

Mutant	Oligonucleotide sequence
L164C	5' CTG GGA GTG GTG GCG TGT ATC GTG CTG AGA
I165C	5' GA GTG GTG GCG CTT TGC GTG CTG AGA GGA CTG
V166C	5' GA GTG GTG GCG CTT ATC TGC CTG AGA GCA CTG GAA GG
L167C	5' TG GTG GCG CTT ATC GTG TGC AGA GGA CTG GAA GGA CTC
R168C	5' G GCG CTT ATC GTG CTG TGC GGA CTG GAA GGA CTC G
A169C	5' CG CTT ATC GTG CTG AGA TGC CTG GAA GGA CTC GGG GA
L170C	5' T ATC GTG CTG AGA GCA TGC GAA GGA CTC GGG GAG G
E171C	5' GTG CTG AGA GCA CTG TGC GGA CTC GGG GAG GGT
G172C	5' TG AGA GCA CTG GAA TGC CTC GGG GAG GGT GTC
L173C	5' GA GCA CTG GAA GGA TGC GGG GAG GGT GTC AC
G174C	5' GCA CTG GAA GGA CTC TGC GAG GGT GTC ACG TTT C
E175C	5' CTG GAA GGA CTC GGG TGC GGT GTC ACG TTT CCG G
G176C	5' AA GGA CTC GGG GAG TGT GTC ACG TTT CCG GC
V177C	5' GA CTC GGG GAG GGT TGC ACG TTT CCG GCT ATG
T178C	5' GA CTC GGG GAG GGT GTC TGC TTT CCG GCT ATG CAT G
F179C	5' GAG GGT GTC ACG TGT CCG GCT ATG CAT G
P180C	5' GGG GAG GGT GTC ACG TTT TGC GCT ATG CAT GCC ATG TG
A181C	5' G GGT GTC ACG TTT CCG TGT ATG CAT GCC ATG TGG
M182C	5' GT GTC ACG TTT CCG GCT TGC CAT GCC ATG TGG TCC TC
H183C	5' ACG TTT CCG GCT ATG TGT GCC ATG TGG TCC TCC
A184C	5' G TTT CCG GCT ATG CAT TGC ATG TGG TCC TCC TGG
M185C	5' CCG GCT ATG CAT GCC TGC TGG TCC TCC TGG GC
W186C	5' CT ATG CAT GCC ATG TGC TCC TCC TGG GCT
E171C/E175C	5' GCA CTG TGC GGA CTC GGG TGC GGT GTC ACG TTT CCG

Supplemental table 2. Sequence of sense primers used to generate the monocysteine substituted sialin. Oligonucleotides used to generate the indicated substitutions with site-directed mutagenesis. The bold italic font indicates the mutated nucleotides. E171C was used as the template for the mutagenesis reaction to create E171C/E175C.