

Supplementary Table S1
Primers used for Q5 mutagenesis

Mutation ¹	Restriction Sites ²	Forward primer	Reverse primer
R37A	GGCGGCC Asc I	GCTTTGGCGAGGCGCGCCTGCTGGG	TCATGAATGCCCCGCAGG
R37Q	AGCGCT Afe I	TTTGGCGAACAGCGCTTGCTGGGTCTG	GCTCATGAATGCCCCGCA
L42A	GGCGCC Kas I	GCCTGCTGCGCGCCTTCCAGAACCGTTAC	GACGTTCGCCAAAGCTCA
L42S	CYCGRG Ava I	TCGTTCCAGAACCGTTACGGACCTAAC	CCCGAGCAGGCGACGTTGCGCA
R46A	CGTACG BsiW I	GTTCCAGAACGCGTACGGACCTAACCGT GTTGGCTG	AGACCCAGCAGGCGACGT
R46H	CCA-N ₉ - TGG Xcm I	TTCCAGAACATTATGGACCTAACCGTGT TG	CAGACCCAGCAGGCGACG
N50A	GCCGGC NgoM I	ACCGTTACGGGCCGCGCCGTGTTGGC	TCTGGAACAGACCCAGCA
N50D	CGATCG Pvu I	CGTTACGGACCCGATCGTGTGTTGGCT	GTTCTGGAACAGACCCAG
E71A	Eci I GGCGGA	TGTTCTTTAAGCGGACTGGATCCCG	TTTTGATCATGTCCGCAAC
E71K	Loss of Dra I TTTAAA	TGTTCTTTAAGAAGGACTGGATCCCG	TTTTGATCATGTCCGCAAC
E228A	CTRYAG Sfe I	TAGCGGTATGAAGTTCGGTCTG	TAGGCAATGTGGTAACCATCCG
E228K	AGTACT Sca I	TTACCACATTAGTACTCCGGTATGAAGT TCGG	CCATCCGCCAGTTCCTGC
L289A	CCGCGG Sac II	GTATGACCAGGTAATGTCCTTCGGCTGGA AA	CGCGGACGCGGCGCCGACGCACGAATCA AAATG
L289S	CCGCGG Sac II	GTATGACCAGGTAATGTCCTTCGGCTGGA AA	CGCGGACGCGGCGACGACGCACGAATCA AAATG
R291A	CCGCGG Sac II	GTATGACCAGGTAATGTCCTTCGGCTGGA AA	CGCGGCGCCGGTAACGACGCACGAATCA AAATG
R291Q	CCGCGG Sac II	GTATGACCAGGTAATGTCCTTCGGCTGGA AA	CGCGGTTGCGGTAACGACGCACGAATCA AAATG
V297P	CCGCGG Sac II	GTATGACCAAGCCAATGTCCTTCGGCTGGA AA	CGCGGACGCGGTAACGACGCACGAATCA AAATG

¹ Codons for the mutated residues are colored red

² Restriction sites used for identification of mutations are colored blue (unless the nucleotides include the mutated residue)