

Table S1. List of all allowable mutations

AA	Mutation	AA	Mutation
L	<u>T</u> TA ↔ CTA	K	AAA ↔ AAG
L	<u>T</u> TG ↔ CTG	S	AG <u>T</u> ↔ AGC
R	<u>A</u> GA ↔ CGA	R	AGA ↔ AGG
R	<u>A</u> GG ↔ CGG	D	GAT ↔ GAC
F	TT <u>T</u> ↔ TTC	E	GAA ↔ GAG
L	TT <u>A</u> ↔ TTG	S	TC{ <u>A/T</u> } ↔ TC{ <u>G/C</u> }
Y	TAT ↔ TAC	L	CT{ <u>A/T</u> } ↔ CT{ <u>G/C</u> }
*	TAA ↔ TAG	P	CC{ <u>A/T</u> } ↔ CC{ <u>G/C</u> }
C	TGT ↔ TGC	R	CG{ <u>A/T</u> } ↔ CG{ <u>G/C</u> }
H	CAT ↔ CAC	T	AC{ <u>A/T</u> } ↔ AC{ <u>G/C</u> }
Q	CAA ↔ CAG	V	GT{ <u>A/T</u> } ↔ GT{ <u>G/C</u> }
I	ATT ↔ ATC	A	GC{ <u>A/T</u> } ↔ GC{ <u>G/C</u> }
N	AAT ↔ AAC	G	GG{ <u>A/T</u> } ↔ GG{ <u>G/C</u> }

The original and mutated bases are underlined.