

**Supplementary table 1. Primer sequences used for site directed mutagenesis:** Site directed mutagenesis primers 5'-3' forward and reverse primer sequences, template used for PCR reaction and mutant product after reaction. Nucleotide sequences in bold red letters indicate point mutations. WT= Wild Type, TM= Triple mutant, S= Serine, A= Alanine, D= Aspartate.

**Supplementary Table 1**

Sr. No.	Mutation	Template	Primer	Sequence (5'-3')	PCR Product
1	S29A	K18 WT	Forward	GGCCGGT <b>CGC</b> CAGCGCGGCCAGCG	S29A
			Reverse	CGCTGGCCGCGCTG <b>CGC</b> ACCGGCC	
2	S30A	K18 WT	Forward	CCGGCCGGTCAGC <b>GCC</b> CGCGGCC	S30A
			Reverse	GGCCGCG <b>CGC</b> GCTGACCGGCCGG	
3	S48A	K18 WT	Forward	CGGATCTCCGTG <b>G</b> CCCGCTCCACCA	S48A
			Reverse	TGGTGGAGCGGG <b>C</b> CACGGAGATCCG	
4	A29S	K18 TM	Forward	CCGGCCGGTC <b>AGC</b> GCCCGCGGCC	S30A/S48A
			Reverse	GGCCGCG <b>CGC</b> GCTGACCGGCCGG	
5	A30S	K18 TM	Forward	GGCCGGTCGCC <b>AGC</b> GCGGCCAGCG	S29A/S48A
			Reverse	CGCTGGCCGCGCTG <b>CGC</b> ACCGGCC	
6	A48S	K18 TM	Forward	CGGATCTCCGTG <b>T</b> CCCGCTCCACCA	S29A/S30A
			Reverse	TGGTGGAGCGGG <b>A</b> CACGGAGATCCG	
7	S33A	K18 WT	Forward	CAGCAGCGCGGCC <b>GCC</b> CGTCTATGCAGGC	S33A
			Reverse	GCCTGCATAGACG <b>GCC</b> GCCGCGCTGCTG	
8	S52A	K18 WT	Forward	GTCCCGCTCCACC <b>GCC</b> TTTCAGGGCGGC	S52A
			Reverse	GCCGCCCTGAAG <b>CGC</b> GGTGGAGCGGGAC	
9	S33D	K18 WT	Forward	CAGCAGCGCGGCC <b>GAC</b> GTCTATGCAGGC	S33D
			Reverse	GCCTGCATAGACG <b>GAG</b> GCCGCGCTGCTG	
10	S33D	K18 S30A	Forward	CAGCAGCGCGGCC <b>GAC</b> GTCTATGCAGGC	S30A/S33D
			Reverse	GCCTGCATAGACG <b>GAG</b> GCCGCGCTGCTG	