	M3t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
412523	C	T	GCCAA{T}CCGTC	sbcC	G	G	HM3t2
413670	A	G	GGGGA{G}CAATC	sbcC	V	A	H4t2
419369	T	C	CTGCG{C}TTTCT	brnQ	F	L	AncAgg, Anc2, H3t2, H4t2, L1t1, L1t2, L2t1, L2t2, LM1t1, LM2t1, LM3t1, LM4t1, M1t1, M1t2, M2t1, M2t2, M4t1
422968	T	C	ATATC{C}CTTAC	malZ	S	P	M4t1
438688	A	T	CAGGC{T}CTACC	dxs	V	E	L4t1
439689	T	C	CTCTC{C}GCATA	ispA	A	A	HM1t2
448773	G	A	CAGTT{A}AAGAT	cyoB	F	F	H1t1, H1t2
456759	C	T	ATCTG{T}GACGA	clpX	C	C	HM1t1, HM1t2
469858	G	A	CCGTC{A}ATGCG	mdlA	D	N	M4t2
480088	G	A	AGGAA{A}CGGGA	None	N/A	N/A	L3t1, L3t2
487001	G	A	TGCAA{A}TGGTT	mscK	V	M	H3t1, H3t2
491023	C	T	GCTGG{T}AACCG	apt	A	V	HM2t1
501637	C	T	AATGG{T}AGCGT	ybaL	L	L	LM1t1
512235	A	G	TTTCA{G}CTCCT	ybaT	N	S	H3t2
516531	T	C	TATCG{C}AAGTT	fetB	R	R	LM4t1
522758	T	C	CGTTT{C}CGGCC	rhsD	F	S	M1t2
522818	T	C	ACTGA{C}ACTCA	rhsD	I	T	LM4t2
523100	A	C	GCCGT{C}CCGGG	rhsD	Y	S	L4t1
524183	T	C	GGCGG{C}CCACC	rhsD	V	A	L2t1, L2t2, L4t1, L4t2, LM4t2, M2t1, M2t2
524492	A	G	GGTAC{G}GCAGG	rhsD	Q	R	LM4t1, LM4t2
528733	C	T	AAAAC{T}AGCGG	ylbI	None	None	L2t1, L2t2, L4t1, LM4t1, LM4t2, M2t1, M2t2
531326	A	T	CTTCC{T}GAAGT	allS	L	Q	M4t2
534277	A	G	GATGA{G}CAAAG	gcl	N	S	H1t2
536216	C	T	GTTGG{T}GGTGA	glxR	G	G	LM2t2
545014	A	G	ATATT{G}CGCGA	allD	R	R	H4t1, H4t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
547336	C	T	GCGGT{T}GTGAG	fdrA	V	V	AncAgg, Anc1, Anc2, H1t1, H1t2, HM2t1, HM2t2, HM3t2, HM4t1, HM4t2, L1t1, L2t1, L2t2, LM1t1, LM1t2, LM2t1, LM2t2, M1t1
549169	C	T	TCAAC{T}ACTTG	ylbF	P	L	HM4t1
550863	T	A	CAAAT{A}CAGAT	purK	N	Y	L3t2
554861	T	A	CTTTA{A}TGAAG	cysS	I	N	L3t1
562980	A	C	ACTAA{C}CTTTT	sfmF	N	T	LM1t1
564204	A	G	GAAGC{G}CTGAT	intD	V	A	H1t1
578082	A	G	TAAGC{G}GGGCC	borD	L	P	HM4t1
579498	T	C	ATTGA{C}GTATA	yleI	T	T	HM1t1
584436	G	A	GTTGA{A}GAGCC	ompT	L	F	L3t1
584582	G	A	GAGTT{A}TCCAG	ompT	T	I	M3t2
585342	C	T	TTATG{T}CCGTC	None	N/A	N/A	HM1t2
588387	G	A	AGTGC{A}AGTTC	nfrA	L	L	H3t1
594522	T	C	GAGGA{C}TATCA	cusR	I	V	M2t1
611854	C	T	CGCTT{T}CCACG	None	N/A	N/A	HM4t2
612828	G	A	TGTAT{A}CCGGA	fes	A	T	L3t1
621648	T	A	GCCGG{A}GCAGA	entS	V	E	M1t2
622512	T	A	CTCGT{A}GCTGC	entS	L	*	H4t2
626831	T	C	TTCAC{C}TCCGC	entE	L	P	HM2t2
641743	C	A	TATGT{A}CGCGT	ybdR	V	V	M2t1
650725	A	G	CCATC{G}CGCCG	citC	V	A	HM3t2
656535	A	G	AGGTA{G}CGTTA	cspE	N	S	H1t1
663244	C	T	AAATG{T}ACTAC	None	N/A	N/A	H2t1
674777	G	A	TCCCC{A}GCCCT	None	N/A	N/A	L4t1
676330	T	C	CTTAA{C}AACTG	ybeR	N	N	HM1t1
682102	A	G	CCGAG{G}TCAAA	hscC	D	D	H2t1
685925	G	A	GCAGC{A}TTAAC	None	N/A	N/A	HM1t1
688598	A	G	TCAAC{G}CAGCA	lnt	V	A	M1t1
693308	C	T	GTTTA{T}GGATG	miaB	R	H	Anc3
701321	T	A	CGCGT{A}GTACA	nagA	N	Y	HM4t1
714160	T	C	GGCGC{C}GTCTA	pgm	L	P	H3t1, H3t2
721768	A	T	CCGGG{T}TCATC	kdpD	I	N	Anc2
729693	T	C	GTGGC{C}GACGC	rhsC	L	P	HM4t2
732417	A	G	GTATT{G}CAACC	rhsC	Y	C	M3t1, M3t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
735938	A	G	TTTGT{G}CTAAA	None	N/A	N/A	AncAgg, Anc3
737412	A	G	TGTTG{G}CTATT	ybfD	T	A	M2t1
738667	T	C	CTGGC{C}TTCAG	ybgA	L	P	LM2t2
740664	C	T	GTGAC{T}ATACA	dtpD	G	S	H3t1, H3t2
740742	T	C	AAATT{C}CCCC	dtpD	K	E	LM1t1
760955	T	C	ACGTC{C}CGTCA	sucB	S	S	M2t2
767053	G	A	CGGGC{A}GTGTT	mngA	G	S	L4t1
769108	T	C	GCAGT{C}TGGTT	mngB	F	S	M3t1
781533	T	C	TTCGG{C}GCAAA	nadA	G	G	M3t1
783094	C	T	TCACG{T}GCGCT	pnuC	R	R	HM2t1
785320	A	G	CGCTG{G}CCTGA	aroG	D	G	LM2t1, LM2t2
786407	G	A	AACGC{A}GATCG	gpmA	P	L	M2t1
787176	C	G	GGTTC{G}CCGCG	galM	G	R	L4t2
788487	C	T	GCTGG{T}TGCTG	galK	Q	Q	LM4t2
810029	T	C	CAGTT{C}AAGCC	bioF	L	S	H1t2
815411	A	T	GGTCG{T}TATTG	ybhK	I	N	L4t1
820129	C	T	ACTAG{T}CTGGG	ybhM	A	V	H4t2
831725	C	T	AACTC{T}ATTAA	ybiA	M	I	Anc1
834245	T	C	CCTGA{C}TCAGC	dinG	I	T	HM4t2
835236	A	G	TATGA{G}AAACA	ybiB	E	E	HM1t1
837296	A	G	AAACC{G}TTTAT	None	N/A	N/A	H2t2
841183	T	C	GTAGC{C}GACCG	mcbA	Q	R	HM1t1
856693	A	G	TGGCG{G}CCCGC	ybiT	T	A	H4t1, H4t2
863618	C	T	ACACA{T}CTCAC	moeB	V	M	M1t1, M1t2
873142	T	A	AATTT{A}CTGAA	pdeI	S	T	HM4t1
877209	A	G	TTCGG{G}CAGCC	rimO	C	C	L2t1, L2t2, L4t1, L4t2, LM2t1, LM4t2, M2t2
878041	A	G	CGGTA{G}ATGTC	ylil	N	D	M1t1
880668	G	A	CCACG{A}CAGGC	dacC	A	T	LM2t1
883902	C	T	TGGTG{T}GATTA	mdfA	R	*	HM1t1
884954	T	C	ACGTA{C}TCCAG	ybjI	E	E	HM4t1
893830	G	A	CGATG{A}CGTTC	potF	A	T	H1t1
895878	T	A	GGTTA{A}CGATC	potH	I	N	L4t2
897116	A	G	AAAAC{G}GCGGA	potI	Q	R	HM1t1
898660	A	G	TGGTT{G}ACCCG	rlmC	N	D	HM3t1
908692	T	C	TTTGG{C}GACCA	poxB	T	A	H1t1
914043	A	G	CCCAC{G}ATCAG	lysO	I	I	M2t2
933928	A	G	GCTTT{G}CTACT	ftsK	Y	C	H3t1, H3t2
934688	A	G	GTTGC{G}CCGCA	ftsK	A	A	LM4t2
934691	G	A	GCACC{A}CAGCA	ftsK	P	P	LM4t2
934721	A	G	CAACC{G}GTTCC	ftsK	P	P	LM4t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
934725	C	G	CAGTT{G}CGCCG	ftsK	P	A	LM4t2
936210	G	C	AAGGT{C}GTGCG	ftsK	G	R	LM2t1
946903	A	G	GTATG{G}AATCG	yczM	K	E	Anc1
960101	A	G	GTTGA{G}GAAAC	yczM	K	R	M1t2
965541	T	C	GGCAG{C}AATAC	yczM	S	S	H1t1, H1t2
966017	A	G	TGGTA{G}AACAG	msbA	K	R	HM2t2
985511	T	C	TCAGC{C}TTTTT	ompF	K	K	M1t2
988312	G	A	AATTC{A}CAAAAT	None	N/A	N/A	HM1t2
990825	A	G	CCGCG{G}TCAGG	pepN	D	G	M4t2
999909	T	C	TTTAA{C}GACGG	elfC	N	N	L3t2
1007363	A	G	TTTGA{G}TGACA	rlmL	N	S	M4t2
1018258	A	G	GTTAC{G}ACGTC	ompA	V	V	HM1t2
1021005	A	G	TGCAG{G}CGACC	yccS	R	R	H2t1, H2t2
1034009	C	T	CGGGG{T}GTTAG	hyaB	A	V	L1t1
1041585	A	G	GTGGC{G}CCTGA	etk	V	A	HM3t1
1042617	T	C	GGCGC{C}GTAAG	etk	Q	R	H3t2, LM1t1, M1t1, M1t2, M2t1, M2t2
1043334	A	T	TGATA{T}TAAAC	etk	I	N	M1t2
1048010	A	G	GACCC{G}GAATG	gfcB	W	R	L1t1, L1t2
1049705	T	A	GGAGC{A}GCATG	insB-4	L	Q	M3t1
1050464	T	A	CGATA{A}TTAAG	None	N/A	N/A	M3t1
1055424	A	T	GTGAA{T}AAGGT	None	N/A	N/A	AncAgg, H2t2, H3t2, H4t1, HM1t2, HM4t1, HM4t2, L1t2, L3t1, LM1t1, LM3t1, LM3t2, LM4t2, M3t1, M4t1
1058143	A	G	GCAGC{G}GCAGG	torC	Q	R	Anc1
1059652	G	A	GTTCT{A}GCGGC	torA	L	L	L4t1
1065934	A	G	CGTTA{G}CCCTG	agp	T	A	HM4t2
1070324	G	A	AGGGC{A}GCATG	rutD	A	A	M2t1
1084452	C	T	GCCAA{T}GGCGC	phoH	N	N	H1t2, L2t1, L2t2, L4t1, L4t2, LM3t1, LM3t2, LM4t1, LM4t2, M2t1, M4t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
1086636	A	G	AGCGC{G}ATGGC	pgaC	I	I	HM4t1
1096034	G	T	CCGTT{T}GGGGC	ycdU	W	L	HM2t1
1096382	C	T	CAATA{T}ACGAA	None	N/A	N/A	Anc2, H1t1, HM4t1, L2t1, LM2t1, LM2t2, M4t1
1098407	A	G	TCATG{G}GCCGG	ycdX	E	G	H4t2
1102382	T	C	AACAA{C}AATGT	csgD	L	L	HM1t1
1110740	A	G	CTGCA{G}CTGCT	opgH	Q	Q	HM2t2
1113717	T	C	GTGTC{C}GTACG	mdtG	Q	R	L3t1
1115677	A	G	TCCTA{G}TCCAC	lpxL	L	L	HM1t2
1119590	A	G	GGGAG{G}GTTCA	solA	L	P	L1t2
1125098	T	A	ATGCC{A}GCTAT	rimJ	C	S	L3t1
1125334	G	A	CTGAC{A}GCATT	rimJ	T	T	H1t2
1128787	T	A	TTGAT{A}CATTT	flgN	N	Y	M1t1
1129879	A	G	CCCAC{G}GGCGG	flgA	L	P	H2t1, H2t2
1131191	G	A	ACTTT{A}CTGGT	flgD	L	L	LM2t2
1131522	A	T	TGCGC{T}CCATT	flgD	T	S	LM4t2
1138673	C	T	CGGTA{T}TGGCG	flgK	L	L	LM3t1
1140822	C	T	CTGTT{T}AGTTA	rne	E	K	M4t1
1142094	A	G	CATGT{G}GCTTA	rne	Y	H	H1t2
1142379	G	A	ACGCG{A}ACAAA	rne	P	S	M2t1
1142477	G	A	TACGC{A}CACGG	rne	A	V	H2t1, H2t2
1142816	T	C	CGGTG{C}ACAGT	rne	Y	C	H3t1, H3t2
1143263	C	T	TGTTG{T}CGCGC	rne	G	D	H1t2
1145043	A	G	CGGGG{G}CCGGT	rhuC	T	A	H4t1
1145232	A	G	GCAAA{G}AACTA	None	N/A	N/A	L2t1
1149105	C	T	AGGGG{T}CAGCT	fabD	P	S	H3t1, H3t2
1157332	G	A	GCGCT{A}GCCGC	ptsG	L	L	Anc2
1162133	T	C	TAAGA{C}GCTTG	lpoB	M	T	HM2t1
1170581	T	A	GATAA{A}GGTTG	mfd	I	F	L4t1
1171667	A	G	CAGAT{G}CTCGC	mfd	Y	H	AncAgg, Anc2, Anc3, H3t1, HM1t1, HM4t1, HM4t2, L1t1, L1t2, L2t1, L3t1, LM4t1, LM4t2, M2t1
1173899	G	A	GCAGC{A}CCAGA	ycfT	A	V	HM1t1
1178622	T	C	CAGGC{C}GCCTC	nagK	L	P	H3t2
1179460	G	A	GAAC{T}AATCT	cobB	L	L	HM1t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
1183484	G	A	TCAGC{A}CCATA	potB	A	V	M3t1
1189447	A	G	ACCAG{G}ATCGG	phoP	I	I	H1t2
1190938	G	A	ACGTC{A}TGGTT	purB	H	H	H1t1
1191206	T	A	ATAAT{A}CCATA	purB	E	V	H3t1
1199668	T	C	GCTCG{C}TCTCT	intE	E	E	HM4t1
1203009	T	C	CGTCG{C}GGCGT	ymfL	V	A	HM4t1
1204592	G	A	GGTCG{A}CAAAA	ymfN—aaaE	G—NA	D—NA	HM2t1
1205043	A	G	GTATG{G}CACCT	beeE	D	G	M2t1, M2t2
1207577	G	A	CAGAT{A}CTTAT	tfaP	M	I	H3t1, LM1t1, M2t1, M2t2
1214605	A	G	ACTGC{G}TGTTT	bluF	M	T	LM1t1
1218400	T	C	AAGAC{C}CGTCA	ymgF	L	P	LM4t1
1225097	C	A	GGTTG{A}CGAAA	minC	A	S	H1t2
1226441	A	T	GGATA{T}ATCAA	pliG	L	I	L3t2
1230540	C	T	TGAGG{T}AAAGG	umuC	A	V	L3t1, L3t2
1243726	A	G	GTTTC{G}GGAAC	ycgR	L	P	HM4t2
1245001	G	T	TTTCG{T}GCAGA	treA	P	T	LM3t1
1245605	G	A	GGTAC{A}ATGCT	treA	I	I	LM1t1, LM1t2
1247518	G	A	GGGTT{A}ATTTT	dhaM	S	L	M3t1
1250815	C	T	ATTTG{T}CGTTG	dhaR	P	S	L1t2
1258477	C	T	CATCC{T}TCGGG	dauA	E	E	HM4t1, HM4t2
1261119	C	T	GCATG{T}GTCCA	None	N/A	N/A	L2t2
1261547	A	G	TCTTT{G}AAAAT	ispE	F	F	L2t2
1266471	C	T	GCCTT{T}CCGCT	ychQ	F	F	LM1t1
1270070	A	G	GGCAC{G}GCACT	chaA	L	P	L4t1
1277273	A	G	GGTCA{G}CGTAT	narK	Q	Q	M1t2
1289972	C	T	ATTTC{T}CATTG	rssB	S	S	H1t1, L1t1, L1t2
1295680	A	G	AACCC{G}CATGA	adhE	W	R	LM3t1, LM3t2
1311433	A	T	GTAAA{T}CAAGA	yciA	V	D	M2t2
1313476	C	T	ACTGG{T}AGCGA	ompW	A	V	L3t1
1319748	G	A	ATATT{A}ATACT	trpD	I	I	HM2t1
1321228	C	T	GGCAT{T}ATACT	trpE	D	N	LM1t1, LM1t2
1321436	G	A	CCACC{A}AACTC	trpE	F	F	HM2t2
1322560	C	T	GGCAC{T}CTGGC	yciV	T	T	H4t2
1322591	G	A	CAGCT{A}CAATC	yciV	A	T	HM2t1
1323753	G	T	ACTTC{T}CTAAT	yciO	S	S	LM2t1
1325074	C	T	GGAGA{T}GCAAC	yciQ	R	C	H4t1, H4t2
1328977	T	C	CCGTC{C}GGAAA	sohB	L	P	M3t2
1339023	T	C	GGGGT{C}TGCCT	pgpB	F	S	L2t1
1340236	A	G	CTACC{G}GGCTA	lapB	Q	R	HM3t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
1344915	T	C	AAACT{C}CAATT	pdeR	E	G	L3t2
1348247	C	T	TCCAG{T}CACAC	yciW	G	D	H2t2
1354116	C	A	GTTGG{A}GCAAC	sapB	A	A	L3t2
1355103	A	G	TCACC{G}CTTTT	sapA	V	A	L1t2
1379848	G	A	GCAGG{A}CTGGG	ycjU	G	G	L3t1
1392711	A	G	TGGAA{G}AGTAA	mppA	K	K	L2t2
1394349	C	T	ATGGC{T}GGGTG	ynaI	P	P	HM1t2
1400596	A	G	AAAAA{G}GCAAT	abgT	A	A	HM1t1
1401188	A	G	CCAGC{G}GCATT	abgB	L	P	L3t2
1409840	C	T	AACGC{T}GCCAG	dbpA	P	L	L2t1
1423945	G	A	TTCTT{A}CCAGC	trkG	A	T	Anc2
1424342	C	T	TA CTG{T}ATCGT	trkG	A	V	HM3t1
1431317	A	G	TCTAC{G}AACTC	stfR	T	T	HM1t2
1432890	T	C	AAAAT{C}CGAGA	pinR	R	R	HM1t1
1433292	A	G	CAGCC{G}TGATG	ynaE	W	R	L1t2
1448456	G	A	TCGGT{A}TTGTC	tynA	N	N	H1t2
1453830	A	T	CGTGG{T}TAACA	paaA	D	V	M3t2
1464731	T	A	CAATG{A}GACTT	ydbA	None	None	HM3t2
1465803	G	C	CAGGC{C}GTTGT	ydbA	None	None	H4t1, L4t2
1472562	C	T	CGTCT{T}GATGG	ydbA	None	None	HM3t1
1482451	A	G	TGACC{G}GGCGG	hrpA	Q	R	M2t2
1487171	A	T	CGTTG{T}TTTTT	ydcF	D	V	HM1t2
1487919	C	T	CTTCC{T}GTTCT	aldA	P	L	LM1t1, LM1t2
1493161	A	G	TGGAT{G}AGGTG	trg	K	E	HM3t1, HM3t2
1502259	C	T	AATAA{T}GAAAG	ydcL	N	N	LM3t1
1510704	T	C	ACTCC{C}TGACT	None	N/A	N/A	LM2t1
1515178	A	T	TGAAT{T}TCTTG	patD	Y	F	LM4t2
1517385	T	C	ATGCC{C}TGTTT	ydcZ	Q	Q	HM4t1, HM4t2
1521740	T	C	GCCCG{C}TGCTT	yncD	T	A	HM1t2
1522866	G	A	AGCGC{A}GTCAC	yncE	A	A	H4t1
1531522	G	A	AACAT{A}CTGGA	ydcC	M	I	H2t1
1532308	T	C	CCGCG{C}GAACT	pptA	R	R	M4t2
1536328	A	G	CGAAC{G}GCAGC	narW	L	P	H2t2
1541878	A	G	GTTGT{G}CATCA	None	N/A	N/A	AncAgg, Anc2, Anc3, H3t1, H3t2, HM2t1, HM3t1, HM3t2, L3t1, LM1t1, M1t1, M3t2
1547070	A	G	AAAGA{G}CGAGC	fdnG	N	S	H4t1, H4t2
1554242	T	A	AGTGA{A}ACGCG	maeA	I	F	H2t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
1567655	A	G	ATCTT{G}CCGGT	yddW	G	G	M3t2
1569225	A	G	AGGAT{G}CCGGC	gadC	G	G	M3t1, M3t2
1587720	A	G	TTTCT{G}TACCC	ydeS	I	T	LM4t2
1588462	G	A	ATTCT{A}TCGCA	ydeT	T	I	L3t2
1588964	T	C	TATAT{C}ATTGG	ydeT	N	D	H4t2
1589442	T	C	AAGTG{C}CAGGA	None	N/A	N/A	H3t1, H3t2, HM2t2, LM1t1, LM4t2, M1t1, M1t2, M2t1
1591894	A	G	TTACC{G}GCTAT	yneO	None	None	H4t1
1595135	G	A	GGTCA{A}GAGGC	yneO	None	None	HM2t1
1597156	A	G	CCAGC{G}AAACA	yneO	None	None	LM2t1
1597226	T	C	CGATG{C}TTTAC	yneO	None	None	H1t2
1605498	G	A	ACCAT{A}GTTAT	lsrF	G	S	M3t2
1610992	C	T	CGCGG{T}AGCAC	dgcF	L	L	H1t2
1611147	T	C	GCAAA{C}AAAGG	None	N/A	N/A	M2t1
1612401	T	C	GCGAC{C}TTACC	glsB	K	K	H1t1
1613303	T	C	CACCG{C}GACAG	sad	T	A	H1t2
1619361	A	G	TTTAA{G}TCACA	marB	N	S	M3t2
1622274	T	A	GCTCT{A}CCAAT	dgcZ	G	G	M1t2
1630883	C	T	TGGAA{T}ATGCT	ydfJ	M	I	LM1t1, LM1t2
1636309	A	G	GATAA{G}GTTCG	ydfO	K	K	HM2t2, L3t2
1639510	T	C	CTTTG{C}CCTGT	ydfR	D	G	H1t2
1641157	C	T	ATGGT{T}GTATC	cspF	R	C	LM3t1, LM3t2
1649004	A	G	TGCCA{G}AAGGA	dicB	K	E	L1t1, L1t2, LM2t1
1659157	C	G	TGTCG{G}CTACA	ynfE	A	G	H3t1
1660144	T	C	GCGCG{C}CGGCA	ynfF	V	A	H3t2
1661850	T	C	CGGGC{C}TCCAT	ynfF	F	L	H4t1, H4t2
1664429	A	G	CTTAA{G}GCACG	None	N/A	N/A	LM3t1
1680556	G	A	CATGC{A}CTGGA	folM	A	A	HM2t2
1688871	C	T	CTCAG{T}AGTTA	manA	Q	*	L3t1
1689250	A	G	ATCAA{G}ACTAT	ydgA	N	D	H1t1
1694805	A	T	TAAAG{T}AATCA	uidA	F	Y	HM4t1
1707886	C	G	CAGAA{G}AACAG	rsxC	Q	E	L1t2
1717152	A	G	CGGGA{G}GATCG	pdxH	L	P	HM1t1
1717795	T	C	GGTAA{C}CCCGC	anmK	G	G	LM2t2
1721232	G	A	CTAAC{A}TCCCC	ydhJ	V	I	LM2t1
1724100	A	G	TGGTA{G}ACGTA	ydhF	L	L	H2t1, H2t2
1725744	G	A	GCACT{A}TGGCT	nemR	L	L	L1t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
1733676	T	C	AACCG{C}ATTTTC	mepH	R	R	AncAgg, Anc1, Anc2, H1t1, HM4t1, LM2t1, LM4t1, LM4t2, M3t1, M3t2, M4t1, M4t2
1747619	A	T	TAATG{T}GTCGC	ydhS	E	V	Anc3
1750475	T	C	TGCGC{C}TCCTG	ydhW	E	E	HM4t1
1754916	A	G	CTAAG{G}CTGTC	None	N/A	N/A	H3t1, H3t2
1755400	T	C	GAACC{C}GCCTG	pykF	L	P	H3t2, LM1t1, M1t1, M1t2, M2t2
1755507	A	G	TTCGT{G}AGCGT	pykF	K	E	H2t1
1758364	A	G	CTGAC{G}GCCCT	sufE	C	R	H2t1, H2t2
1759215	C	T	CTGTG{T}CAAGC	sufS	G	D	L4t1, LM2t1, LM2t2
1759381	G	A	GTGGT{A}CTCCA	sufS	H	Y	H3t1
1760934	G	A	TGCTT{A}CGGGG	sufD	Q	*	HM2t1, L2t1, L2t2, L4t1, L4t2, LM4t1, LM4t2, M2t1, M2t2
1761133	T	C	GTGCG{C}AACAA	sufC	T	A	H4t2
1761219	T	C	CGGAG{C}CCGAC	sufC	D	G	HM1t2
1761225	T	C	CCGAC{C}CATCA	sufC	E	G	L1t1, L1t2
1761840	C	T	AGAAA{T}CGTTA	sufB	G	D	H4t1, H4t2
1762024	G	A	GCACT{A}AGTGA	sufB	Q	*	H3t1
1762267	A	G	CGCTG{G}CCCGG	sufB	S	P	H1t1
1762291	A	G	CCATG{G}CATTT	sufB	S	P	H1t2
1762299	C	T	TTTTG{T}TGTTT	sufB	S	N	HM2t2
1762315	A	G	TTCGC{G}CAAAG	sufB	C	R	H3t1
1762497	C	T	CGTAG{T}TGTCT	sufB	S	N	HM3t1, HM3t2
1762620	T	C	TACCA{C}CAGAG	sufB	D	G	HM4t1
1770420	G	A	GCCGC{A}GGTGT	ydiM	A	A	LM1t1, LM1t2
1774119	G	T	CGTGA{T}ACCAT	aroD	E	D	H3t1
1775493	A	G	GCAGA{G}AATGG	ydiF	K	R	H2t1
1776994	G	A	GCCCG{A}CATTA	ydiO	G	D	L2t2
1782686	G	A	CCGCT{A}CAAAA	fadK	L	L	LM3t2
1784108	T	C	CCCTG{C}TTCTT	ppsA	K	K	H2t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
1793841	A	T	CCATC{T}TCCAG	btuC	M	K	LM4t1
1794785	T	C	TTCAA{C}CCCTC	pheT	D	G	LM2t1
1794880	T	C	GTATC{C}TGCAG	pheT	Q	Q	LM2t2
1796824	A	G	CCTTC{G}GACGG	pheT	S	S	M1t1
1798515	A	G	TTGGT{G}CTCTT	None	N/A	N/A	Anc2, H3t1, LM1t1, LM4t2, M1t1, M1t2, M2t1, M2t2
1802486	A	T	GTGTT{T}CTCAG	arpB	None	None	LM1t2
1808326	T	C	ATGCC{C}TCCTT	yniB	E	E	L1t1
1808454	T	A	ATACG{A}CATGA	yniB	T	S	M2t1
1809175	T	C	CGTCG{C}TCCTG	hxpB	V	A	H1t1
1814500	G	A	TGGCC{A}CGCGA	katE	P	P	H1t2
1816006	T	C	GTAGG{C}TTGCG	chbG	K	K	H1t2
1824412	C	T	TCTGT{T}AGACG	spy	L	L	H3t1
1826028	C	T	GGTGG{T}GTAA	astE	T	T	H3t1, H3t2, LM1t1
1828086	G	A	GCATC{A}CCCTG	astD	G	G	H3t1
1834117	T	C	GGCGC{C}GCTTC	ydjZ	L	P	H1t2
1837451	G	T	GGAAT{T}GGGGC	ynjC	W	L	HM3t1
1837452	G	C	GAATG{C}GGGCC	ynjC	W	C	HM3t1
1837453	G	C	AATGG{C}GGCCA	ynjC	G	R	HM3t1
1837454	G	A	ATGGG{A}GCCAC	ynjC	G	E	HM3t1
1851805	T	C	ACACG{C}CAGTG	None	N/A	N/A	AncAgg, Anc2, Anc3, H3t1, H3t2, H4t2, L1t2, L2t1, L2t2, L3t1, LM1t1, LM2t1, M1t1, M1t2, M2t1, M2t2, M4t1
1864546	A	G	AGATA{G}TCAGT	yeaE	D	D	M2t1
1874712	T	C	TTAAC{C}CATCC	nimR	E	G	H2t1, H2t2
1882652	T	A	CCTAC{A}CTTTC	yeaV	S	T	Anc3
1897017	G	A	CCAAC{A}GTGCC	sdaA	G	S	L4t1, L4t2
1903490	G	T	TTCTG{T}GGAAC	manZ	W	C	LM3t2
1908970	A	G	TAAAC{G}ATACT	kdgR	I	I	H4t1
1919698	G	A	GCATT{A}CCATT	rsmF	L	L	H2t1, H2t2
1924839	C	T	TCCTG{T}CCCAC	yobB	A	V	H4t1
1930839	A	G	CTTGA{G}CGTGC	purT	E	E	HM2t1
1932428	G	A	TCGCG{A}TCCAG	edd	D	D	LM4t1, LM4t2
1933227	T	C	CCACT{C}TACCT	edd	K	R	M4t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
1940720	G	A	CAATT{A}GCGTG	mepM	P	L	HM1t1
1949195	T	C	TTACC{C}TTGTG	aspS	K	K	H2t1
1949906	A	T	TCGTT{T}CCACT	None	N/A	N/A	LM4t1
1958386	G	C	GTAA{C}CCCC	cutC	G	G	HM2t1, L2t1, L2t2, L4t1, L4t2, LM4t2, M2t1, M2t2
1958409	A	G	TGCGC{G}TAATT	cutC	C	R	L2t1
1962573	G	T	GCTTT{T}GATGG	flhA	Q	K	HM2t1
1963357	A	G	ATTCC{G}GGCAC	flhA	P	P	LM2t2
1964459	T	A	AGCGC{A}CGCGC	flhB	R	R	HM1t1
1970770	A	G	GCTTC{G}ACCGC	tar	V	V	H1t1
1973256	C	T	TTTGC{T}AGAAT	cheA	L	L	HM2t1
1980049	C	T	CCAGC{T}GTTCG	otsA	R	Q	H4t1
1980833	T	G	ACGAC{G}CATAG	otsA—otsB	S—E	R—A	M3t1
1982220	G	A	GACAC{A}CGACG	araH	A	V	H3t1
1984087	C	T	ATTTC{T}TGCCC	araG	Q	Q	H1t2
1985491	T	C	AATTC{C}CCATA	None	N/A	N/A	L1t1
1986859	A	T	ACTGG{T}CATTT	yecJ	S	T	L2t1
1997804	G	C	TTTCT{C}ACTGA	dcyD	Q	E	L3t1
2016115	G	A	GCTCG{A}TCCGG	fliI	G	D	M2t2
2032442	T	C	ACCAG{C}GCCCC	yedR	A	A	H4t1
2036054	A	G	ACATT{G}TGCTT	hprS	H	H	H3t1
2040319	G	A	AGCAG{A}TTCAC	msrQ	V	I	HM4t1
2046004	G	T	TGAAT{T}GTGTG	yeeJ	G	C	HM2t2
2050483	G	A	CTAAC{A}TGCCC	yeeJ	V	M	HM3t2
2051027	A	T	TTTAA{T}CCACT	yeeJ	N	I	LM2t1
2051314	T	C	GCCCT{C}CTCTC	None	N/A	N/A	H1t2
2052134	A	G	CAACA{G}CCTGA	yeeL	None	None	HM4t2
2053533	G	A	AGTCC{A}CGGAA	shiA	A	T	HM4t1
2064100	G	A	TCAAT{A}CCAGA	cobS	A	V	M1t1
2064115	G	T	CGTGG{T}TGCCT	cobS	T	N	L3t1
2066524	C	T	TGTTC{T}ATGGC	insH-6	G	R	L1t1, L1t2
2068110	A	G	CCCGG{G}GTAGA	yoeA	None	None	HM1t1
2071302	T	C	CCCGG{C}ACAGT	flu	G	G	HM2t2
2072378	A	G	CCTGA{G}GCTGA	flu	K	R	HM3t1
2073165	C	T	GCTGG{T}CATTC	flu	G	G	L3t1
2077570	A	G	CGATA{G}TAATG	None	N/A	N/A	HM3t1
2093878	T	C	GCCGA{C}AAACT	hisH	D	D	HM4t2
2097893	C	T	GAAGA{T}GCACG	ugd	A	A	HM2t1
2132138	T	C	CCAGG{C}AAAGA	wcaA	T	A	HM2t1, HM2t2
2146178	A	C	TTGTC{C}TTGGT	alkA	M	R	LM1t2
2158305	T	C	ACCAA{C}GATGA	mdtC	N	N	H4t1, H4t2
2164095	G	A	CGACC{A}CACCA	baeR	R	H	L2t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
2171560	C	T	GACAG{T}GCACT	gatD	A	T	Anc3
2172047	G	A	ATGAC{A}CTTTC	gatD	S	S	H1t2
2176354	A	G	TTGTG{G}ATATT	gatY	I	I	L1t2
2200828	T	C	ACAGC{C}CCACG	yehI	A	A	Anc3
2207340	T	C	GATCC{C}GAACG	yehP	P	P	HM2t2
2215488	G	A	ATTCC{A}GCACC	yehW	A	A	H4t2
2218867	G	A	CGAGC{A}CCTTA	None	N/A	N/A	L1t1, L1t2
2222123	A	G	CCGAC{G}CGCCC	dld	T	A	H4t1, H4t2
2240931	T	C	CTGCT{C}GCTGG	None	N/A	N/A	HM3t1
2250158	T	C	CTTGT{C}CACCA	nfo	F	S	H2t1
2256774	A	G	CCAGC{G}GGAAT	psuG	L	P	HM1t2
2257536	T	C	AAGCG{C}CCTGC	psuG	D	G	HM4t2
2260372	T	C	CAGTG{C}AAGGT	fruA	Y	C	L4t1, L4t2
2269906	T	A	CATTG{A}TATCT	None	N/A	N/A	HM3t2
2271476	G	A	CGCTG{A}CTAAA	pdeN	W	*	HM4t1, HM4t2
2280299	G	A	CTGGG{A}CTGAC	radD	G	G	LM3t2
2281074	T	C	AACAC{C}TTGGT	radD	F	L	H3t1, H3t2
2281704	G	A	TGCTG{A}GTCGC	None	N/A	N/A	LM1t1, LM1t2
2297921	T	C	CGCTT{C}CTTCA	napB	K	E	LM1t1
2303747	G	C	GTGCG{C}CACCC	None	N/A	N/A	LM3t1
2304022	T	C	CAACG{C}CCGAG	None	N/A	N/A	LM3t1
2304237	A	G	CATCC{G}ACATC	None	N/A	N/A	L2t1
2316529	C	T	ATCGA{T}GCCAT	rcsC	V	I	LM4t1
2317441	C	T	GTTGG{T}GGTGA	rcsC	A	T	L1t1
2320280	A	G	TTTCC{G}GGTCG	atoS	P	P	M2t1
2324306	T	A	GCTTG{A}GTCAT	atoE	C	*	H3t1
2325563	A	G	GCAGA{G}ACGGT	atoB	E	E	LM4t2
2327829	G	A	CGCCT{A}CATAG	yfaQ	A	V	H2t2
2342000	A	T	CAACG{T}CTATA	yfaL	V	D	HM1t1
2351015	A	G	CGCAG{G}AAGCA	glpT	F	S	M4t2
2354267	A	C	GCAAA{C}CCAGT	glpB	N	T	L3t2
2354670	A	G	CAGGG{G}TGCGG	glpB	G	G	HM3t1
2355840	G	A	TGGTG{A}TCACC	glpC	V	I	HM4t1
2366884	A	G	CATTG{G}AATTC	arnC	E	G	HM3t2
2367300	G	A	GGGAT{A}CCTCG	arnA	C	Y	HM2t1
2372877	G	A	TTATT{A}CTGAC	menE	Q	*	H3t2
2378050	G	A	AACGT{A}CGGGG	menD	A	V	H2t2
2378375	A	T	CGTTA{T}CGGTG	menD	L	I	HM1t1
2390826	A	T	GATAG{T}AGCCC	nuoM	F	Y	HM3t1
2393761	G	A	CGAAC{A}CTTTC	nuoL	A	V	H4t1, H4t2
2399156	G	A	CAATG{A}AAATA	nuoG	S	F	H1t2
2408904	C	T	GGATG{T}TGCCA	yfbS	A	T	M1t2
2409678	G	A	AAATT{A}CCGGA	yfbS	Q	*	HM4t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
2417269	T	C	ATGGG{C}CTGGT	yfcC	G	G	HM2t1
2425208	G	A	AGCGG{A}CTTTC	None	N/A	N/A	H4t1
2434069	C	G	GCGGG{G}CCATT	truA	G	A	H1t2
2454634	A	G	CTTGC{G}GGCGA	yfcV	L	P	M1t2
2460210	T	C	GGATA{C}TTTAC	None	N/A	N/A	HM3t2
2461563	C	T	GAAGG{T}TTTAA	fadL	G	G	LM3t2
2461813	T	C	ACCAG{C}TCGAG	fadL	F	L	H2t1
2463696	C	T	ATCGG{T}CAGGT	m1aA	W	*	LM2t1
2466705	A	G	ATCAA{G}CAAAT	intS	K	K	HM4t1
2467320	G	A	CTGTT{A}GATGG	yfdG	G	R	H2t1
2467832	A	G	GAAAA{G}CGGCT	yfdH	T	A	HM1t1
2476015	G	A	TGATG{A}CATTT	dsdC	C	C	H4t2
2499448	G	A	AATTG{A}CCTGC	ypdA	G	D	HM2t2
2506925	A	G	CTATA{G}GCAAT	fryC	A	A	H1t1
2516236	G	A	AGAAG{A}CAAAG	pdeA	C	C	LM3t2
2523843	T	A	AAATG{A}CCGCG	xapA	G	G	LM2t2
2539647	C	T	CGATC{T}GCCAG	cysA	A	A	H3t1
2548088	C	T	ATTGC{T}GCCAC	yfeW	A	A	H1t1
2549311	T	C	ACGCG{C}CTCTT	yfeX	T	A	LM4t1, LM4t2
2551752	T	C	CGTTG{C}TCTCG	amiA	V	A	HM1t2
2555773	C	T	GTGGT{T}GCCAT	eutC	A	A	M1t2
2564439	A	G	CGTTG{G}ACAGG	yffS	E	G	H4t1
2581142	T	C	AATGT{C}GCGTT	ypfG	A	A	HM2t1
2581606	T	C	TAAGG{C}GATTG	ypfG	T	A	HM3t2
2585052	G	T	CTCTG{T}CGAGC	narQ	A	S	H4t2
2587424	T	C	AGATG{C}CACTG	acrD	V	A	H4t1, H4t2
2588051	T	C	CGTGG{C}GGTGG	acrD	V	A	H4t1
2593691	T	C	CCGGA{C}GAACT	tmcA	H	R	Anc3
2594217	G	A	GCCCT{A}CACCG	tmcA	Q	*	H1t2
2595081	T	C	AGCCA{C}CCCTG	tmcA	M	M	L1t1
2600878	G	A	TTCTT{A}CCAGA	hyfA	L	L	M2t1, M2t2
2605345	T	C	CGTTG{C}GCCTG	hyfD	V	A	H3t2
2610612	C	T	GGTTG{T}GCGAT	hyfI	R	C	M4t2
2621016	A	G	GCAAA{G}TTCTT	purM	I	V	H1t1
2622769	T	C	ATCCG{C}TACGC	ppk	R	R	Anc2
2624773	G	A	TGGCG{A}CGGAT	ppx	G	D	M2t1
2636060	G	A	TCTTC{A}TCGAC	der	D	D	Anc1
2636650	A	G	GGAAA{G}CGGCC	None	N/A	N/A	HM1t1
2641177	T	C	CAATT{C}TCAGT	rodZ	K	R	H2t2
2642052	G	A	TGCGT{A}GCTTC	rodZ	A	A	M1t1
2642325	A	T	GGTAC{T}TAAAG	None	N/A	N/A	M4t1
2642327	A	T	TACAT{T}AAGTA	None	N/A	N/A	M4t1
2642329	A	T	CATAA{T}GTAAC	None	N/A	N/A	M4t1
2643333	T	C	TCTCA{C}CAAAG	rlmN	D	G	M3t1
2644923	G	A	CGGGC{A}TGCCG	pbpC	T	M	M4t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
2671673	C	G	GCCGC{G}AGACT	hcaD	A	A	Anc1
2672417	A	G	GGCAA{G}ACGTT	hcaD	K	K	LM3t2
2672706	G	A	ATATG{A}CCTCG	yphA	A	T	HM1t2
2678885	T	C	ACAAG{C}CAGGT	yphG	D	G	H1t1, L1t1, L1t2
2691544	G	A	AGCAG{A}TCACT	purL	D	D	HM2t1
2696122	T	C	TAAAG{C}GCCGG	mltF	V	A	H3t1
2698580	T	A	GCAGA{A}GAGAT	yfhH	D	E	H3t2
2700319	T	C	TTCAG{C}TCATG	pdxJ	E	E	H4t2
2700658	A	G	TCCTG{G}CGCTT	pdxJ	R	R	H1t1
2701619	A	G	CGTGA{G}GACGT	recO	F	L	H2t2
2709406	A	G	AGTCT{G}CAGAA	None	N/A	N/A	M4t2
2710010	A	G	GGTGG{G}CATAG	nadB	G	G	L3t1
2710594	C	T	GCCCG{T}CGATT	nadB	A	V	HM1t1
2721390	T	C	ACAAC{C}TCAGC	patZ	L	P	M2t2
2723932	G	A	GCAGG{A}CACAC	kgtP	A	V	HM3t2
2724431	C	T	CACGA{T}AACCA	kgtP	V	I	H2t2
2725399	G	T	GCTAC{T}GCCGC	rrfG	None	None	HM4t2
2742700	A	G	GCATT{G}CACCC	dgcN	Y	C	H1t2
2744372	G	A	ACCGC{A}GTTAC	rplS	R	C	HM4t1, HM4t2
2746434	A	G	CGATT{G}GCGAC	ffh	*	Q	M3t2
2747257	G	A	AGTTT{A}GCTTC	ffh	A	A	AncAgg, Anc1, Anc2, Anc3, H3t2, H4t1, L1t2, L2t1, LM1t1, LM2t1, LM4t1, M1t1, M1t2, M2t1, M2t2, M4t1
2752895	G	A	ACAAC{A}CCAGC	recN	R	H	H4t1, H4t2
2754230	T	A	CAGCG{A}CACTC	yjfF	T	S	LM1t2
2754231	C	G	AGCGT{G}ACTCG	yjfF	V	V	LM1t2
2754232	A	T	GCGTC{T}CTCGC	yjfF	V	E	LM1t2
2754233	C	G	CGTCA{G}TCGCT	yjfF	V	L	LM1t2
2754234	T	A	GTCAC{A}CGCTG	yjfF	R	R	LM1t2
2754368	A	G	GACCA{G}AGGCG	ratA	F	S	HM4t1
2764185	T	A	TTCAA{A}GAATG	abpA	I	F	HM1t1, HM1t2
2769253	G	A	CACCA{A}CCGGT	yjfQ	Q	Q	H4t1, H4t2
2772931	T	C	AGGCG{C}ACTGC	yjfV	None	None	M1t1
2781839	T	C	CACCG{C}CGTAC	ypjA	T	A	H3t2
2782227	C	T	GCATG{T}CCTTG	ypjA	G	G	H1t1
2788843	T	A	GTTAC{A}AATTT	None	N/A	N/A	H3t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
2793107	C	T	GCCGC{T}ACCAA	gabT	A	A	HM3t2
2793110	C	G	GCCAC{G}AAACG	gabT	T	T	HM3t2
2793111	A	T	CCACC{T}AACGT	gabT	K	*	HM3t2
2793112	A	T	CACCA{T}ACGTA	gabT	K	I	HM3t2
2793113	A	T	ACCAA{T}CGTAG	gabT	K	N	HM3t2
2793114	C	G	CCAAA{G}GTAGC	gabT	R	G	HM3t2
2793117	A	G	AACGT{G}GCGGC	gabT	S	G	HM3t2
2802285	G	A	ATGAC{A}TAGAG	nrdE	V	I	M1t1
2806031	G	A	CCGTG{A}GATAC	proW	W	*	HM1t2
2811712	T	C	ACAGA{C}GCTCG	emrA	D	D	M3t1, M3t2
2812423	T	C	CAATA{C}CCGCT	emrA	Y	Y	H3t1
2820221	C	T	GAAGT{T}GAAGC	alaS	D	N	L4t2
2823789	T	C	CCGGG{C}AATAC	None	N/A	N/A	HM2t2
2824418	A	G	GTTGC{G}ATTTT	None	N/A	N/A	HM4t2
2826639	C	T	AACGA{T}GTATT	srlE	R	C	L2t1
2827461	G	A	CCTGC{A}GACCT	srlB	A	A	HM2t1, HM2t2
2833452	G	A	GGCTG{A}TGGAG	norV	V	M	L2t1
2841453	T	G	TGGAG{G}TTTTC	ascB	F	V	LM3t2
2842429	C	T	GGATG{T}GGCGT	None	N/A	N/A	M2t2
2855753	A	G	GGCGG{G}TAAAA	fhlA	D	G	H3t1
2857147	G	A	CTCAG{A}CTGAA	mutS	R	R	H1t1
2865624	G	A	ACATC{A}GCTGG	ygbN	G	S	H1t1
2873775	G	A	TCGCT{A}CATAA	cysC	C	C	H3t1
2874969	C	T	TGTGA{T}GACGG	cysN	R	H	H1t2
2881810	C	T	AGTAA{T}CGCAT	casC	V	I	M1t2
2884827	C	T	TAAGG{T}AATAA	cas3	L	L	L3t1
2886728	A	G	ATGTA{G}TATAA	cas3	L	L	HM4t1
2887097	A	T	CCACC{T}GCAAT	cas3	W	R	H1t1
2888449	T	C	TAAAG{C}CGCCG	cysI	D	G	H2t2
2893730	A	G	TTATC{G}GCATG	ygcN	Q	R	LM2t1
2895608	G	A	CGTCC{A}CAGGC	ygcQ	A	V	HM1t1, HM1t2
2895879	T	C	GCTCT{C}GCCAG	ygcR	A	A	L2t2
2897439	A	G	CAGCA{G}AATAC	ygcS	L	L	H4t2
2908327	G	T	AACTG{T}CACTG	pyrG	C	*	M4t2
2915910	G	A	AGCGC{A}CCCAG	barA	A	T	M2t2
2916111	A	G	TCTCG{G}AACTG	barA	K	E	H4t2
2920612	T	C	GGCGT{C}ATCGG	gudX	N	D	HM1t1
2924838	A	G	AGATT{G}CACAC	syd	C	C	HM1t1
2925743	G	A	ATATC{A}TCTTG	queF	R	H	LM3t2
2927937	C	G	CGCCC{G}GGAAG	None	N/A	N/A	HM1t1
2941850	G	A	TATTT{A}CCAGC	gcvA	A	V	M4t1, M4t2
2947390	G	A	CGCGG{A}GTGGA	metZ	None	None	L1t1
2949731	A	G	CGTCA{G}CTGGA	argA	Q	Q	H1t2
2956180	C	T	TGCGG{T}GTCAG	ptrA	T	T	HM2t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
2959622	G	A	GGCTG{A}CGACA	recC	R	R	HM3t1, HM3t2
2962843	T	A	CCTGT{A}CGCCA	ygdB	R	R	M3t2
2966385	C	T	CAAGC{T}CAATG	ptsP	G	E	HM3t2
2967681	T	C	GGGTG{C}CCGAA	ptsP	D	G	H1t2
2967940	G	A	ATATT{A}CCCAA	ptsP	Q	*	H3t2
2968045	G	A	CTCTC{A}TTGCT	ptsP	R	*	H3t2
2972650	A	T	CGGTT{T}AAACC	None	N/A	N/A	HM1t2
2972651	A	T	GGTTA{T}AACCG	None	N/A	N/A	HM1t2
2975327	A	G	GGGTA{G}AGTTG	aas	F	S	LM4t2
2976755	G	A	CGTGC{A}CTGGC	galR	A	A	H4t2
2982654	T	C	TCATC{C}GCCCC	kduD	A	A	Anc2
2983850	G	A	CCATC{A}ACAGT	kduI	V	V	H1t2
2991572	T	C	ACAAT{C}ACTTC	ygeG	Y	H	HM1t2
2991613	T	C	ATGGG{C}CAATG	ygeG	G	G	HM4t1, HM4t2
3001040	T	A	ATTTG{A}CGGTG	xdhA	None	None	LM3t2
3002851	T	C	CCAGC{C}AATAG	xdhB	L	P	L1t1
3006312	C	T	CCTCT{T}ACCTT	ygeW	H	Y	HM2t1
3016030	T	C	CTCAA{C}GATAT	None	N/A	N/A	Anc3
3018616	T	C	AAATA{C}CCGTT	ygfK	I	T	H1t1, H1t2, L1t1, L1t2
3019334	G	A	GGATT{A}TCTGC	ssnA	V	I	L2t1, L2t2
3024938	G	A	TAATT{A}TGGTG	xanQ	V	M	L4t1
3026780	C	T	GCAAA{T}GCTGA	guaD	T	M	HM3t2
3030159	A	G	GCCGC{G}AATTT	ygfT	C	R	Anc1
3035545	T	C	GGACG{C}GCGAT	prfB	T	A	H2t2
3041239	A	G	AGTGA{G}AGCAC	None	N/A	N/A	Anc2
3042929	G	A	GGAAT{A}GCGTG	yqfA	A	A	M2t1, M2t2
3048417	G	A	TGATG{A}TCGAG	gcvP	D	D	LM4t2
3051666	A	G	TCGCT{G}AGCGG	ubiI	L	L	L1t2
3052640	G	A	CAATC{A}GGTGC	ubiH	P	L	HM1t1, HM1t2
3057559	A	G	TGTCG{G}ATTCA	serA	F	S	L4t1
3060385	C	T	ATCTG{T}CTCCA	argP	P	S	HM4t1
3069545	G	A	CACGC{A}TCCCA	mscS	R	C	L4t1, L4t2
3071532	C	T	TGCGC{T}GCCGC	pgk	G	S	L3t2
3077175	T	C	CCGGT{C}GCAAT	yggP	Q	R	HM2t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
3089230	T	C	GGACG{C}AAACC	galP	R	R	AncAgg, Anc2, Anc3, H3t1, H3t2, HM4t1, HM4t2, L1t1, L1t2, L2t1, LM4t1, LM4t2, M2t1
3103111	A	G	AAAGT{G}TGGCT	mutY	V	V	M1t1
3116347	A	G	TACAG{G}CGCTG	yghJ	R	R	H3t2
3123645	A	G	CTGCC{G}GCAAC	glcB	L	P	LM3t2
3129664	T	C	GCCAG{C}AAATC	yghO	L	L	H3t2
3129794	A	G	TATTC{G}GGCTG	yghO	L	P	M1t1
3132450	A	G	CCGCC{G}GCCTT	None	N/A	N/A	HM1t1
3140642	G	A	ACCCC{A}TCCAC	hybE	T	M	H3t1
3146504	A	G	GAATT{G}TTCTC	yghW	N	N	L1t1
3154138	G	T	TTCCT{T}ATGAT	yghB	L	L	H2t2
3155770	T	C	GACGC{C}GCCAG	yqhD	L	P	L4t1
3163169	C	T	CTGCC{T}GAAGA	plsC	G	R	LM3t1
3165088	G	A	CAGGC{A}GGTCG	parC	R	C	H4t2
3165645	T	C	GATCG{C}CCGGC	parC	D	G	M4t2
3184986	T	C	AGCCG{C}GAAGA	ubiK	R	R	H4t1
3220581	G	A	AAAAG{A}CGATA	patA	G	D	LM4t2
3223414	G	T	CAGCA{T}CGCCA	ebgA	S	I	H3t1
3227978	A	G	GATAT{G}TGGAT	ygjJ	M	V	H1t1
3230005	G	A	CTCCT{A}GCAGA	ygjK	W	*	HM1t1
3231301	G	T	CTCCT{T}GCCGG	None	N/A	N/A	LM2t2
3236514	C	T	GACCT{T}CCCCC	None	N/A	N/A	H3t2
3237048	A	G	CATCG{G}CGCTA	ygjQ	D	G	HM4t1
3248825	T	G	TAACT{G}CCTGT	None	N/A	N/A	LM1t2
3248827	C	A	ACTTC{A}TGTTA	None	N/A	N/A	LM1t2
3248828	T	A	CTTCC{A}GTTAT	None	N/A	N/A	LM3t2
3254004	A	G	CTCCA{G}CAACA	yhaJ	L	L	LM4t2
3264160	G	A	GCTTT{A}GCTTC	tdcC	A	A	H4t2
3271146	C	T	TGGGC{T}AAAGA	garK	G	S	M1t1
3273796	A	G	CAGAA{G}TCACC	garP	I	T	M2t1
3274473	T	C	CCACG{C}TCTTT	garP	E	E	H3t1, H3t2
3275801	A	T	GGCTG{T}ATCAT	garD	N	Y	H2t1
3277048	A	G	ATCAA{G}GGTCA	prlF	K	R	HM4t1
3285202	C	T	GAAAG{T}GATGC	agaC	A	V	HM3t2
3286432	A	T	TGGCG{T}CCGGA	agaI	T	S	H3t1
3293719	A	G	GGTAG{G}GATTA	lpoA	E	G	LM2t2
3301001	G	A	GCGTC{A}GCACT	yhbT	A	A	Anc3
3301811	T	C	CCGCA{C}ATTGA	yhbU	H	H	H2t1
3304825	G	A	GGCGG{A}GCAAA	mtr	A	A	H2t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
3314075	T	C	TCTTC{C}CGTCA	infB	E	G	H1t1
3321231	G	A	TTACT{A}CCAAA	yhbX	A	V	HM3t1
3327032	C	T	TCTCC{T}GGTTA	None	N/A	N/A	Anc2
3333124	A	G	TTTGA{G}ATCTC	None	N/A	N/A	M2t1, M2t2
3333447	T	C	CCGCG{C}ACATA	rplU	Y	C	M1t2
3335721	A	G	TCGAG{G}GTATC	murA	T	T	LM4t1
3339353	G	A	CGCGC{A}GATCA	m1aF	P	L	Anc1
3351944	A	G	CAAGG{G}AGCTG	arcB	F	S	HM2t1
3355508	C	T	CACCG{T}TTATC	gltB	L	F	H1t2
3361437	A	T	CCTGC{T}CAGCA	gltF	T	S	L3t2
3365016	G	C	TGAAG{C}CAACT	yhcD	G	A	LM3t2
3365553	T	C	TCAAT{C}AGGGA	yhcE	None	None	H3t1
3368987	T	C	GTGTC{C}GCAGA	None	N/A	N/A	H2t1, H2t2
3376761	T	C	TTAGC{C}GTGAC	sspB	Q	R	L2t2
3391186	A	G	ACTAA{G}TACTG	tldD	F	L	L3t2
3392348	G	A	CGGCT{A}CCGGA	None	N/A	N/A	M4t2
3393280	G	A	GTCCG{A}CCAGC	yhdP	P	S	Anc3
3393378	T	C	GATAT{C}TGATA	yhdP	K	R	M4t2
3395404	T	C	CGCGG{C}CAGAT	yhdP	T	A	L4t2
3411224	A	G	GGCAT{G}CTTCG	dusB	Y	C	H2t2
3417524	C	T	CCGCG{T}CAGGA	acrF	P	S	Anc1
3418778	A	G	CCACC{G}GAAAT	None	N/A	N/A	LM4t2
3423345	T	A	CCTAC{A}CGGGA	None	N/A	N/A	H4t1
3437557	A	G	TTGCG{G}TTTCA	trkA	I	V	AncAgg, Anc1, Anc2, Anc3, H1t1, H1t2, H4t2, HM2t1, HM2t2, HM3t2, HM4t1, HM4t2, L1t1, L2t1, L2t2, L3t1, L4t1, L4t2, LM1t1, LM1t2, LM2t1, LM3t1, LM3t2, LM4t1, LM4t2, M1t1, M2t1
3439964	G	A	GTTGC{A}GTTCA	rplQ	R	C	H2t2
3442013	G	A	GTGTT{A}TTGAA	rpsK	N	N	HM1t2
3444453	T	C	GGTTT{C}ACCGA	rplO	K	E	H4t1
3447463	T	C	ATAGT{C}TCGCT	rplX	E	E	HM4t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
3451013	T	C	CAGAC{C}GAATC	rplB	Q	R	HM2t1
3453910	T	C	GGCGA{C}ATAGA	gspB	I	V	M3t1
3461140	G	A	AAGGC{A}GATAA	gspG	A	A	H1t2
3474803	A	G	CATAG{G}CCTTA	tusB	V	A	H1t2
3488602	G	A	ACACC{A}GGCAT	yhfK	R	Q	M3t2
3489066	G	T	GGTCC{T}GCATT	argD	A	A	H4t2
3491454	T	C	ATTTA{C}CGCTC	fic—yhfG	D—R	G—R	M1t1
3491662	G	A	AAGCG{A}CAAAT	None	N/A	N/A	HM1t2
3497291	C	T	ATCAG{T}CACGG	nirC	S	S	H2t1
3502675	A	G	GGCCC{G}CGCGG	frlC	H	R	HM2t1
3509589	C	T	CTCTG{T}CACGC	yhfW	A	T	LM4t1, LM4t2
3520980	A	G	GGCAC{G}ATGCA	hofP	L	S	H4t2
3527737	A	G	GTTTG{G}CTGCT	igaA	D	G	HM3t2
3529625	A	G	TAGAG{G}AACGC	hslR	K	E	HM3t2
3532637	T	C	GAACA{C}TTTCC	None	N/A	N/A	H4t2
3540055	T	C	TGTGT{C}GTTGA	None	N/A	N/A	M3t2
3547949	A	G	ATAAG{G}CGCGT	None	N/A	N/A	M2t1
3552489	T	C	TTTCT{C}AGATT	None	N/A	N/A	LM1t1
3558898	T	C	CCGAT{C}CTGCT	rteR	I	I	M2t1
3560919	T	C	AAGCG{C}AATGA	glpG	T	A	H3t2
3562840	G	A	CAAAG{A}CGATC	glpD	G	D	M3t1, M3t2
3565443	C	T	TGACG{T}GGCAG	glgP	P	P	H3t1
3569502	G	A	AAAGC{A}ATCCG	glgX	R	C	HM1t2
3569852	A	G	GTTCA{G}CCAGG	glgX	V	A	M2t1
3570116	C	T	AACGA{T}GGGCA	glgX	R	H	L4t1
3579479	G	T	TGAGT{T}CCGAA	yhhW	G	G	H3t2
3596425	C	T	CCGCC{T}GCATT	None	N/A	N/A	H2t1
3597287	T	A	TGCCG{A}CATTA	livK	D	V	M1t2
3606708	A	G	CGAAA{G}ACTGG	zntA	K	R	M1t1
3611575	A	G	CCAGA{G}GGCGC	yhhS	F	L	HM1t2
3628887	C	T	CCAGC{T}AGTCG	rbbA	W	*	M2t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
3629956	T	C	GGGGC{C}TTCAG	yhiI	K	K	AncAgg, Anc1, Anc2, Anc3, H1t2, H4t1, H4t2, HM1t1, HM1t2, HM2t1, HM2t2, L1t1, L1t2, L2t1, L2t2, L3t1, L4t1, L4t2, LM1t1, LM4t1, LM4t2, M2t1, M2t2
3633312	T	C	GCCTT{C}CTGAG	yhiL	None	None	M3t1
3635557	A	G	ACTGC{G}GGGGA	yhiM	Q	R	L3t1
3643020	T	C	GGCGT{C}AACAC	rsmJ	L	L	HM1t1, HM1t2
3649133	C	T	ATCAG{T}CTGCT	arsB	S	S	H4t1, H4t2
3654447	A	G	GGTGC{G}TTCTG	slp	A	A	HM2t1
3686628	C	T	GTGCC{T}CAGTT	bcsC	W	*	H3t2
3688257	A	G	CCCAG{G}GCTTC	bcsC	A	A	AncAgg
3694071	C	T	TGCGG{T}GTCTG	bcsA	T	T	H1t2
3700072	T	C	CCAGC{C}CTGCG	ldrD	E	G	M3t1
3702393	A	T	TGCGG{T}TAGCG	dppF	Y	*	L1t1
3718957	T	C	CTTCT{C}TATCA	yiaF	K	R	L3t1
3732102	A	G	ATTCC{G}CAAAG	xylF	H	R	H4t1
3738063	C	T	CGCCA{T}GGTTT	malS	T	M	H1t2
3751791	T	C	ACCAA{C}GGATA	yiaT	I	V	L1t1
3751913	A	G	ATAAT{G}ATGCT	None	N/A	N/A	LM1t2
3776814	G	A	TGCTC{A}CCTGC	yibL	R	H	LM1t2
3782309	A	T	TGAAT{T}TCACA	cysE	D	E	LM2t2
3796147	G	A	CCTGT{A}GCAAT	waaC	V	V	H3t1, H3t2
3802148	C	T	TTGTT{T}GGTTT	waaO	P	P	LM2t1, LM2t2
3825314	T	A	GGATC{A}ACTCT	recG	L	Q	Anc1
3845423	A	G	AAGAG{G}TGGCG	adeD	M	V	L1t1
3850408	T	A	GTTCA{A}CCGGG	uhpA	D	V	L3t1
3860752	G	A	ATCTG{A}CAGTC	yidL	A	T	H1t2
3862478	C	T	GGATC{T}AGTTT	None	N/A	N/A	HM2t1
3863662	T	C	AGGCC{C}GGAGC	None	N/A	N/A	HM3t2
3875560	A	G	GTATC{G}ATCGC	yidX	Q	R	L3t2
3876235	C	T	TAGCG{T}TATCC	yidA	S	N	H3t1
3880759	A	C	GCTTG{C}GATTG	recF	L	R	H2t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
3881927	C	T	GCCTG{T}GGCAG	dnaN	P	P	HM4t1, HM4t2
3882538	T	C	GACGC{C}TGGA	dnaA	K	R	H2t1
3884049	A	T	GCTTA{T}TCGAT	ysdD	N	I	L3t2
3885287	A	T	TGACC{T}TCAAC	yidC	I	F	M2t2
3888161	A	G	GGCGG{G}TTTTTC	mmnE	I	V	H2t1
3890511	T	A	TACCG{A}TGCCT	tnaB	V	D	HM4t2
3894364	T	A	GACGA{A}CCGCG	yieE	D	E	LM4t2
3895233	C	G	GCCAG{G}AATCA	None	N/A	N/A	LM4t1
3895234	A	C	CCAGC{C}ATCAT	None	N/A	N/A	LM4t1
3895237	C	G	GCAAT{G}ATGCA	None	N/A	N/A	LM4t1
3895240	G	T	ATCAT{T}CATGG	None	N/A	N/A	LM4t1
3895241	C	G	TCATG{G}ATGGC	None	N/A	N/A	LM4t1
3895242	A	C	CATGC{C}TGGCG	None	N/A	N/A	LM4t1
3901227	T	C	CGTTA{C}TATCC	bglH	N	S	Anc2
3902797	C	T	CCAGT{T}ATGTA	bglB	M	I	H3t2
3916543	G	A	AGAAC{A}CCCAT	atpD	G	G	HM1t1, HM1t2
3917315	T	C	CATCC{C}GAGGG	atpD	Q	R	L2t1
3927457	A	C	CCCCG{C}TGAAG	asnA	D	A	LM2t1
3930349	A	G	CCGAG{G}CATAA	ravA	V	A	L2t1
3932990	A	G	GAAGG{G}TTAAG	kup	G	G	M2t1, M2t2
3937595	G	A	TTTTT{A}TTAAT	rbsK	V	I	M4t2
3949333	T	C	AAAGG{C}TGTGC	yifB	N	S	HM2t2
3954799	G	A	GCGTC{A}ATGAC	ilvD	D	N	M4t2
3956240	C	T	CACAA{T}ATTCT	ilvA	N	N	H4t1
3960352	C	T	GAATG{T}GGCCA	yifN	None	None	LM4t2
3965442	A	G	AAGAA{G}CGCCA	rhlB	F	L	H1t1
3968088	A	G	CAGGG{G}TTTGC	rfe	I	V	H3t1
3979884	T	C	CTGGC{C}TTTTG	wzyE	L	P	H4t1
3980812	A	G	AAAAC{G}TTTGC	None	N/A	N/A	H4t1
3987012	A	T	GTTTC{T}GGCCA	hemY	L	Q	L1t1
3993593	G	A	AGGTT{A}ATGGT	cyaA	D	N	M2t1, M2t2
4002938	A	G	TAGAG{G}TGATA	yigG	I	T	M3t1
4006079	C	T	TTCAC{T}GCTGA	recQ	P	L	Anc2
4034678	C	T	CGGAA{T}TGAAA	hemG	L	L	HM2t1
4053800	G	A	TTATC{A}GAACA	None	N/A	N/A	H1t2
4054839	G	A	TGCAT{A}GCTGG	glnG	A	A	H1t1
4063708	T	C	TTCAT{C}AATAC	ompL	N	D	Anc2
4073188	C	T	AATGG{T}ATTTG	yihU	A	T	LM2t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
4091182	C	T	CAGAG{T}GTAAG	frvB	A	T	AncAgg, Anc1, Anc2, H3t1, H3t2, HM4t1, L1t2, L2t1, LM1t1, LM2t1, M1t1, M1t2, M2t1, M2t2, M4t1
4102703	A	G	GATGA{G}CTAAC	None	N/A	N/A	HM3t2
4108430	A	G	GGTTC{G}CCACG	pfkA	H	R	H1t1
4112983	A	G	TAGAT{G}AATGC	yiiS	K	E	HM3t1
4118905	C	T	ATGGT{T}GCCGG	rraA	D	N	H1t1
4120653	T	C	GATAT{C}TACGC	hslU	N	D	LM4t1
4136148	C	G	GTGGC{G}TGGTT	yijE	L	V	LM3t2
4138404	C	T	TCCAG{T}AGGGT	gldA	L	L	H3t1
4140587	G	A	CGACG{A}CACTT	ptsA	P	S	Anc3
4142411	A	T	TACTG{T}TATTA	None	N/A	N/A	H3t2
4145558	A	G	GGCGT{G}CAGGG	pflD	V	V	H2t1
4149791	G	C	GCAGG{C}CAAAA	eptC	A	G	L1t1
4150245	G	A	AGCCT{A}GACTT	eptC	Q	*	M1t1
4154151	A	T	CGGTA{T}ACGCT	argE	F	Y	L4t2
4158936	A	G	GGTGA{G}AGAGA	oxyR	K	R	HM2t1
4174196	A	G	CCACA{G}TGTCA	coaA	L	L	HM1t1
4178163	C	T	CCGTT{T}GCTGA	nusG	F	F	L2t1
4182689	G	A	TGGGC{A}ATCTG	rpoB	D	N	HM2t2
4182888	A	G	TCGAG{G}CGTAC	rpoB	D	G	LM3t1, LM3t2
4182957	T	A	TCTGA{A}CAACT	rpoB	I	N	LM1t1, LM1t2
4207890	A	G	TTCAC{G}CAAAC	None	N/A	N/A	H3t1
4227407	A	G	GCACA{G}ATTCA	metH	Q	Q	L4t1
4229392	G	A	GACGC{A}TCAAG	None	N/A	N/A	LM2t1
4230035	A	G	GATAA{G}CACCG	pepE	F	L	H3t2
4264035	T	C	CCTGC{C}GCTTC	qorA	A	A	Anc1
4271363	T	C	CGCGC{C}GGGCT	uvrA	Q	R	H4t1
4277167	G	A	AAATC{A}GACGC	soxS	P	L	LM4t2
4284692	A	G	CAGTG{G}TATTG	actP	I	T	HM1t1
4287795	T	A	GTATC{A}TCAGC	nrfA	F	I	Anc2
4294444	A	G	TCTGA{G}CGGGG	None	N/A	N/A	LM4t2
4294722	G	A	TTGGC{A}CGAAA	gltP	A	T	L3t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
4295832	T	C	GTGAA{C}GCCTG	None	N/A	N/A	AncAgg, H1t2, HM3t1, L4t1, L4t2, LM1t2, M3t2
4296058	C	T	ATCAA{T}GCCTG	None	N/A	N/A	AncAgg, L4t1
4296153	T	C	GTTTA{C}GCCGC	None	N/A	N/A	AncAgg, H1t2, H3t2, H4t1, HM1t1, HM1t2, HM3t2, HM4t2, L1t2, L4t1, LM1t1, LM2t2, LM3t2, LM4t2, M1t1, M2t1
4296188	A	G	CGCTT{G}ACGCG	None	N/A	N/A	AncAgg, Anc2, Anc3, H1t2, H2t2, H3t1, H3t2, H4t1, H4t2, HM1t1, HM1t2, HM3t1, HM3t2, HM4t2, L1t2, L2t1, L2t2, L3t1, L4t1, LM1t1, LM1t2, LM2t2, LM3t2, LM4t1, LM4t2, M1t1, M1t2, M2t1, M2t2, M3t1, M3t2, M4t2

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
4296189	A	C	GCTTA{C}CGCGT	None	N/A	N/A	AncAgg, Anc2, Anc3, H1t2, H2t1, H2t2, H3t1, H3t2, H4t1, H4t2, HM1t1, HM1t2, HM3t2, HM4t2, L1t2, L2t1, L2t2, L3t1, L4t1, LM1t1, LM1t2, LM2t2, LM3t2, LM4t1, LM4t2, M1t1, M1t2, M2t1, M2t2, M3t1, M3t2, M4t2
4296266	T	C	GTTTA{C}GCCGC	None	N/A	N/A	Anc2, Anc3, H2t1, H2t2, H4t1, H4t2, HM1t1, HM1t2, HM2t1, HM3t2, HM4t2, L2t2, L3t1, L3t2, LM1t1, LM2t2, LM3t1, LM3t2, LM4t1, LM4t2, M1t2, M2t1, M2t2, M4t1
4296284	C	T	ATCAA{T}GCCTG	None	N/A	N/A	Anc2, LM1t1, LM2t2, LM3t1
4296815	C	T	CTTCA{T}CTTCT	yjcO	G	D	H1t1
4302402	A	T	GGCAA{T}AGACA	mdtO	F	Y	HM1t1
4311465	C	T	GCTGG{T}TGGCG	alsB	S	N	M3t1
4317934	C	T	GCTGA{T}GCGTC	None	N/A	N/A	LM1t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
4318136	C	T	GCAGG{T}GGGCG	phnK	R	H	HM1t1, LM4t1
4321661	C	T	ACGGA{T}ATCCA	phnG	M	I	H2t1
4321662	A	G	CGGAC{G}TCCAG	phnG	M	T	H2t1
4326088	T	G	ACGGA{G}GGTGC	None	N/A	N/A	L4t1
4326248	G	A	GCACC{A}TTGCC	None	N/A	N/A	HM4t1
4332087	T	C	CATAC{C}CTCCT	None	N/A	N/A	L4t1
4337840	A	G	GCTTT{G}AGGCT	adiY	L	L	M3t1
4357163	A	T	TCAAG{T}TACAT	cadA	Y	*	M2t2
4360573	C	T	AGCAA{T}ACATA	cadC	V	V	H2t2
4365421	A	G	GAAGG{G}TGTTA	None	N/A	N/A	HM1t2
4367427	G	T	AGAGA{T}CAAGC	aspA	L	I	H1t2
4368113	A	G	TCGCT{G}CACTT	aspA	V	A	Anc1, H1t1, H1t2, HM4t1, L1t1, L1t2
4375451	G	A	GGATC{A}TCCGG	epmB	D	D	H2t2
4378015	T	C	CGTGC{C}GCCAG	ampC	A	A	HM4t2
4390693	A	G	GCCGA{G}CTCAC	rsgA	F	L	H4t1, H4t2
4397411	G	C	CGATT{C}ATGCC	None	N/A	N/A	AncAgg, Anc1, Anc2, Anc3, H1t2, H2t1, H2t2, H3t1, H3t2, H4t2, HM1t2, HM2t1, HM3t2, HM4t1, HM4t2, L1t1, L1t2, L2t2, L3t1, L3t2, L4t1, L4t2, LM1t1, LM1t2, LM2t1, LM2t2, LM3t1, LM3t2, LM4t1, LM4t2, M1t2, M2t1, M2t2, M3t1, M3t2, M4t1, M4t2
4402653	A	G	TTCTG{G}CGGAA	hflK	T	A	HM1t1
4417359	C	T	GCCAG{T}ATGAT	yjfP	S	S	HM4t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
4419604	C	T	ACGGG{T}GATAC	ulaG	A	T	H3t1
4428695	T	C	TTGGT{C}TTAGT	ytfB	K	R	H4t1
4432875	C	T	CGCGA{T}GCGCC	ytfF	R	H	HM2t1
4437631	T	C	ATGAG{C}GTTTT	None	N/A	N/A	H1t1, H3t1, HM2t1, HM2t2, L2t1, L2t2, L3t1, L4t1, LM1t2, LM2t2, LM3t2, M2t1, M4t1, M4t2
4443568	G	A	CACGC{A}TTCTC	tamA	R	H	H1t2
4458552	T	C	GAAAA{C}GGCGA	pmbA	N	N	M3t2
4459916	A	G	GATGC{G}CCACC	nrdG	V	A	H3t2
4465606	A	G	CAAGC{G}CGATA	treB	V	A	L2t1, L2t2, L4t1, L4t2, LM4t2, M2t1, M2t2
4468526	C	T	GGCAC{T}GGTGG	mgtA	P	L	M3t2
4468830	C	T	CATAG{T}GCGTG	mgtA	S	S	HM2t1
4486422	T	C	GCCTG{C}TCCTC	lptF	F	L	H1t2
4503403	A	G	GGGAT{G}CCAGA	insG	V	A	H2t2
4503458	T	C	AGCGT{C}TCCGG	None	N/A	N/A	L4t1
4503790	T	C	AATTT{C}TGAAG	None	N/A	N/A	H1t1
4505947	T	A	TCCCG{A}CAGGA	yjhC	S	T	LM2t2
4506686	C	T	AGCAT{T}GCGAC	yjhD	None	None	M1t1, M1t2
4513082	C	T	CAGCG{T}GCTGG	fecC	A	T	HM4t2
4523207	T	C	TTCTC{C}ATCGC	yjhG	I	M	M2t1
4530842	C	T	CCGGC{T}AGCGT	sgcX	L	L	H1t1
4538149	G	A	ACCAG{A}GCGAT	nanM	P	L	HM1t2
4544505	T	G	CCTAT{G}TAATT	fimC	L	V	L1t2
4546921	A	G	TTCTG{G}CAGTA	fimD	D	G	H3t1, H3t2
4549309	A	G	TGTGG{G}ATATT	fimH	N	D	LM2t1
4561573	C	T	CGCCG{T}AGAGA	yjiJ	C	Y	H4t2
4569272	C	T	TATGG{T}CTTTC	rpnD	None	None	H2t1
4573672	T	C	TGGTT{C}TGATG	yjiT	F	S	M1t1
4575706	C	T	TTAAC{T}CCTTA	yjiV	None	None	L1t1, L1t2
4590110	A	G	TAAAG{G}CCCGG	btsT	G	G	H1t1
4591863	C	T	AACCG{T}GCGGG	tsr	R	R	LM1t1
4601917	A	G	TGACC{G}CTCAA	yjjB	W	R	HM1t2
4602030	C	T	CAAAG{T}CGACC	yjjB	G	D	M2t2
4604909	T	C	GCACA{C}CCGGT	fhuF	D	G	HM3t2
4609226	G	A	CTGCT{A}GCTGA	yjjG	W	*	HM4t1
4614496	C	T	GCAGT{T}GGCGC	None	N/A	N/A	M1t1
4614503	T	C	GCGCA{C}AATGC	None	N/A	N/A	M1t1

Table 1: SNP Mutations (continued)

position	ref	new	local sequence	gene	ref AA	new AA	samples
4614580	G	A	CGTTC{A}CGCCG	None	N/A	N/A	M3t2
4615227	A	G	TGCGG{G}CATGG	yjjW	V	A	LM1t1
4616785	T	A	CAAGA{A}CTTTC	yjjI	D	V	M2t1, M2t2
4622925	A	G	GGTGA{G}GTTTG	yjjJ	K	R	H4t1
4629635	T	C	TTCAG{C}TCTTC	ettA	E	E	HM2t2
4636437	C	T	CGCGG{T}GCAGA	creB	A	V	HM2t1
4637817	T	C	GGAAA{C}TTACT	creC	N	N	L3t1
4638315	C	T	ATTCG{T}CAAAG	creD	R	R	H1t2

Table 2: Deletion Mutations

position	size	local sequence	gene	samples
123195	1	CAACT{A}CATCA	aceE	H2t2
367066	2	TCTTT{GC}GCGC	mhpR	HM3t2
459200	1	AAACC{T}CTCTT	lon	H2t2
488665	1	GCGAC{A}ACGAT	mscK	M1t2
528271	1	AAACC{T}TTTTT	ybbD	H3t2, HM3t1, HM3t2
684682	1	GAGCA{G}CAGCG	gltK	Anc2
722745	1	CGACG{T}TTTTT	kdpD	M3t1, M3t2, M4t1, M4t2
771581	1	TCCGT{G}GATAC	cydA	M1t2
1088504	1	TAGCC{T}GAATA	pgaB	H2t2
1101745	1	ACAAT{C}CAGCG	csgE	LM3t2
1296580	3	AGAGT{CAA}CAA	adhE	LM4t1
1502009	2	TAAAC{CA}CTGG	ydcL	H3t1
1713542	1	GCGGC{T}TTTTT	dtpA/gstA	L3t1, L3t2
1721837	3	GCGGC{ATG}ATG	ydhK	H4t2
1741617	1	GAACG{A}TTCCT	cfa	L4t1, L4t2
1758593	1	GTGTT{A}TACAT	sufS	H4t1, H4t2
1759347	1	GTGCG{C}AAAGC	sufS	M2t1
1759408	4	GTTAT{CGCC}CG	sufS	H1t1
1826884	1	TTGCC{T}TCTTC	astB	H3t2
1846766	1	GTACG{A}TCCCC	selD	Anc3
2000992	1	ACCTT{C}AGCGG	fliA	H1t2
2542116	1	GCACA{T}CGCCC	cysP	H4t1
2798359	3	TGCTG{TTG}TTC	stpA	L1t1
3001892	1	TTGCC{T}CACGC	xdhA	M3t1
3332216	1	GCCAT{A}ACTCA	yhbE	H2t2
3347127	1	TGATG{A}TCGTC	rapZ	H1t1
3484539	3	CGGGG{ACC}ACC	prkB	L3t1
3565973	1	GCGCG{T}TTTTT	glgP	L2t2
3677186	1	CGCCC{T}TCTTC	yhjG	HM1t1
3690286	3	GTTAA{GAC}GAC	bcsB	HM2t1
3708281	1	CGAAT{A}AGGCG	dppA/proK	H3t2

Table 2: Deletion Mutations (continued)

position	size	local sequence	gene	samples
3808408	1	AATAC{A}AAAAA	waaQ/waaA	HM4t2
3813388	3	GCTAT{CGC}CGC	dfp	LM1t2
3818677	1	CTTTC{T}TTTCC	dinD/yicG	LM2t1, LM2t2
4028063	1	GATGT{G}CCCGC	fadA	M3t2
4088227	3	CGCAT{CGG}CGG	frvR	HM3t1, HM3t2
4321666	1	CATCC{A}GTGCT	phnG	H2t1
4351362	1	ATCGG{T}AACGA	dcuS	HM2t2
4638188	1	GAAAT{C}CCCCC	creD	HM4t2

Table 3: Insertion Mutations

position	new	local sequence	gene	samples
284865	G	GCTGT{G}GGGGG	yagG	L3t2
379236	G	GGAAA{G}GGGGG	frmR/yaiO	H3t2, HM3t1, HM3t2
896980	CGTTAC	CACCA{CGTTAC}CGTTA	potI	AncAgg
1063341	A	GTACG{A}AAAAA	yccE	M2t2
1123326	G	AGTCA{G}GGGGG	grxB/mdtH	M3t1, M3t2
1197660	AATGAAAT	ATAGA{AATGAAAT}AATGA	ymfE/lit	M4t1, M4t2
1758899	C	TGATG{C}CCCCC	sufS	HM4t2, M1t1, M1t2
1758992	C	AACCG{C}CCCCC	sufS	M4t1, M4t2
1994095	T	GGCCC{T}TTGGT	uvrY	H3t2
2309620	T	GTGGC{T}TTTTT	ada	H4t2
2642322	T	ACGGT{T}ACATA	rodZ/rlmN	M4t1
2694800	G	CCCAA{G}GGGGG	purL/mltF	M3t1, M3t2
2733757	C	AACCT{C}CCCCC	pgeF	H3t2
2765785	C	GACTG{C}CCCCC	yfjM/rnlA	H4t2
3304806	C	AACAG{C}CCCCC	mtr	L4t2
3559951	T	CCATA{T}TTGAC	glpR	LM4t2
3690217	CAG	GCAGC{CAG}CAGCA	bcsZ	H1t2
3927454	G	CGCCC{G}CGATG	asnA	LM2t1
4321657	T	AGCAC{T}GGACA	phnG	H2t1
4367422	C	CTGAA{C}GAGAG	aspA	H1t2
4452828	G	CCGTA{G}GGGGC	ytfT	LM2t1, LM2t2

Table 4: Mobile Element Mutations

position	repeat name	strand	duplication size	repeat size	gene	samples
252489	IS1	1	8	768	yafO	L2t2
1758639	IS2	1	5	1331	sufS	M3t1, M3t2
2381501	IS1	-1	9	768	rbn	LM2t2