

Supplementary Table 1. Primers utilized for site directed mutagenesis

5'Y854F	GTGGTGGTGCATT <u>TGG</u> AGGTTTCTGTG
3'Y854F	CACAGAAACCTCCAAATGCACCACCAC
5'E94Q	GTACCCGGTAAAAC <u>AG</u> CCATTTGTTGAAC
3'E94Q	GTTCAACAAATGGCTGTTTTACCGGGTAC
5'N109A	GCATACTTTTCTAG <u>CT</u> GCATTCACATATC
3'N109A	GATATGTGAATGCAGCTAGAAAAGTATGC
5'E177Q	TGTTGTTTTTAAT <u>CAG</u> ATGAAAGGGGTCT
3'E177Q	AGACCCCTTTCATCTGATTAAAAACAACA
5'R848K	ATGGGATCGTGTTAA <u>AG</u> TAAGTGGTGGTG
3'R848K	CACCACCACTTACTTTAACACGATCCCAT
5'R848A	ATGGGATCGTGTT <u>GCT</u> GTAAGTGGTGGTG
3'R848A	CACCACCACTTACAGCAACACGATCCCAT
5'K171C	AGACATATCTTACT <u>GCG</u> GGTGTGTTTTTA
3'K171C	TAAAAACAACACCGCAGTAAGATATGTCT
5'G852C	TCGTGTAAGTGGT <u>TGT</u> GCATATGGAGGTT
3'G852C	AACCTCCATATGCACAACCACTTACACGA
5'K1799C	TTTTAATGAGATG <u>TGC</u> GGGGTCTATTCAC
3'K1799C	GTGAATAGACCCCGCACATCTCATTAATA
5'Q810C	TGTAATACCAACCT <u>TGC</u> GTAAACTATGTTG
3'Q810C	CAACATAGTTTACGCAGGTTGGTATTACA
5'E345C	AAGCGGTTTAGGAT <u>TGC</u> GCTCTTGTCAGTA
3'E345C	TACTGACAAGAGCGCATCCTAAACCGCTT
5'S682C	TAAACAGTTTGTCT <u>GT</u> CAAAGCAGAGCAC
3'S682C	GTGCTCTGCTTTGACAGACAAACTGTTTA
5'A331C	GCTGGGGACTCCTT <u>GTT</u> CACCACTAAGAA
3'A331C	TTCTTAGTGGTGAACAAGGAGTCCCCAGC
5'N615C	TTTTGTTCAACTTT <u>TGT</u> CAGTTGATTGGAA
3'N615C	TTCCAATCAACTGACAAAGTTGAACAAAA

The site of mutation is underlined